

Family engagement practices and children's attendance and early learning skills in a public pre-kindergarten program

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ABSTRACT

Family engagement is a key component of preschool program quality with the potential to benefit children's early learning skills. Yet, there is limited research on what practices teachers and programs use to engage families and whether these practices are associated with improved child outcomes. This study links administrative data on children's records and survey data collected from public pre-k teachers and administrators in a mid-sized, urban school district to estimate the associations between family engagement practices and children's attendance in pre-k and their early literacy and socioemotional skills at the end of pre-k. Overall, we found limited evidence that family engagement practices are, on average, associated with children's outcomes. Only teachers' practices for communicating with families were associated with lower chronic absenteeism. However, these associations varied by child, family, and program characteristics. Our findings identify promising family engagement practices for preschool programs and highlight the need for future research to consider the heterogeneous effects of family engagement across different types of practices and across child, family, and program characteristics.

1. Introduction

In the U.S., more than two-thirds of 4-year-old children participate in a preschool program prior to kindergarten (McFarland et al., 2019). As enrollment in and public funding for preschool have grown so have calls for improving program quality. Family engagement is a key component of preschool program quality, and preschool programs are increasingly expected to engage families in their services. Many funding and regulatory agencies—including state and local public pre-kindergarten (pre-k) programs, Head Start programs (U.S. Department of Health and Human Services, 2018), early care and education (ECE) program licensing and accreditation organizations (National Association for the Education of Young Children, 2018) and most state child care Quality Rating and Improvement Systems (National Center on Early Childhood Quality Assurance, 2019)—include requirements for family engagement.

This increased emphasis on family engagement is based on the belief that building strong partnerships between teachers and parents, involving parents in their children's learning—both in the preschool program and at home—and supporting families' wellbeing will indirectly benefit children's academic and socioemotional skills. Yet,

although a large literature suggests that family engagement and parental involvement in K-12 schools benefit children's school achievement (e.g., Castro et al., 2015; Epstein, 1995; Wilder, 2014), there is limited empirical evidence on how family engagement in preschool programs matters for children's early learning skills (Magnuson & Schindler, 2016), and, in particular, which types of family engagement practices matter most. Most studies of family engagement focus on how parents' level of involvement in program activities (e.g., participation in parent-teacher conference) are associated with children's outcomes (e.g., Arnold et al., 2008; Ansari & Gershoff, 2016; Hindman & Morrison, 2011; Powell et al., 2010). Parental involvement differs from family engagement practices in that it refers to things parents do to be involved in their children's education, whereas school-initiated family engagement practices refers to things preschool programs do to encourage and facilitate parents' involvement (e.g., frequency with which teachers communicate with parents about what children are doing in the classroom). This distinction is important as parents' involvement is shaped both by preschool programs' family engagement practices and by families' unique contexts that might facilitate or hinder their involvement, such as their work hours and schedules (McWayne et al., 2016). While preschool programs have little control over family contexts that shape

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parental involvement, they can improve their family engagement practices to better support parental involvement, children's preschool attendance, and children's early learning outcomes. Thus, understanding how preschool programs' family engagement practices contribute to children's learning and development in preschool and how these associations differ across diverse families is key to informing effective ECE policy and practice.

The purpose of this study is to advance knowledge on how preschool programs' family engagement practices contribute to children's attendance in preschool and their early literacy and socioemotional skills. Using linked survey and administrative program data from a mixed methods study conducted in a public pre-k program in an urban, Midwestern school district, we examine how teachers' practices for communicating with and involving families in their children's learning and programs' provision of family support services are associated with children's early literacy and socioemotional skills at the end of the pre-k year. We also examine how family engagement practices are associated with children's attendance in pre-k, a potential mechanism linking family engagement to children's developmental outcomes via increased parental engagement with the pre-k program and children's education. Finally, we examine how the associations between family engagement practices and children's outcomes differ by child, family, and program characteristics. This study improves upon prior studies of family engagement in preschool by examining a diverse set of commonly used school-initiated family engagement practices reported by pre-k program teachers and administrators. Findings from this study will help preschool programs identify promising practices for supporting children's learning during the pre-k year.

1.1. How might family engagement improve children's early learning skills?

Family engagement refers to a varied set of practices aimed at building strong partnerships between programs and families and supporting overall family wellbeing, with the ultimate goal of benefiting children's development. Family engagement is a multi-dimensional construct that includes practices for two-way (or bidirectional) communication between teachers and parents about their child's learning and development, opportunities for families to participate in a range of program activities (e.g., parent-teacher conferences and family social events), empowering parents to participate in decision-making in the school and in their communities, helping parents access resources in their community, and providing direct services to parents, such as parenting classes (Epstein, 1995; Forry et al., 2011; Sabol et al., 2018). We use the term "family engagement practices" to refer to things that teachers and programs do to engage parents, also referred to as school-initiated family engagement. This differs from parent-initiated family engagement, such as parents offering to volunteer in the classroom, and parental involvement, which includes a range of things that parents do to be involved in their children's education (e.g., attending school events). All are important for children's early learning, but how school-initiated family engagement practices matter for children's outcomes has received far less attention in the literature and is therefore the focus of this study.

We examine three types of commonly used family engagement practices in preschool programs that have strong potential for improving children's attendance and early learning skills (Castro et al., 2004). Two-way communication and collaboration with families includes sharing what children are learning, jointly setting goals for children, seeking input from parents, and providing suggestions for how parents can support children's learning at home. Teachers' invitations to participate in program activities refers to inviting parents to volunteer in the classroom, attend parent-teacher conferences, and attend family social events. We also examine programs' efforts to connect families to supportive services provided on site or via referrals to community organizations.

Preschools' family engagement practices are expected to positively influence children's early learning through multiple pathways. Regular, two-way communication (between teachers and parents) and parents' participation in program activities is expected to help parents better support children's learning at home, which is consistently associated with more positive child cognitive and socioemotional skills (Bradley et al., 2001; Fantuzzo et al., 2013; Jeon et al., 2020; McWayne et al., 2016). When teachers regularly communicate with parents about their children's learning and provide ideas for activities to do at home, parents might improve their knowledge and skills for supporting children's development. Similarly, parents' participation in program activities increases their interactions with teachers and school staff and their observations of child-teacher interactions, which can also help them gain new knowledge and skills. Likewise, via regular communication and involvement opportunities, teachers can learn about families' customs, traditions, and cultures as well as parents' insights on their children's development, enabling them to create more inclusive classroom environments and better support children's learning in the classroom (Forry et al., 2011). Involvement opportunities can also make families feel welcome in the program, build a sense of community, and expand parents' social networks and sources of support, which ultimately can promote their child's development (Sommer et al., 2017).

Family engagement practices might also improve children's early learning by increasing children's attendance in preschool. Regular attendance is necessary for children to make developmental gains from preschool services, and chronic absenteeism has been associated with lower academic and socioemotional skills (Ansari & Purtell, 2018; Ehrlich et al., 2018). More frequent parent-teacher communication and stronger relationships might shape parents' beliefs about the importance and value of preschool, make parents and children feel more welcome in the program, and motivate parents to bring children to preschool (Kalil et al., 2021; Robinson et al., 2018; Sommer et al., 2017). Parental involvement activities that increase connections among parents could also improve children's attendance. One study of an intervention with Head Start families found that increasing parents' social networks led to modest improvements in children's attendance in the winter months only (when average attendance was lowest) (Sommer et al., 2017). Moreover, increasing families' access to support services that improve child and family wellbeing might also increase children's attendance by mitigating known risk factors for absenteeism, including poor health, parental unemployment, and low family income (Ansari & Purtell, 2018; Chang & Romero, 2008; Ehrlich et al., 2014; Guevara et al., 2013). A two-generation intervention that provided parents of children enrolled in Head Start with career training, education, and supportive services led to modest increases in children's attendance rates and large reductions in chronic absenteeism, likely due to parents' increased financial, social capital, and psychological resources (Sommer, Schneider, et al., 2020). More research is needed to understand how a broader array of school-initiated family engagement practices might increase children's attendance.

Similarly, family engagement practices that connect families to support services in the community or that directly provide services to families might also benefit children by improving overall child and family wellbeing (Sabol et al., 2018). For example, providing or connecting families to the Supplemental Nutrition Assistance Program or food pantries could have a direct impact on reducing family food insecurity, which in turn, could improve children's early learning skills (Hong & Henly, 2020; Johnson & Markowitz, 2018). Services that aim to improve parents' parenting skills or human capital, like parenting classes, adult education, or ESL classes, could also indirectly improve children's learning through their direct benefits for parents (Chase-Lansdale et al., 2019; Sommer, Gomez, et al., 2020).

1.2. Preschool programs' family engagement practices and children's early learning

Few empirical studies have examined how preschool programs' family engagement practices are associated with children's attendance and early learning skills. While several studies find positive associations between parental involvement in preschool program activities and children's cognitive and socioemotional skills (e.g., Arnold et al., 2008; Ansari & Gershoff, 2016; Hindman & Morrison, 2011; Powell et al., 2010), less is known about how school-initiated family engagement practices matter. Two recent studies using the same nationally-representative sample of 4-year-old children found that parents' positive perceptions of family engagement practices were associated with better early literacy and socioemotional skills in kindergarten (Barnett et al., 2020; Puccioni et al., 2020). Their measure of parents' perceptions of family engagement practices was a composite measure that included various types of practices, such as how well the program informs them on how their child is doing and provides information about community resources. A key limitation of these studies is their reliance on parents' perceptions of family engagement practices—as these could be influenced by parents' individual characteristics and expectations of preschool—and their inability to examine the effects of different types of practices.

Other studies provide less consistent evidence that school-initiated family engagement practices are associated with children's early learning skills. In a study of Head Start programs, Hindman and Morrison (2011) found that a composite measure of programs' invitations for in-school involvement (e.g., whether parents were ever invited to serve as classroom aides) were not directly associated with children's cognitive or behavioral skills but were positively associated with parents' involvement in the Head Start program and with parents' support for their child's learning at home. Moreover, as the authors acknowledge, many of the activities included in their measure of invitations for in-school involvement, such as helping programs conduct vision screenings, are unlikely to improve children's early learning skills. Using data from a multi-state study of public pre-k programs, Sabol and colleagues (2013) found little evidence that a composite indicator of programs' family engagement practices was associated with children's cognitive or socioemotional skills, but findings were mixed when examining specific types of practices. Findings from these studies highlight the importance of examining the differential effects of different types of family engagement practices and focusing on those that are most theoretically relevant for children's development. For this reason, we focus in this study on school-initiated family engagement practices that have the most potential for improving children's attendance and early learning, including two-way communication between teachers and parents, teachers' practices for involving parents in program activities, and program's provision of family support services.

While these above studies are correlational, intervention research provides additional evidence that improving preschool programs' family engagement practices can boost children's early learning skills. A family engagement intervention developed for ethnic minority families in Head Start that aimed to increase parental involvement and strengthen parent-teacher relationships was associated with improvement in children's language and socioemotional outcomes (Mendez, 2010). Further, experimental studies with middle- and high-school students provide evidence that increasing family engagement improves student behavior, reduces absenteeism and truancy, and increases course completion (Avvisati et al., 2014; Kraft & Rogers, 2015). Findings from two meta-analytic studies of preschool programs suggest that the context is also important. Specifically, adding a parent component to preschool programs can yield additional benefits to children's cognitive skills at higher dosages (Grindal et al., 2016) and so long as the added services do not supplant instructional time for children (Camilli et al., 2010).

1.3. Subgroup differences by child, family, and program characteristics

We expect that preschool programs' family engagement practices will differ in their associations with children's early learning depending on child, family, and preschool program characteristics. With regard to family characteristics, there is evidence that children from low-income families benefit more in terms of their academic achievement from high-quality preschool programs (Yoshikawa et al., 2013) and from parents' involvement in elementary school (Domina, 2005). Therefore, we expect that children from low-income families might benefit more when preschool programs provide more opportunities for family engagement.

It is less clear how the associations between family engagement and children's early learning skills might differ by children's race and ethnicity and English proficiency. On the one hand, participation in public pre-k programs is more strongly associated with children's academic and socioemotional skills among children of color, particularly Latino children (Gormley et al., 2005; U.S. Department of Health and Human Services, 2010; Weiland & Yoshikawa, 2013), compared to White children. Participation in public pre-k is also more strongly associated with English proficiency for children of immigrant parents compared to children of U.S.-born parents (Gormley, 2008; Magnuson et al., 2006). On the other hand, the extent to which children of color and children who are English language learners (ELL) benefit from family engagement may also depend on whether teachers and programs engage families in culturally-inclusive ways and communicate in families' preferred language. Prior research has found that teacher-child racial/ethnic match is associated with higher levels of parental involvement in Head Start (Markowitz et al., 2020) and with improved academic achievement in pre-k and early elementary school (Dee, 2004; Downer et al., 2016). Similarly, studies linking early elementary experiences with third grade outcomes for ELL children found teacher-child linguistic match is associated with more family involvement (Tang et al., 2012) and better English literacy, attention, and memory skills (Partika, 2023). For ELL children in Head Start, peer linguistic match is positively associated with approaches to learning, particularly in contexts where students receive English-only instruction (Stephens et al., 2023). In our study, we include a diverse sample of children whose pre-k teachers and program administrators predominantly identify as non-Hispanic White.

With regard to program characteristics, preschool programs in different site types (i.e., public schools, community-based ECE centers, Head Start programs) may have differing philosophies about family engagement and different expectations for parental involvement. For example, the federally-funded Head Start program has historically been a two-generation program, focused on supporting both children's learning and overall family wellbeing, with a strong emphasis on parental involvement opportunities and family support services. Prior research provides suggestive evidence that pre-k programs in public school sites provide fewer engagement opportunities compared to other settings (Cutshaw et al., 2020; Puccioni et al., 2020), but there is no research on whether the effectiveness of family engagement practices varies across site types. Moreover, program structures vary significantly across site types with respect to the number of program hours (Friedman-Krauss et al., 2021) as well as teachers' educational requirements and wages (Johnson et al., 2020).

In our study, we examine site type as a moderator because there are several key differences between pre-k provided at public schools versus at community-based ECE centers, which include a diverse array of programs that includes Head Start, non-profit community centers, and for-profit child care centers. These key differences include children attending pre-k for fewer hours per week in school sites, and teachers in school sites having higher levels of education, more years of experience, and higher salaries (Lin et al., In Press). To the extent that family engagement is particularly important for supporting children's learning when children attend the program for fewer hours and that teachers with more experience and education are more effective in engaging

families, then we might expect to find a stronger association between family engagement and children's early learning in school sites. Yet, community-based ECE programs, like Head Start programs and those in community centers, that have historically provided services to the whole family may be more effective at engaging families. Thus, we do not have clear *a priori* hypotheses about how site type might moderate associations between school-initiated family engagement practices and child outcomes.

2. Current study

The purpose of this study is to estimate associations between various types of preschool program family engagement practices and children's attendance in pre-k and early learning outcomes at the end of pre-k. Using data from a study of family engagement in a public pre-k program, we use teacher- and administrator-reported measures of family engagement practices merged with pre-k administrative records on children's attendance and early literacy and socioemotional skills. We examine three types of school-initiated family engagement practices: teachers' practices for communicating with families, teachers' practices for involving families in program activities, and the programs' provision of family support services. We address the following research questions: 1) What are the associations between school-initiated family engagement practices and children's attendance during the pre-k year? 2) What are the associations between school-initiated family engagement practices and children's early learning skills at the end of pre-k? 3) Do these associations vary by family income, child's English proficiency, child race and ethnicity, and site type?

The current study addresses the limitations of prior research in several ways. First, we use pre-k program administrator- and teacher-reported measures of school-initiated family engagement practices. Unlike prior studies that focus on parents' level of involvement, focusing on family engagement practices has more direct practice and policy implications for preschool programs. Second, we examine multiple types of family engagement practices, both at the classroom level and at the program level, focusing on practices that are theoretically important for children's academic and socioemotional skills. Third, we consider the associations between family engagement practices and children's pre-k program attendance, a potential mechanism of the associations between family engagement practices and children's learning.

3. Method

3.1. Data

The data come from a mixed methods study of family engagement practices in a public pre-k program in a mid-sized, Midwestern city that was conducted during the 2016–2017 school year. The broader study aimed to describe and assess the implications of family engagement practices for children's learning in pre-k and included three components: a survey of pre-k program administrators and teachers; school district administrative data records on children attending pre-k; and focus groups with parents to understand their perspectives of and experiences with family engagement in the pre-k program. The public pre-k program is available at no cost to all 4-year-old children who live in the school district, and in the 2016–17 school year, 72 % of incoming kindergarten students in the district had participated in the year prior. The public pre-k program is offered through public schools and community-based ECE centers (referred to as ECE sites hereafter), a vast majority of which are non-profit organizations but also include Head Start programs and for-profit organizations. ECE sites must be accredited by the city (which sets voluntary child care accreditation standards) or by the National Association for the Education of Young Children. Although all program sites are required to provide 437 h of instruction during the school year calendar, in school sites children attend the pre-k program 4 days per week for about 3 h per day while ECE sites set their

own schedules, with children typically attending more total hours and parents paying for the additional hours of care. All sites are also required to conduct 87.5 h of parent outreach activities, which could include program orientation, newsletters, home visits, parent–child activities, parenting classes, among others. Additionally, public pre-k teachers across all sites are required to have a Bachelor's degree and be certified to teach kindergarten.

Directors, principals, and teachers of all public pre-k sites in the 2016–2017 school year were invited to participate in a mailed, paper-and-pencil survey. The survey asked respondents about their family engagement practices, program and classroom characteristics, and their prior experience and education. The overall survey response rate was 82 % but differed across respondent types: 89 % for teachers at school sites; 83 % for teachers at ECE sites; 67 % for principals at school sites; and 84 % for directors at ECE sites. Administrators' and teachers' survey responses were merged with the administrative records from the school district that contained information about children enrolled in pre-k during the 2016–2017 school year. The administrative records included information about child and family characteristics, children's attendance in pre-k during the 2016–2017 school year, direct assessments of early literacy skills, and teachers' ratings of children's socioemotional skills from their report cards.

3.2. Sample

To construct our analytic sample, we started with 1629 children whose teacher participated in the survey (see Fig. 1); all of these children had complete data on at least one outcome variable. We then dropped 120 children (7 %) with missing data on teacher-level covariates (i.e., teacher and program characteristics) drawn from the survey. Missing data on these covariates was minimal, ranging from 0 % to 3 % for any given variable. There was no missing data on child-level covariates drawn from administrative data records except for parental education, for which 10 % of cases had missing data. For this reason, we imputed parental education using multiple imputation with chained equations in Stata 16 with 20 imputed datasets. Because children were clustered within teachers, teacher-level covariates could not be imputed in our child-level imputation model. Our final analytic sample included 1509 children, clustered within 74 teachers; due to missing data in our measures of early literacy and socioemotional skills, the analytic sample for those models is smaller (N = 1283 and N = 1394, respectively). In models that use administrator-reported measures of family support services, the analytic sample is limited to children whose administrator completed the survey (N = 1200 children clustered within 34 programs; N is smaller for models predicting early literacy and socioemotional skills). To test the robustness of our findings to varying sample sizes due to missing data on our outcome variables, we conducted sensitivity analyses restricted to the sample of children with complete data on all outcomes (N = 1266 in teacher sample; N = 988 in administrator sample). Results were substantively similar but standard errors and *p*-values were larger (see Table A1 in the online appendix).

Sample descriptive characteristics for the full sample and by site type are shown in Table 1. In our sample, 38 % of children attended public pre-k in an ECE site. On average, 39 % of children identified as non-Hispanic White, 19 % as non-Hispanic Black, 22 % as Hispanic, and 20 % identified as non-Hispanic and of a different race or multiple races. ECE sites had a higher percentage of children who identified as non-Hispanic White and lower percentage of children who identified as non-Hispanic and of a different or multiple races compared to school sites. Parents of children in our sample were relatively high educated with nearly half having a college or graduate degree, and parent education was higher in ECE than in school sites. About 50 % of students were eligible for free or reduced-price lunch, 24 % were identified as English Language Learners (ELL), and 10 % had an Individualized Education Plan (IEP) for special education services. The majority of ELL children identified as Hispanic (56 %), 32 % identified as multiple or

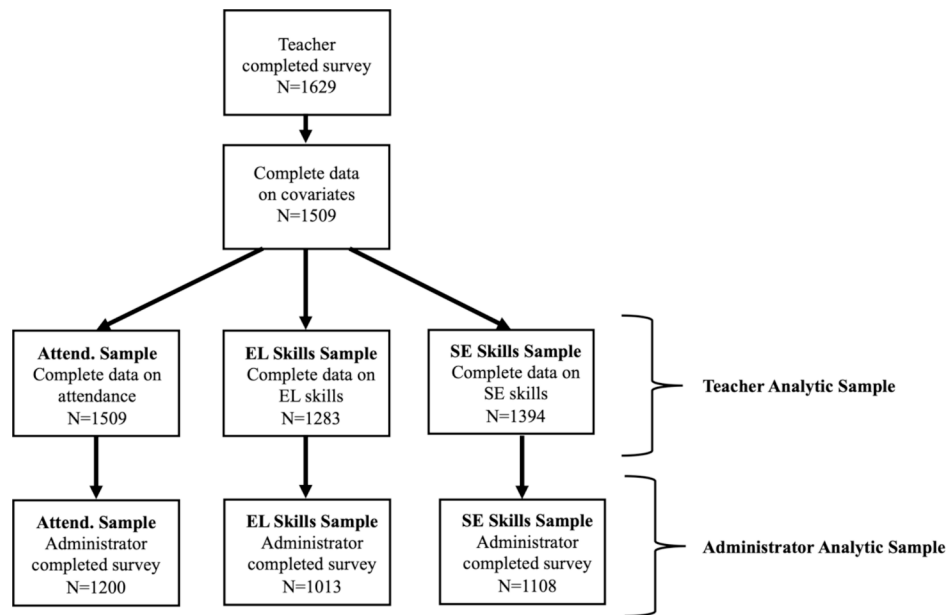


Fig. 1. Sample Construction Notes. N refers to number of children in sample; Attend.=Attendance; EL=Early Learning; SE=Socioemotional.

Table 1
Sample descriptive statistics.

Variable	N	All Sites		School Sites		ECE Sites		Diff.
Child Outcomes								
Chronic absenteeism	1509	22.60 %		25.83 %		17.31 %		**
Early literacy skills	1283	65.13	(32.36)	62.86	(32.62)	68.78	(31.64)	**
Socioemotional skills	1394	3.12	(0.47)	3.08	(0.44)	3.19	(0.51)	**
Family Engagement Practices								
Teacher communication	1509	0.00	(0.69)	-0.10	(0.68)	0.17	(0.66)	**
Teacher involvement opportunities	1509	0.00	(0.70)	-0.17	(0.69)	0.28	(0.62)	**
Child-focused services	1200	3.95	(1.82)	4.15	(1.76)	3.70	(1.87)	**
Adult-focused services	1200	2.11	(2.63)	1.36	(1.39)	3.03	(3.40)	**
Control Variables								
Child is female	1509	49.50 %		49.31 %		49.83 %		
Child race/ethnicity: White	1509	39.10 %		37.14 %		42.31 %		*
Child race/ethnicity: Black	1509	18.89 %		19.10 %		18.53 %		
Child race/ethnicity: Hispanic	1509	21.87 %		21.99 %		21.68 %		
Child race/ethnicity: Multiple/other	1509	20.15 %		21.77 %		17.48 %		*
Parent education: High school or less	1509	28.08 %		28.83 %		26.87 %		
Parent education: Some college or tech school	1509	24.41 %		28.96 %		16.95 %		**
Parent education: College degree	1509	17.39 %		18.21 %		16.04 %		
Parent education: Graduate degree	1509	30.12 %		24.00 %		40.14 %		**
Child eligible for free/reduced lunch	1509	50.23 %		51.33 %		48.43 %		
Child is identified as ELL	1509	24.06 %		28.28 %		17.13 %		**
Child has an IEP	1509	9.61 %		11.74 %		6.12 %		**
Child: teacher ratio	1509	7.23	(2.68)	7.03	(1.41)	7.55	(3.94)	**
Frequency of reading/language activities (days/month)	1509	13.67	(3.02)	13.86	(2.62)	13.35	(3.56)	**
Teacher attitudes: commitment to teaching	1509	3.83	(0.25)	3.85	(0.19)	3.79	(0.32)	**
Teacher attitudes: respect for families	1509	3.07	(0.39)	3.15	(0.37)	2.96	(0.40)	**
Teacher professional development in FE	1509	2.74	(1.43)	2.91	(1.39)	2.47	(1.45)	**
Teacher years of experience	1509	13.26	(9.43)	15.90	(9.34)	8.95	(7.88)	**
Teacher education > BA	1509	57.39 %		75.67 %		27.45 %		**
Teacher is White, non-Hispanic	1509	81.58 %		74.07 %		93.88 %		**
Administrator years of experience	1200	9.59	(8.54)	7.61	(5.81)	12.03	(10.51)	**
Administrator has professional development in FE	1200	91.00 %		100 %		79.93 %		**
Site type is ECE	1509	37.91 %		100 %		0 %		n/a
Number of children enrolled in pre-k	1509	48.00	(23.60)	52.79	(21.53)	40.15	(24.73)	**
Free/reduced lunch (% of students)	1509	48.66	(30.34)	48.52	(15.70)	48.87	(45.02)	

Notes. Mean or % are shown with standard deviations in parentheses. Diff. column indicates p-value from t-test by site type. FE = family engagement.

different races, 6 % identified as Black, and 6 % identified as White. ECE sites had smaller proportions of children identified as ELL or with an IEP.

With respect to teacher and program characteristics, teachers had 13 years of experience on average, 57 % had more than a Bachelor’s degree,

and 81 % identified as non-Hispanic White. Teachers in ECE sites had fewer years of experience, lower levels of education, and were more likely to identify as non-Hispanic White than teachers in school sites. On average, children were in classrooms with about 7 children per teacher

(or other adult) and engaged in reading or language activities for about 14 days per month. Children in ECE sites experienced slightly higher child: teacher ratios and slightly fewer reading and language activities per month in the classroom than those in school sites. Teachers in ECE sites, compared to those in school sites, had participated in fewer professional development opportunities on family engagement and had slightly lower scores on measures of commitment to teaching and respect for families. Administrators had nearly 10 years of experience, on average, but those in ECE sites had more years of experience than those in school sites. The vast majority of administrators (91 %) had participated in professional development in family engagement. Sites enrolled 38 children in public pre-k, on average, although school sites had more children enrolled than ECE sites.

3.3. Measures

3.3.1. Children's early learning skills

We used two constructs to capture children's learning during pre-k: early literacy skills and socioemotional skills. Both constructs were measured at the end of the pre-k program during the fourth quarter of the school year (typically April to June). Early literacy skills were measured using the Phonological Awareness Literacy Screening (PALS) PreK, a direct assessment of early literacy skills administered by teachers (see [Invernizzi et al., 2004](#) for more information). Our measure includes four out of six PALS-PreK subscales: (1) alphabet knowledge (i.e., upper-case alphabet recognition); (2) beginning sounds (i.e., recognition of beginning sounds of simple words); (3) print and word awareness (i.e., identifying print and word concepts in a book reading context); and (4) rhyme awareness (i.e., ability to identify words that rhyme). Subscale scores were summed together to create a total score (M = 65.13, SD = 32.36).

Socioemotional skills were measured using teachers' reports of children's prosocial classroom behavior, including ability to regulate emotions and exercise self-control, recognizing feelings of others, engaging in social interactions and negotiating conflict with peers, and following classroom rules and routines (M = 3.12, SD = 0.47; $\alpha = 0.91$). Teachers rated children's behavior on 7 items using the following response scale intended to measure children's progress towards the pre-k early learning standards: (1) emerging, meaning child shows initial understanding of pre-k standards; (2) developing, meaning child is developing understanding and is approaching pre-k standards; (3) meeting, meaning child consistently meets pre-k standards; and (4) exceeding, meaning child consistently exceeds pre-k standards. Most of these items were adapted from the Teaching Strategies GOLD assessment system (see [Lambert et al., 2015](#) for more information on the GOLD). Children in ECE sites scored slightly higher on both early literacy skills and socioemotional skills compared to children in school sites (see [Table 1](#)).

3.3.2. Children's Attendance in Pre-K

We used two measures of children's pre-k attendance as outcome variables: attendance rate and chronic absenteeism. Attendance rate was measured as the number of days that children attended the program divided by the number of days enrolled (M = 92.06 %, SD = 10.06 %). In line with prior research (e.g., [Ansari & Purtell, 2018](#); [Chang & Romero, 2008](#); [Ehrlich et al., 2018](#)), chronic absenteeism was measured as an indicator for the child being absent for more than 10 % of school days. On average, 22.60 % of children were chronically absent, but children in school sites had a significantly higher rate of chronic absenteeism compared to children in ECE sites.

3.3.3. Teacher-reported family engagement practices

Our measures of school-initiated family engagement practices were drawn or adapted from multiple instruments of family engagement, including the Family and Provider/Teacher Relationship Quality (FPTRQ) instruments ([Kim et al., 2015](#)), the Parent-Teacher

Involvement Questionnaire ([Conduct Problems Prevention Research Group, 1995](#)), and the Head Start Family and Child Experiences Survey ([U.S. Department of Health and Human Services, 2009](#)). We also created new items specifically related to the pre-k program.

3.3.3.1. Two-Way Communication and Collaboration. We used 13 items to measure teachers' two-way communication and collaboration with families (henceforth referred to as communication practices) ([Kim et al., 2015](#)). Teachers responded to these 13 items across two survey questions asking them how often they met with or talked to most parents about a series of topics (e.g., sharing information about their child's day), one question using a 7-point scale from never to everyday and the other using a 5-point scale from never to more than once per month. [Table 2](#) shows descriptive statistics on each item included in this measure. Teachers' most frequent communication practices included sharing information with parents about their child's day and what the child is learning in the classroom (about once per week to once per month on average). Teachers less frequently talked with parents about parents' goals for their children, to offer ideas or suggestions about

Table 2
Measures of teachers' family engagement practices.

	Mean	Range
Two-Way Communication and Collaboration		
<i>How often have you met with or talked to most pre-k parents about the following:^a</i>		
Sharing information about their child's day	3.91	0–6
What their child is learning in your classroom	3.49	1–6
Problem their child is having in your classroom	2.44	0–6
How their child is progressing towards developmental milestones or pre-k standards	2.22	1–5
Parents' concerns or questions about their child	2.68	0–6
Your expectations for the children in your care	2.35	0–6
The rules you have for children in your care	2.07	0–5
How they feel about the education and care you provide	1.89	0–5
<i>How often have you met with or talked to most pre-k parents about the following:^b</i>		
Discuss strategies or activities parents can do at home to support their child's learning	2.22	0–4
Seek input or information from parents about their child (e.g., their interests, behavior at home)	1.87	1–4
Offer parents ideas or suggestions about parenting	1.71	0–4
Set goals with parents for their child and discuss progress toward those goals	1.68	1–4
Discuss child's performance on assessments of their learning	1.35	0–3
Involvement Opportunities		
<i>How often have you invited families to participate in the following activities:^c</i>		
Participate in children's learning activities in your classroom	1.78	0–4
Volunteer in your classroom	1.93	0–4
Bring in materials such as story books or arts and crafts	1.56	0–4
Share something about their family in your classroom, such as their family or cultural traditions	1.32	0–4
Attend community events related to children's learning	1.56	0–4
<i>How often have you invited families to participate in the following activities:^d</i>		
Family social events for parents to get to know each other, like sharing meals or other activities	2.53	0–4

Notes. N = 1473–1509 for each item.

^a 0 = Never; 1 = 1–2 times this year; 2 = Several times this year; 3 = About once per month; 4 = About once per week; 5 = More than once per week; 6 = Everyday.

^b 0 = Never; 1 = 1–2 times this year; 2 = Several times this year; 3 = About once per month; 4 = More than once per month.

^c 0 = Never; 1 = 1–2 times this year; 2 = Several times this year; 3 = About once per month; 4 = About once per week or more.

^d 0 = Never; 1 = Once this year; 2 = Two times this year; 3 = Several times this year; 4 = About once per month; 5 = More than once per month.

parenting, or to discuss children's performance on assessments of their learning (about one to two to several times per year on average). Because the items were on two different scales, we standardized the items prior to averaging them together ($M = 0.00$, $SD = 0.69$, $\alpha = 0.91$).

3.3.3.2. Involvement Opportunities. Teachers reported their provision of parental involvement opportunities by responding to six items from two survey questions. The first question asked how often they invited the families of children in their classroom to participate in a series of activities on a 5-point scale from never to about once per week or more. The second question asked how often they invited the families of children in their classroom to participate in family social events. As shown in Table 2, teachers' most frequent involvement activity in the classroom was inviting parents to volunteer (several times per year on average). Their least frequent activity was inviting parents to share something about their family in the classroom (about 1–2 times per year on average). On average, teachers reported that they invited parents to community events between one to two to several times per year and invited parents to family social events between two to several times per year. Because the items were on two different scales, we standardized the items prior to averaging them together ($M = 0.00$, $SD = 0.70$, $\alpha = 0.80$).

3.3.4. Administrator-Reported Family Engagement Practices

3.3.4.1. Child-Focused Services. Administrators reported whether their programs provided six different services for children in house (see Table 3). More than 70 % of programs provided free or reduced-cost meals, developmental assessments for children, and health screenings or medical care. The least frequently reported service was a food pantry. We created an index score by summing the number of these services provided by the program, ranging from 0 to 6 ($M = 3.95$, $SD = 1.82$).

3.3.4.2. Adult-Focused Services. Administrators reported whether their programs provided nine different services in house targeted to adults (see Table 3). Adult-focused services were less common than child-focused services. The most frequently provided service was financial assistance (50 %) followed by adult education (32 %). Only 9 % of programs provided job training and 12 % provided substance abuse or financial coaching. We created an index score by summing the number of these services provided by the program, ranging from 0 to 9 ($M = 2.11$, $SD = 2.63$).

Table 3

Measures of program-level family engagement practices.

	Percent
Provision of Child-Focused Services	
Free/reduced cost meals	77.75 %
Food pantry	41.42 %
Development assessments for children	82.83 %
Health screenings or medical care (e.g., dental)	73.50 %
Help accessing medical care (e.g., doctors or vaccinations)	62.45 %
Mental health services for children	59.67 %
Provision of Adult-Focused Services	
Mental health services for adults	19.00 %
Substance abuse programs	11.83 %
Adult education, GED classes, ESL classes, or continuing education	31.58 %
Job training	9.17 %
Career support (e.g., resume, interviewing, job search)	24.27 %
Any financial assistance (e.g., housing assistance, energy or fuel assistance)	50.17 %
Domestic violence programs	24.42 %
Immigration or legal services	28.50 %
Financial coaching (e.g., tax support)	12.42 %

Notes. $N = 1145$ – 1200 for each item.

3.3.5. Control variables

Child-level controls included child gender, race and ethnicity, parents' level of education, whether the child is eligible for free or reduced-price lunch (as a proxy for low family income), whether the child was identified as ELL, and whether the child has an IEP (as a proxy for having a disability). Teacher-level controls were reported by the child's teacher and included child-to-teacher ratio in the classroom, frequency of reading and language activities in number of days per month (e.g., practicing the sounds that letters make), number of family engagement topics in which they had received training in the past two years, years of experience as lead teacher, whether the teacher has more than a Bachelor's degree, and whether the teacher identifies as non-Hispanic White. We used two scales with 5 and 7 items, respectively, to measure teachers' attitudes towards commitment to teaching as their career and profession ($\alpha = 0.63$) and their respect for and willingness to partner with families ($\alpha = 0.68$). Site-level controls included an indicator for ECE site (versus school site), number of children enrolled in pre-k at the site, and percentage of children at the site eligible for free and reduced-price lunch. Administrator-level controls included number of years of experience as an administrator and whether they had participated in professional development in family engagement in the past two years. We did not control for administrators' race and ethnicity because 97 % of administrators at ECE sites and 100 % at school sites identified as non-Hispanic White.

3.4. Analytic Approach

To address our first two research questions—how school-initiated family engagement practices are associated with children's attendance and early learning skills—we regressed each child outcome variable on each measure of family engagement practices. We used OLS regression for continuous outcomes (early literacy skills and socioemotional skills) and logistic regression for our dichotomous outcome (chronic absenteeism). Each measure of family engagement practices was entered into a separate model with control variables. All models included child-, teacher-, and site-level control variables; models using administrator-reported family engagement practices also included administrator-level controls. We included teacher-level controls in the administrator models because teachers and their classroom contexts have a more proximal influence on children's outcomes than administrator and site characteristics. We used clustered standard errors that adjust for the clustering of children within classrooms in teacher models and clustering of children within programs in administrator models. To address our third research question—whether child, family, and site characteristics moderate the associations between family engagement practices and child outcomes—we added interaction terms between each moderator (child race/ethnicity, family income, ELL status, and site type) and each measure of family engagement to our models in separate models.

4. Results

4.1. How Are Teachers' Practices for Communicating with and Involving Families Associated with Children's Attendance and Early Learning Skills?

Teachers' communication practices were associated with lower chronic absenteeism (see Table 4). A one standard deviation (SD) higher frequency of communication practices was associated with 18 % lower odds of chronic absenteeism. (Because we found very similar results when using attendance rate to measure attendance, we present results from chronic absenteeism in the main tables and results from attendance rate in Table A2 in the online appendix) Teachers' communication practices were marginally statistically significantly associated with 0.08 SDs higher early literacy skills ($p < 0.10$). Teachers' involvement practices were not associated, on average, with any outcome (Table 4).

With respect to our third research question, results from interaction

Table 4
Associations between family engagement practices and children’s attendance and early learning skills.

	Chronic absenteeism	Early literacy skills	SE skills
Teacher FE practices			
Communication Practices	0.82*	0.08 ⁺	0.07
	(0.07)	(0.04)	(0.06)
Involvement Practices	1.01	0.04	0.01
	(0.11)	(0.04)	(0.06)
N	1509	1283	1394
Program FE Practices			
Child-Focused Services	0.96	-0.01	-0.08
	(0.05)	(0.02)	(0.05)
Adult-Focused Services	0.99	0.02	-0.02
	(0.05)	(0.02)	(0.04)
N	1200	1013	1108

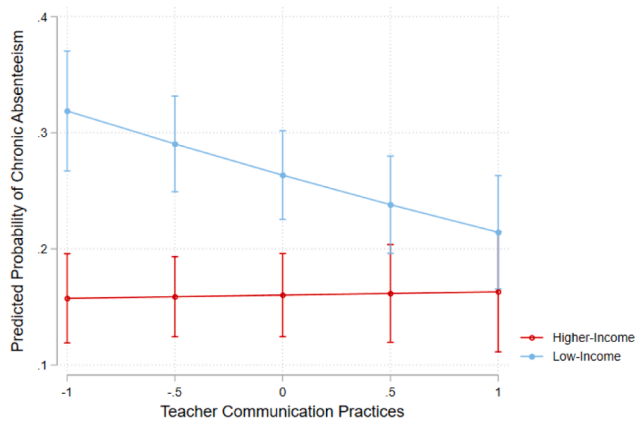
Notes. SE skills = socioemotional skills. FE = family engagement. Estimates from OLS regression models and standard errors in parentheses are shown for early literacy skills and socioemotional skills. For chronic absenteeism, odds ratios from logit regression models and standard errors in parentheses are shown. Independent variables (measures of FE practices) were entered in separate models predicting each outcome. + $p < 0.10$; * $p < 0.05$.

models showed that the associations between teachers’ communication practices and child outcomes varied by family income, children’s primary language, and site type. To aid interpretation of these results, we

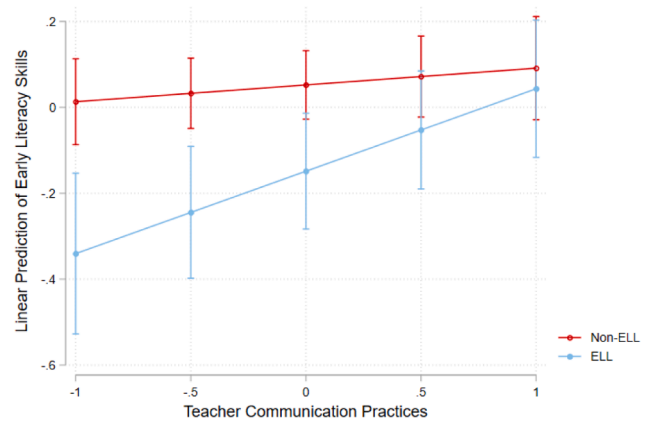
graph the predicted values of the outcome variables from the interaction models when the interaction was statistically significant at $p < 0.05$; we show the coefficients from the interaction models in the [online appendix tables](#). With respect to family income, teachers’ communication practices were more strongly associated with lower chronic absenteeism among children from low-income families (Table A3). When teachers’ communication practices were less frequent, children from low-income families had higher rates of chronic absenteeism than children from higher-income families. But when teachers used frequent communication practices, children from low-income families and children from higher-income families had approximately the same rates of absenteeism (see Fig. 2, Panel A). For ELL children, we found a stronger positive association between teachers’ communication practices and early literacy skills (Fig. 2, Panel B), relative to non-ELL children. This is because ELL children had substantially lower early literacy skills than non-ELL children when teachers’ communication practices were less frequent, and ELL children caught up to non-ELL children when teachers’ communication practices were more frequent. However, positive associations between teachers’ communication practices and socioemotional skills were concentrated among non-ELL children (Fig. 2, Panel C). Finally, we found that the negative association between teachers’ communication practices and children’s chronic absenteeism was concentrated in ECE sites (see Fig. 2, Panel D). Results from a joint significance test of the interactions between teachers’ communication practices and child race/ethnicity suggested that these associations did not differ significantly by child race/ethnicity (see Table A3).

Associations between teachers’ involvement practices and each of

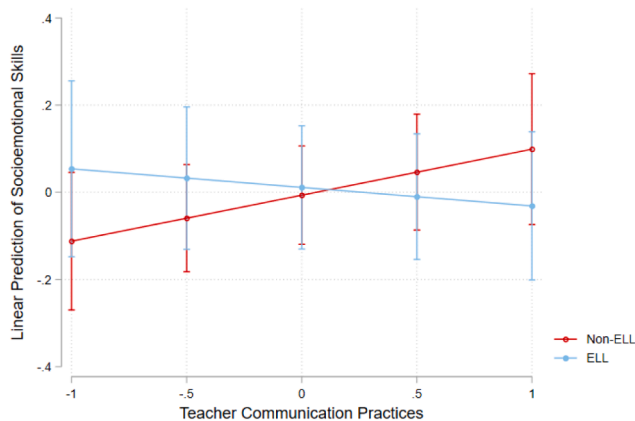
Panel A. (N=1509)



Panel B. (N=1283)



Panel C. (N=1394)



Panel D. (N=1509)

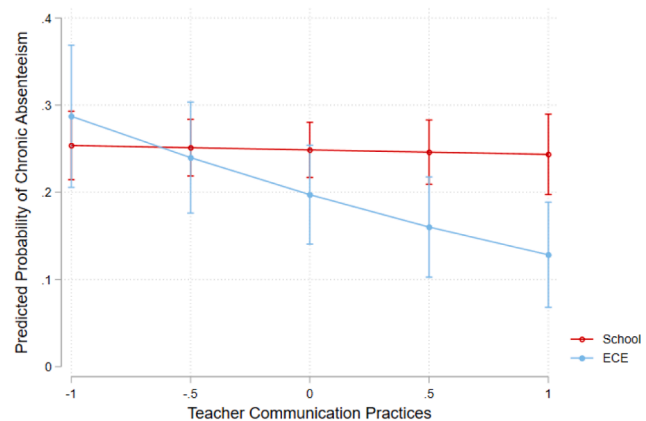


Fig. 2. Teacher Communication Practices: Moderation by Child and Site Characteristics Notes. Figures show predicted values of the outcome variable at up to 1 SD below and 1 SD above the mean of teacher communication practices from interaction models. See Table A3 for coefficients from the interaction model.

our outcomes were moderated by child race and ethnicity and site type (see Table A4). Teachers' involvement practices were associated with higher socioemotional skills among White children, but we found no relationship or a negative relationship for children of color (Fig. 3, Panel A). We observed a similar pattern for chronic absenteeism, but the joint significance test of the interaction terms was statistically significant at $p < 0.10$. With respect to site type, the association between teachers' involvement opportunities and early literacy skills was positive in school sites and negative in ECE sites (Fig. 3, Panel B).

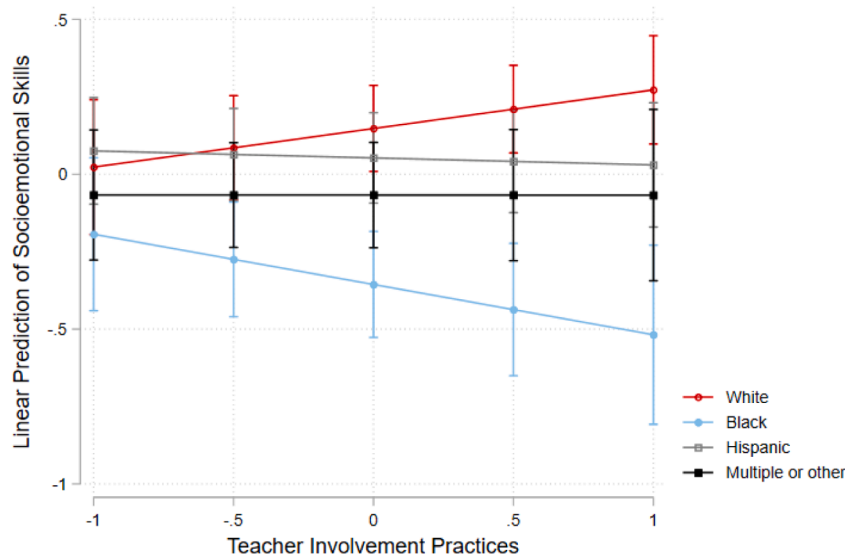
Our conceptual model posits that the positive associations between teachers' involvement practices and children's early literacy and socioemotional skills operate in part through increased parental participation in program activities. Although our study did not capture individual parents' level of participation in these activities, we did ask teachers to report how many (i.e., all, nearly all, most, some, or none) parents typically participate in each of the involvement opportunities that they

offer. To examine whether teachers who provided more involvement opportunities also reported more parental participation in these activities, we estimated a teacher-level model ($N = 73$) that regressed teacher-reported parent participation on involvement opportunities, adjusting for the same set of control variables measured at the teacher level. We found a moderately strong, positive association between involvement opportunities and parental participation—a one SD increase in involvement opportunities was associated with a 0.37 SD higher level of parental participation ($p < 0.05$)—lending support to our conceptual model (see Table A5 in the online appendix).

4.2. How Are Programs' Practices for Providing Family Support Services Associated with Children's Attendance and Early Learning Skills?

We found no statistically significant associations, on average, between program-level family engagement practices and children's

Panel A. (N=1394)



Panel B. (N=1283)

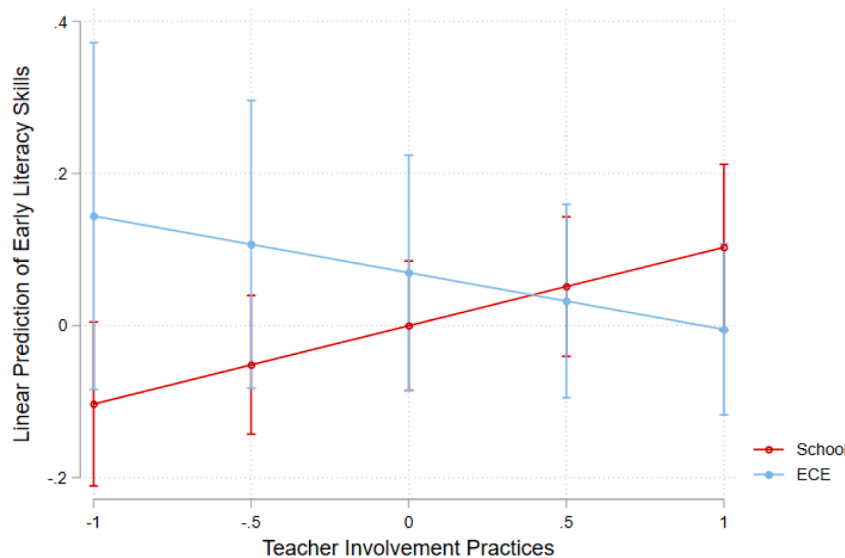


Fig. 3. Teacher Involvement Practices: Moderation by Child and Site Characteristics Notes. Figures show predicted values of the outcome variable at up to 1 SD below and 1 SD above the mean of teacher involvement practices from interaction models. See Table A4 for coefficients from the interaction model.

chronic absenteeism, early literacy skills, or socioemotional skills (see Table 4). However, as hypothesized in our third research question, these associations were moderated by child and family characteristics and site type. Child race and ethnicity, child’s primary language, and site type moderated associations between child-focused services and chronic absenteeism and early literacy skills (see Table A6). Child-focused services were negatively associated with early literacy skills for ELL children but there was no relationship for non-ELL children (Fig. 4, Panel A). Child-focused services were positively associated with early literacy skills among White and Black children and negatively associated with early literacy skills among Hispanic children and those who identified as multiple or a different race (Fig. 4, Panel B). With respect to site type, child-focused services were associated with lower chronic absenteeism and higher early literacy skills among children in ECE sites but not school sites (Fig. 4, Panels C and D).

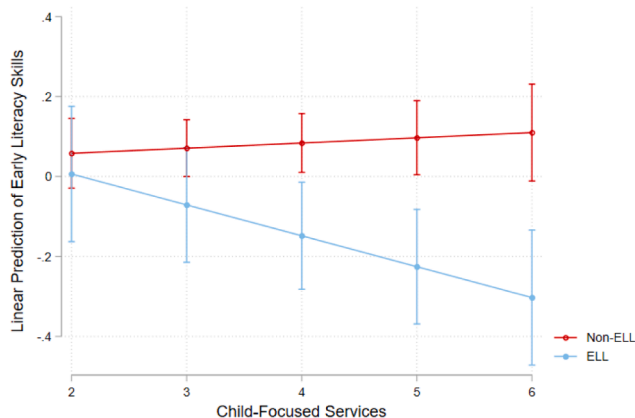
Similar to the above findings, associations between adult-focused services and children’s early learning outcomes were moderated by several child and program characteristics (see Table A7). Associations between adult-focused services and socioemotional skills were positive among children from low-income families and negative among children from higher-income families (Fig. 5, Panel A); the pattern was similar for early literacy skills, but the interaction term was statistically significant at $p < 0.10$. Adult-focused services were positively associated with early literacy skills among non-ELL children but not among ELL children (Fig. 5, Panel B). With respect to site type, adult-focused services were positively associated with early literacy skills in ECE sites and negatively associated with early literacy skills in school sites (Fig. 5, Panel C).

In supplemental models, we also considered programs’ referrals to child- and adult-focused services provided by community organizations (16 items measuring the same types of services as child- and adult-focused direct services) and referrals to social services (5 social service programs, e.g., Supplemental Nutrition Assistance Program and the state child care subsidy program); see results in Tables A8 and A9 in the online appendix. We found a similar pattern of results as reported above.

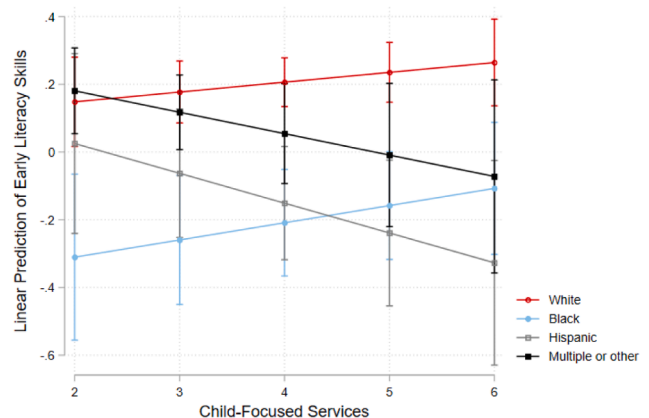
5. Discussion

As calls for the expansion of public pre-k programs grow, understanding which components of preschool improve children’s academic and socioemotional skills is key to ensuring programs provide high-quality services that promote children’s learning and development. This study focused on how one key component of preschool program quality—family engagement—is associated with children’s pre-k program attendance and early learning skills at the end of the pre-k year. Whereas most studies of family engagement focus on how parents’ level of involvement in program activities is associated with children’s outcomes (e.g., Arnold et al., 2008; Ansari & Gershoff, 2016; Hindman & Morrison, 2011; Powell et al., 2010), we focused on school-initiated family engagement practices, meaning what preschool programs do to communicate with, involve, and support families. The focus on family engagement practices is key to understanding how programs can improve their practices for encouraging parental involvement, children’s preschool attendance, and children’s early learning outcomes. The study thus fills a gap in the literature by examining how a diverse set

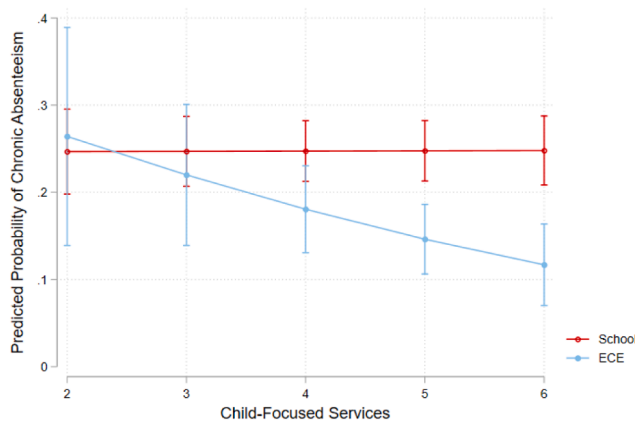
Panel A. (N=1013)



Panel B. (N=1013)



Panel C. (N=1200)



Panel D. (N=1013)

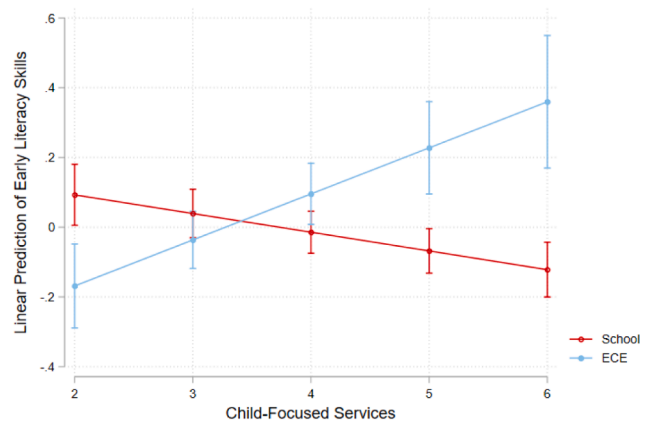
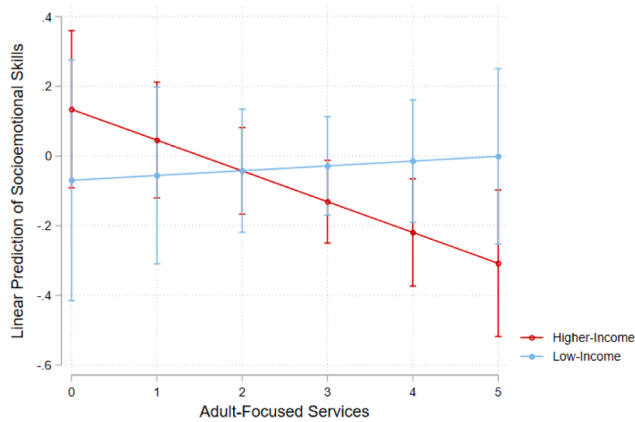
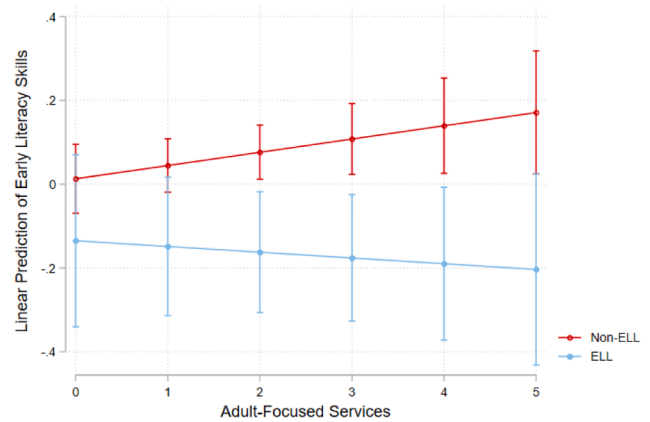


Fig. 4. Program Child-Focused Services: Moderation by Child and Site Characteristics Notes. Figures show predicted values of the outcome variable at different levels of child-focused services (range = 2 to 6) from interaction models. See Table A6 for coefficients from the interaction model.

Panel A. (N=1108)



Panel B. (N=1013)



Panel C. (N=1013)

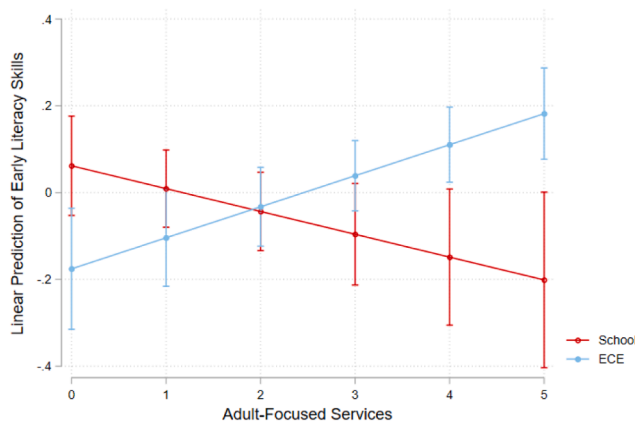


Fig. 5. Program Adult-Focused Services: Moderation by Child and Site Characteristics Notes. Figures show predicted values of the outcome variable at different levels of adult-focused services (range = 0 to 5) from interaction models. See Table A7 for coefficients from the interaction model.

of administrator- and teacher-reported family engagement practices—two-way communication, involvement opportunities, and family support services—are associated with children’s attendance in pre-k and their early literacy and socioemotional skills at the end of pre-k.

We found that teachers and programs use a variety of practices for engaging families in the pre-k program. With respect to teachers’ practices, teachers frequently shared information about what children are doing and learning in the classroom, nearly once per week on average. They less frequently talked with parents about how they felt about the education and care their child receives or about children’s performance on assessments of their learning, about twice per year. It is possible that teachers most often discussed these topics during formal, parent-teacher conferences, which they typically reported holding about twice per year. Teachers frequently invited parents to volunteer or participate in classroom activities, but they less frequently sought out parents to share something about their family in the classroom or bring in materials, like storybooks. Inviting parents to share about their families, cultures, and traditions within the classroom is expected to improve children’s sense of belonging, particularly among children from historically-marginalized groups. However, teachers might be less aware of or feel unprepared to engage in this practice. With respect to programs’ provision of family support services, most programs provided multiple child-focused services, like free or reduced-cost meals and health screenings, but relatively few programs provided adult-focused services, the most common being some type of financial assistance. This is perhaps not surprising as early education programs are typically focused on serving children, with the exception of Head Start, which was

designed as a two-generation program.

Our findings provide limited evidence that school-initiated family engagement practices are on average associated with children’s attendance or early literacy and socioemotional skills. In the full sample of 4-year-olds attending public pre-k, the frequency of teachers’ two-way communication practices (e.g., sharing information about child’s day) was associated with about 20 percent lower odds of chronic absenteeism and was marginally significantly associated with 0.08 SDs higher early literacy skills. Neither the frequency with which teachers offered involvement opportunities (e.g., inviting parents to volunteer in the classroom) nor the number of family support services that programs offered were associated with children’s pre-k attendance or early learning skills in the full sample. However, the associations between family engagement practices and children’s attendance and early learning were moderated by child race and ethnicity, children’s primary language, family income, and pre-k site type (i.e., public school or community-based ECE center).

We found evidence that family engagement practices were associated with more positive child attendance and early learning outcomes among children from low-income families compared to children from higher-income families. Teachers’ practices for two-way communication were more strongly associated with lower chronic absenteeism among children from low-income families such that the income-based gap in chronic absenteeism closed at high levels of communication practices. We found a similar, but not statistically significant, pattern for teachers’ practices for involving parents. Because families with lower incomes tend to face more barriers to pre-k and school attendance and tend to

have higher rates of chronic absenteeism (Chang & Romero, 2008; Ehrlich et al., 2014), low-income families might particularly benefit from increased communication about what children are learning in the program and from building strong relationships with teachers. This may help parents see the value of children's consistent attendance and make them feel more welcome and included in the program, which may in turn motivate and facilitate parents' regularly sending their child to pre-k (Kalil et al., 2021; Robinson et al., 2018; Sommer et al., 2017). We found a small positive association between programs' family support services and children's socioemotional skills (and suggestive evidence of an association for early literacy skills) among children from low-income families but a negative association among children from families with higher incomes. This suggests families with low incomes are more likely to need and benefit from support services, but we interpret this finding with caution as the negative association for children from higher-income families was unexpected and our sample for these analyses includes a more select group of children (i.e., those whose teacher and program administrator both participated in the survey). Future research should examine how and under what conditions family support services matter for children's early learning.

We hypothesized that children of color and children who were learning English as a second language (i.e., ELL children) would differentially benefit from family engagement practices; however, we did not have clear *a priori* hypotheses because prior research suggests that in some classroom and school contexts children of color and ELL children might benefit more from family engagement efforts than White children and children whose primary language is English, respectively, while in other contexts they might benefit less (Dee, 2004; Downer et al., 2016; Markowitz et al., 2020; Partika, 2023; Stephens et al., 2023; Tang et al., 2012). Indeed, our findings provide mixed evidence as to whether family engagement practices are more strongly associated with improved attendance and early learning outcomes among children of color and ELL children. With respect to child race and ethnicity, we found that teachers' involvement practices were more strongly associated with higher socioemotional skills (and suggestive evidence for lower chronic absenteeism) for White children compared to children of color. Prior research shows that teacher-child racial/ethnic match in Head Start programs is associated with higher levels of parental involvement and lower chronic absenteeism (Markowitz et al., 2020). In our study, more than 80 percent of teachers identified as non-Hispanic White, and therefore, this finding might be driven by White children being more likely to have a teacher that matches their race and ethnicity in comparison to children of color. For programs' provision of family support services, we found positive associations between the number of child-focused services among White and Black children and negative associations for Hispanic children and those who identified as multiracial or a different race. As ELL children predominantly identified as Hispanic and multiracial or a different race, these findings might be driven by differences between ELL children and those who are proficient in English, which we discuss below.

For children learning English as a second language, we generally found that they benefited less from family engagement practices compared to children whose primary language was English. Positive associations between teachers' two-way communication practices and children's socioemotional skills were concentrated among children whose primary language was English. An important exception, however, is that teachers' two-way communication practices were more strongly associated with higher early literacy skills among ELL children. On average, ELL children have similar levels of socioemotional skills as non-ELL children but much lower early literacy skills in English. Yet, when teachers communicated with families more frequently, ELL children's early literacy skills were similar to children whose primary language was English.

Our findings also suggest that ELL children benefitted less from family support services compared to children whose primary language was English. The extent to which ELL families can take advantage of

family support services likely depends on the extent to which programs are inclusive of families who do not speak English by translating materials, providing interpretation services, and providing family support services that are tailored to them, such as ESL classes. Findings from the qualitative component of the broader, multi-method study of family engagement, from which data for this study were drawn, support this. In focus groups with pre-k parents, Spanish-speaking parents described that teachers' communication practices were helpful for knowing what their child was learning in pre-k and how to support their learning at home; however, some Spanish-speaking parents described language barriers that prevented them from participating in program activities and services, such as receiving correspondence from the program in English only or lack of interpretation services at program events (Premo et al., 2023). Because there is overlap in children's characteristics—in our sample, a majority of ELL children identified as Hispanic, and Black and Hispanic children were disproportionately likely to be eligible for free and reduced-price lunch—future research with larger samples should conduct intersectional analyses to examine how children's intersecting identities shape families' experiences of family engagement.

We generally found more positive associations between family engagement practices and child outcomes in ECE sites versus school sites. In particular, we consistently found that programs' provision of family support services was associated with lower chronic absenteeism and higher early literacy skills in ECE sites only. This could be because ECE sites in our study include Head Start and non-profit community centers that traditionally have a stronger emphasis on two-generation and family-focused services. ECE sites might also be better able to target their family support services to families with preschool-aged children in comparison to elementary schools that typically serve children through fifth grade. With respect to teachers' practices for engaging families, the results were mixed. Whereas the association between the frequency of teachers' communication practices and lower chronic absenteeism was concentrated among ECE sites, we found a positive association between the frequency of involvement practices and children's early literacy skills in school sites and a negative association in ECE sites. Teachers in school sites provided fewer involvement opportunities, on average, compared to teachers in ECE sites, and it is possible that when teachers do provide these opportunities, parents in school sites benefit more because their children attend the pre-k program for fewer hours per week.

Several limitations of this study are worth noting. Although we used detailed measures of school-initiated family engagement practices, we did not survey parents or collect information about individual parents' level of participation in program activities. The lack of parent-level data precluded us from examining variation within programs and classrooms as to how often and in what ways, for example, teachers communicated with individual parents and from testing other hypothesized mediators, such as parents' home-based learning activities. Relatedly, our measures of family engagement practices represent the frequency with which teachers and programs engage parents but do not capture the quality of these practices. For example, the quality of weekly newsletters with respect to information provided and level of personalization for each family likely matters for how effective they are at engaging parents. As part of the larger study, focus groups with parents whose children were enrolled in pre-k found that parents valued and benefitted from the types of family engagement practices we examined in this study (Pilarz & Lin, 2017). For example, parents viewed regular, two-way communication with teachers as important for building strong parent-teacher relationships and supporting their child's learning at home. Future research should examine parents' perceptions of family engagement practices as well as how family engagement practices shape parents' involvement in children's education and family wellbeing.

Although we adjusted for many child, family, and program characteristics that could confound the relationships between family engagement practices and child outcomes, our estimates should not be interpreted as causal. For example, we did not collect observational

measures of program quality. If teachers who engage in more positive interactions with children also engage in more family engagement practices, then our estimate might overstate the relationship between, for example, teachers' communication practices and chronic absenteeism.

Data from our study were collected prior to the COVID-19 pandemic and disruptions to schooling and ECE that ensued. Since the onset of the pandemic, children's school attendance, academic skills, and socio-emotional wellbeing have declined (Fahle et al., 2023; National Center for Education Statistics, 2022). In particular, chronic absenteeism increased by 13.5 percentage points (91 percent) between the 2018–2019 and the 2021–2022 school years (Dee, 2024). Although the reasons for the increase in absenteeism remain unclear, potential explanations include cultural shifts in parents' views on in-person attendance, shifting norms on staying home when sick, and increases in student mental health problems (Dee, 2024). It is therefore difficult to predict how our findings might translate to the current context. On the one hand, teachers' and programs' efforts to engage families might matter less for children's attendance and early learning skills in the context of additional family stressors and barriers to attendance and learning.

On the other hand, in the context of heightened challenges for school attendance and children's learning, programs' family engagement practices might be more instrumental in encouraging children's attendance and supporting their early learning, particularly among families (e.g., with low incomes) that were more adversely impacted by the pandemic (Perera et al., 2022). As teachers are focused on mitigating declines in children's academic and social skills from the pandemic, they might have less time or energy for engaging families, and therefore, we might see less frequent communication and involvement practices if we conducted a similar study today. Teachers and programs might also have adopted novel approaches (e.g., new technologies) to family engagement that we did not assess in this study (Callie Silver & Cobar-Rodriguez, 2022). Our findings suggest that family engagement practices are a promising strategy for reducing chronic absenteeism in the pre-COVID area. This underscores the need for research to understand preschools' family engagement practices in the COVID-19 era and their effectiveness for improving attendance and promoting learning.

Our findings add to a small but growing literature suggesting that family engagement in preschool programs supports children's attendance and early learning skills. Whereas parents' participation in program activities or parents' perceptions of family engagement practices have been positively associated with children's academic and socio-emotional skills (Ansari & Gershoff, 2016; Arnold et al., 2008; Barnett et al., 2020; Powell et al., 2010; Puccioni et al., 2020), in this study, we show that school-initiated family engagement practices are also associated with children's early literacy and socioemotional skills and attendance in pre-k among specific subgroups of children. We found evidence that children from low-income families benefit more from family engagement than higher-income children, suggesting that family engagement efforts could help reduce income-based gaps in chronic absenteeism. Our findings suggest the need for future research to consider differences by child race and ethnicity and primary language. Because our study consisted of majority White administrators and teachers, it will be important to examine racial and ethnic differences in the association between family engagement and children's early learning in contexts where the racial and ethnic composition of school staff more closely matches the racial and ethnic composition of families. Finally, our study highlights the need for research on family engagement to examine the unique effects of different types of family engagement practices. In particular, few studies have empirically examined the role of family support services in promoting children's learning, although the potential benefits of these services are theoretically-supported (Sabol et al., 2018). Our findings suggest that the context in which these services are provided might also matter for their effectiveness.

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CRedit authorship contribution statement

Alejandra Ros Pilarz: Conceptualization, Methodology, Supervision, Funding acquisition, Project administration. **Ying-Chun Lin:** Conceptualization, Methodology, Data curation. **Elizabeth Premo:** Conceptualization, Methodology, Formal analysis.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.childyouth.2024.107794>.

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