Transitioning Across Systems: Head Start and Elementary School Coordination Efforts to Enhance Low-Income Children's Academic and Social Success in Kindergarten

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ABSTRACT

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Children moving from early education programs into elementary schools face a critical transition, making it important for both systems to coordinate to better serve our youngest children. Yet, there is limited research on coordination around the transition to school. The objectives of this dissertation were to: 1) describe the coordination efforts used by Head Start programs to smooth children's transitions to kindergarten, 2) examine the association between coordination and children's outcomes in kindergarten, 3) test whether there is an interaction between Head Start coordination efforts and elementary school-based transition practices, 4) test interactions between coordination and child/family characteristics, and 5) understand the benefits and challenges to coordinating across systems. This study included two phases.

Phase I examined coordination efforts between Head Start programs and elementary schools in a nationally representative sample of Head Start children (N=2,019). Findings suggest that Head Start programs are engaging in a variety of activities to coordinate with elementary schools. Results of regression analyses found that coordination was positively related to children's language and mathematics skills in kindergarten for children enrolled in elementary schools engaging in limited activities to support the transition to school.

Phase II involved interviews with sixteen Head Start directors. Results showed multiple ways they coordinate with elementary schools to share information about individual children and general program practices, as well as the ways they serve as a bridge between families and elementary schools. Findings suggest that coordination may benefit children through improved practices by Head Start and elementary schools, as well as increases in parental readiness and involvement.

Overall this study shows that Head Start programs are engaging in multiple activities to coordinate with elementary schools. Although direct relationships between coordination practices and child outcomes were limited, interviews with Head Start directors pointed to indirect pathways by which coordination efforts may benefit children. These findings suggest the importance of coordination practices, and stress the need for additional research to explore these pathways.

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CHAPTER 1: INTRODUCTION

Children moving from early education programs into elementary schools face a critical transition as they move across systems that are governed by different policies and regulations, guided by different philosophies with new expectations for children and families, and often, provide a physical change in a child's daily educational environment (Bogard & Takanishi, 2005; Bronfenbrenner, 1979; Cowan, Cowan, Ablow, Johnson & Measelle, 2005; Kagan & Tarrant, 2010; Pianta, Cox, & Snow, 2007; Pianta, & Kraft-Sayre, 2003). Research has shown that children and their families face adjustment challenges when transitioning across these systems (Cowan et al., 2005; Rimm-Kaufman, Pianta, & Cox, 2000), with teachers in a national survey reporting that almost half (48%) of children struggled adjusting to school (Rimm-Kaufman, Pianta, & Cox, 2000). The prevalence of difficulties adjusting to school is important given that school readiness and successful transitions provide children with the foundation for later school success at a critical period for development (Entwisle & Alexander, 1993; Ladd & Price, 1987, Ladd, Buhs & Seid, 2000; Snow, 2006).

Large achievement gaps across income strata, evident at the start of school entry (Duncan, et al, 2007; Reardon, 2011), have prompted heightened attention to school readiness efforts targeting low-income children through Head Start, state and local pre-kindergarten programs, home visiting and other interventions to support children's readiness for school. These programs have had positive effects on children's key school readiness skills (e.g. Heckman, 2006; Gormely & Gayer, 2005; Reynolds, 2004). Yet, early skill gaps continue to exist, and some interventions, such as Head Start, have failed to show that gains made in early childhood are sustained after children enter primary school (Leak et al., 2013; Puma et al., 2012). There is some evidence suggesting that to sustain gains made in the preschool years, attention must be

paid to the child's subsequent developmental context, the elementary schools they are entering (Reynolds, Ou, & Topitzes, 2004; Zhai, Raver & Jones, 2012). However, limited scholarly attention has focused on discontinuities inherent in the transition to school and the ways preschools and elementary schools can coordinate their efforts to better align practices and support children and families as they transition across systems.

Driven by the importance of early education and development, there has been a call to conceptualize the early years of educational experiences as a continuum from pre-kindergarten through third grade (Pre-K-3rd) (Bogard & Takanishi, 2005). In the PreK-3rd model, kindergarten is increasingly seen as a critical point, where children transition across systems and opportunities for continuity (or discontinuity) are evident (Bogard & Takanishi, 2005; Kagan & Tarrant, 2010). There is a need to view this transition time as a critical connector in the early years, rather than a breaking point where the discontinuities across the two systems are most apparent and distressing for children and families. While this call for continuity has been integrated into policy statements and educational regulations, including the Head Start Performance Standards (2015), and the Every Student Succeeds Act (2016), there is a lack of empirical information about whether and how programs are implementing coordination practices and which practices are most effective for building continuity across systems and promoting successful transitions for children (Stipek, Clements, Coburn, Franke & Farran, 2017). This study seeks to fill this gap by providing a rich description of the coordination practices engaged in by Head Start programs with elementary schools, by assessing how such practices are associated with children's successful transition to kindergarten, and by gaining a deeper understanding of the benefits and challenges encountered when engaging in coordination efforts.

CHAPTER 2: LITERATURE REVIEW

The transition to kindergarten is a normative activity for children and families, and yet is one that may cause disequilibrium as children enter environments that are qualitatively different than their home and former preschool settings (Erikson, 1950; Rimm-Kauffman & Pianta, 2000). With the goal of equilibrium, children, families and schools can make assimilations and accommodations that help navigate the discontinuities in children's environments as they enter school (Kagan & Tarrant, 2010). Indeed, children who successfully navigate the transition to kindergarten report greater enjoyment of school and fewer absences than their peers with transition difficulties, thus potentially gaining more from the available academic experiences that lead to better academic and social outcomes (Ladd, Buhs, & Seid, 2000; Ladd & Price, 1987; Pianta & Kraft-Sayre, 2003). Moreover, more coordinated transitions in which teachers are building upon children's prior experiences and skills may support greater growth in children's key academic and behavioral skills (Bogard & Takanishi, 2005). The Developmental Ecological Transition to Kindergarten model developed by Rimm-Kaufman and Pianta (2000) emphasizes that successful transitions are embedded in interacting systems that rely on connections among children, families, and schools. In this model, successful transitions are the responsibility of all parties (Kagan & Neuman, 1998) and "school readiness" becomes an attribute of the system(s) rather than just the child (Pianta & Kraft-Sayre, 2003).

For example, in response to the pattern of fadeout of preschool gains after children enter school (Claessens, Engel & Curran, 2013; Puma, et al. 2012), some hypothesize the centrality of children's subsequent developmental contexts, elementary schools, particularly if children enter low-quality schools that may have limited learning opportunities and fail to maximize and maintain the gains made in preschool (Reynolds, Ou & Topitzes, 2004; Zhai, Raver & Jones,

2012). Other research has suggested that kindergarten teachers may spend too much time on content that was already mastered in preschool and temper children's growth (Engel, Claessens & Finch, 2013). Within the PreK-3rd model, coordination between preschools and elementary schools can provide alignment of curriculum and high-quality learning experiences, capitalizing on gains made in preschool and allowing elementary schools to build upon what was learned in preschool and thereby support greater growth in children's skills (Bogard & Takanishi, 2005; Engel, et al., 2013).

Transition Practices to Connect Systems

School policies and practices that support the transition to kindergarten can be used to connect the different contexts and services children are receiving simultaneously as they enter school (often serving as a way to connect children's home and school experiences), or to support children's chronological transitions by serving as a bridge between preschools and elementary schools. Common transition practices directed at children and families during the transition are often categorized as one-time experiences, such as open houses, school tours, home visits, parent orientations, and family visits to the kindergarten classroom. Conversely, practices that involve alignment and coordination efforts across preschool settings and elementary schools often include more intentional organizational communication and planning efforts (Bogard & Takanishi, 2005). These coordination efforts involve the two parties acting as partners in the transition process and may include elementary school and preschool staff aligning curriculum, engaging in joint trainings, co-planning, and sharing information about specific children. Preschool-elementary school coordination activities are an important part of the Developmental Ecological Transition to Kindergarten model; by supporting children's chronological transitions,

they may minimize the effect of the discontinuities inherent in transitions (Kagan & Tarrant, 2010; Rimm-Kaufman & Pianta, 2000).

Empirical Evidence on Coordination & Transition Efforts

Overall, coordination and transition efforts implemented by preschools and elementary schools can help serve as a bridge for children and families as they move into kindergarten. While there are many theoretical pieces written about the transition to school, there is minimal empirical literature on coordinating across systems to support school transitions (Eckert, McIntyre, DiGennaro, Arbolino, Perry & Begeny, 2008). A greater portion of research in this arena has assessed one-time transition practices offered by kindergarten teachers/elementary schools. A recent examination of transition practices comparing reports of practice use in 1998 and 2010, in a nationally representative sample of elementary schools across the United States (Early Childhood Longitudinal Study (ECLS-K) data) found that the majority of kindergarten teachers reported using at least one transition practice, with an average just over three practices in the 2010 cohort (Little, Cohen-Vogel & Curran, 2016). The most commonly reported activities were sending information how, using parent/child visits before the start of school and hosting a parent orientation. All of these most common activities also increased between the 1998 and 2010 reports (Little, Cohen-Vogel & Curran, 2016).

Research focused on these transition practices geared towards children and families has found small beneficial effects. For example, analyzing data on a nationally representative sample of kindergarten children, Schulting and colleagues (2005) found that children with kindergarten teachers who reported engaging in greater numbers of practices had higher academic achievement scores at the end of the kindergarten year compared to peers exposed to fewer transition practices. Parent and child visits to the kindergarten classroom before the school year

started were particularly important transition practices (Schulting et al., 2005). Using another nationally representative dataset and controlling for children's skills in preschool, Cook & Coley (2017) found that parent orientations were the only type of transition practice linked to gains in children's academic skills in kindergarten, whereas a greater total range of transition practices was associated with gains in children's prosocial skills. Together, these results reiterate arguments from other research suggesting that practices geared at connecting schools and families improves children's school success (Dearing, Kreider & Weiss, 2008; Henderson & Berla, 1994; Pomerantz, Moorman, & Litwack, 2007).

In contrast to transition practices engaged in solely by one system (e.g., the elementary school), coordination practices that require cooperation and alignment between preschool and kindergarten systems are more time intensive. A limited number of studies have assessed such practices, again identifying small positive outcomes for children. LoCasale-Crouch and colleagues (2008) studied the transition to school for a sample of approximately 320 children attending public pre-kindergarten programs in the U.S., finding a positive link between the number of transition activities engaged in by preschool teachers (e.g., children, teachers, and/or parents visiting kindergarten, sharing information between preschool and kindergarten teachers) and children's social, self-regulation, and academic skills in the fall of their kindergarten year. Considering the specific practices driving this finding, they found that when preschool teachers shared information about curricula use or specific children with kindergarten teachers, kindergarten teachers rated children as having more social competencies and less behavior problems in kindergarten (LoCasale-Crouch, et al., 2008).

Two studies in other countries have found similar patterns. Following a small sample of Finish children, Ahtola and colleagues (2011) reported that a greater number of collaborative

practices between preschool and elementary school teachers was associated with heightened growth in children's reading, writing and math skills through the first year of elementary school, with sharing information on curricula and individual children being the most important practices in supporting children's functioning (Ahtola, et al, 2011). Research in Norway similarly found that sharing information across systems concerning curriculum and specific children predicted greater child adjustment in the first weeks of school, which in turn was associated with enhanced functioning through the first year (Cook, Dearing & Zachrisson, 2016). Specifically, Cook and colleagues (2016), found that the greatest positive effect for children's adjustment was when first grade teachers (the first year of formal schooling in Norway) received both general information about the program the child attended for preschool, and information about the individual study child specifically. These findings support the theory that information sharing between systems plays a key role in how children adjust to school, and more research is needed to better understand how this information sharing is beneficial for children.

Limitations of Current Literature

This limited literature base suggests that sharing information across systems is important, but lacks examination of other coordination practices such as engaging in joint trainings, collaborative planning of services for children, and alignment of practices. Questions remain about which coordination practices are being used, the relationship between these coordination practices and child outcomes, and how coordination practices interface with other elementary schools' transition practices aimed more specifically at children and families. To gain a more comprehensive picture of the transition into elementary school, it is essential to address how both coordination and transition practices function in support of children's development.

A question also remains concerning whether coordination practices are more important for certain children than for others, particularly children from low-income and disadvantaged families. The most recent review of transition practices nationally found that higher district poverty, higher percentage of children qualifying for free/reduced lunch, higher percentage of students of color, and higher percentage of children classified as English Language Learners, was associated with fewer total transition practices offered by the elementary school/district (Little, Cohen-Vogel & Curran, 2016). Other past research has found that the relationship between transition practices and child outcomes was moderated by child and family risk factors such as poverty or low education (Schulting, et al, 2005; LoCasale-Crouch, 2008). For example, Schulting and colleagues (2005) found that children from low-income families received the fewest number of transition practices, yet gained the most from them. LoCasale-Crouch and colleagues (2008) similarly found that transition practices were more strongly related to children's functioning for children from low-income, low education, and minority families. However, other research controlling for prior characteristics in preschool has not replicated such interactions, finding that horizontal transition practices are associated with heightened functioning for children across diverse economic strata (Cook & Coley, 2017). These discrepancies and the importance of early school success for at-risk children show that more research is needed in this area.

In addition, the current literature base largely fails to include the voices of practitioners, and lacks empirical study of the benefits and challenges to coordination practices, information required to be able to make any substantive policy and practice recommendations in this area. A recent report series on connecting pre-k and the early grades by the New America Foundation (Bornfreund, 2016), provided insights gleaned from focus groups of elementary school principals

and suggested that more formal coordination occurs when preschool classrooms are located in public schools, relationships across systems face challenges such as the time needed to effective build them, and overall leaders need more infrastructure to build better coordination and transitions. This work is an important step, but more empirical research is needed to gain a deeper understanding of the challenges and barriers faced in coordination efforts.

The Policy Context of Coordination across Systems

Despite the limited empirical evidence, educational policy makers and theorists have highlighted the importance of alignment and coordination across systems for decades with limited empirical justification (Stipek et al, 2017; National Education Goals Panel, 1998, Love, Logue, Traudau & Thayer, 1992; Kagan & Neuman, 1998). Recent changes in education legislation and regulations have gone a step further, with explicit policies focused on the need to coordinate across systems (e.g. Head Start Performance Standards, 2015; Every Student Succeeds Act, 2016*).* Perhaps the largest change is evident in the 2016 reauthorization of the nation's main education law, renamed the Every Student Succeeds Act *(*ESSA*),* which includes language that encourages coordination between local education agencies and community early education providers around the transition to school, and mandates local education agencies to coordinate with Head Start programs as well as schools providing early education programming under Title I. In addition, language in the new law provides opportunities at the state and local levels to define best practices around kindergarten transitions and coordination efforts and use areas such as joint professional development and plans to align with the Child Development Block Grant (U.S. Department of Education, 2017) to support program coordination and alignment. In response, it is likely that states and local communities will begin to design more intentional approaches to collaboration between early education programs and elementary

schools (Horowitz, 2017). Empirical evidence is essential to understand the ways coordination efforts between early education programs and elementary schools function in order to inform future policy and practice.

The federal Head Start program provides a key model to unearth deeper understanding of this issue. Head Start, a national school readiness program for low-income children and their families, has a long history of providing a more comprehensive approach to coordinating services for children transitioning in and out of their programs. The Head Start Performance Standards governing the program require Head Start grantees to ensure successful transitions into Head Start programs and then from Head Start into elementary school, with mandates for programs to coordinate with schools to transfer children's records; encourage communication between Head Start and school staff, initiate meetings between Head Start teachers, parents, and elementary school teachers to discuss individual children; and initiate joint training related to transitions with elementary staff (Head Start Performance Standards, 2016, Section 1308 (g) Transition Services, p.50). Head Start has historically required programs to create memorandum of understanding with each local education agency that children will attend. The ESSA law takes some of the onus off the Head Start programs and also requires local education agencies to take part in these agreements, essentially creating a two-way street. This makes Head Start a rich system in which to study coordination efforts to inform policy and practice for the future.

CHAPTER 3: STUDY OVERVIEW & GOALS

In the policy context of increased calls for coordination across systems, the present study seeks to expand the limited literature in the area of coordination practices by exploring the specific practices that Head Start programs use to coordinate with their children's elementary schools as children transition to kindergarten. This study will provide a more nuanced look at the

coordination between Head Start and elementary schools, going beyond prior research which solely examined sharing of information across systems. With the goal of extending implications for policy and practice to the diverse early education system and elementary schools, this project employs a two-phase explanatory sequential design (Creswell & Plano Clark, 2011), beginning with a quantitative phase, followed by a qualitative phase.

In Phase I, the project will involve quantitative secondary data analyses of the Head Start Family and Child Experiences Survey (FACES) 2009 dataset, a nationally representative study of children who entered Head Start preschool programs in 2009. In Phase II, the study will employ a qualitative descriptive study approach to collect descriptive accounts from practitioners about their views on the opportunities and barriers to coordination across systems (Sandelowski, 2000). A study advisory committee, created based on the belief that positive changes in education can come to fruition through strong partnerships between researchers and practitioners (Coburn & Stein, 2010; Tseng, Easton & Supplee, 2017), was involved in the development and refinement of the research questions and overall study design and played a role in interpretation of the phase I results, and the design refinement and interpretation of phase II.

Phase I: Quantitative Study Goals

There were multiple goals for phase I of the study. The first goal was to develop a descriptive look at the transition practices and coordination efforts used in Head Start programs. The second was to examine associations between Head Start engagement in coordination practices and children's cognitive and social outcomes in kindergarten. The third aim was to better understand the role both parties, preschools and elementary schools, play in coordination efforts by exploring whether coordination practices have a greater association with child outcomes when preschools coordinate with elementary schools that are more invested in the

transition process by engaging in more school-based transition practices. The fourth aim was to examine whether vertical coordination practices have differing associations with child outcomes for diverse groups of children, particularly those who experience risks for limited school success.

It was hypothesized that there would be variability in the coordination practices used by centers in both type and amount; that programs that engage in more coordination practices would have children with better outcomes in kindergarten; that children who are exposed to kindergarten programs that have a larger investment in the transition process (as measured by more school-based transition practices) would gain more from Head Start coordination practices; and that coordination practices would be more strongly associated with growth in children's skills for children experiencing risk factors.

Phase II: Qualitative Study Goals

The qualitative phase of the study provides a view of coordination efforts from the real-lived experiences of practitioners in the field in order to deepen our understanding of the opportunities and challenges faced when coordinating across systems, in order to develop recommendations for policy and practice and guide directions for future research. The goals for phase II were threefold: 1) to provide a rich description of the practices and processes Head Start uses to coordinate with elementary schools in support of children's transition to kindergarten; 2) to delineate Head Start directors' views on the benefits of these practices and features of successful coordination efforts; and 3) to describe Head Start directors' opinions on the challenges of coordinating with elementary schools and ways to improve in the future.

CHAPTER 4: PHASE I QUANTITATIVE STUDY

Methods

Data were drawn from the Head Start Family and Child Experiences Survey (FACES): 2009 Cohort, a longitudinal study following 3 and 4-year old children from their first year of Head Start in fall 2009 through spring of their kindergarten year in 2011 or 2012, with data collected from children, families, and educators (Malone, et al., 2013). The FACES study used a multistage sampling design with three stages (program, center and classroom), stratification at the program level based on program characteristics, and random sampling of children within classrooms. This approach yielded a sample of 3,349 children in 486 classrooms, in 129 centers, within 60 programs. Ninety-three percent of selected programs participated, 100% of centers and classrooms in participating programs, and 92% of children in participating classrooms (Hulsey, Aikens, Kopack, West, Moiduddin, & Tarullo, 2011).

Data were collected during the fall and spring of the child's first year of Head Start and spring of kindergarten through direct child assessments; assessor, parent and teacher ratings of children; parent interviews; classroom observations; teacher interviews; and program director, center director, and education coordinator interviews. For the first wave of data collection in the fall of 2009, child assessments were completed for 94% of eligible children, parent interviews were completed by 93% of their parents, and child ratings were obtained from 97% of the children's teachers (Malone, et al, 2013). This study includes an analytic sample of children who remained in the FACES study through the kindergarten wave of data collection (2011 for the 4-year old cohort and 2012 for the 3-year old cohort) and had a valid longitudinal weight (PRA16WT) denoting that they had parent interview data in any round and some child assessment data in the kindergarten year (N=2,019). The use of the longitudinal weight makes

the sample representative of Head Start programs and the children and families they served for a first year of Head Start in 2009.

Measures

Coordination Practices. In the fall of the Head Start year in 2009, Head Start center directors responded to a series of survey questions about transition practices engaged in by the center to coordinate with the elementary schools children would attend. Directors reported whether they engage in transition and coordination activities, at what point in the year they begin the activities, and the types of activities they engage in. Directors reported (yes/no) on whether they: "meet with kindergarten teachers at the schools Head Start children will attend"; "conduct joint trainings of Head Start and school staffs;" "share curriculum information;" "share information about rules and program policies;" "share information on expectations of children and families;" "provide children's Head Start records to the school;" "help schools identify Head Start children who will enroll in their kindergarten program;" and "participate in the development of IEPs for children with disabilities." Following previous literature, items were summed into a total coordination practices index and also assessed individually (Cook & Coley, 2017; LoCasale-Crouch, et al, 2008; Schulting, et al, 2005). As a final piece of information on coordination activities, Head Start Education Coordinators/Managers reported on whether the transition to school was part of their responsibility.

Elementary School-Based Transition Practices. In each child's kindergarten year, kindergarten teachers reported on the school-based transition practices their school engaged in. These practices included whether or not they contacted parents, had preschoolers spend time in the kindergarten classroom, shortened days at the start of the school year, had parents and children visit the school, conducted teacher home visits, held parent orientations, and held

readiness camps, which were summed to create a transition index of practices engaged in by the elementary school. These items parallel those explored in other studies of elementary school-based transition practices (Cook & Coley, 2017; Schulting, et al, 2005; Little, Cohen-Vogel & Curran, 2016).

Child Cognitive Outcomes. Children were assessed through direct assessments in the fall and spring of Head Start and the spring of kindergarten. Assessments were completed in English or Spanish, with language use assessed through English language screeners from the Preschool Language Assessment Survey (preLAS) (Duncan & DeAvila, 1998) and reports of children's home language. Early mathematical skills were assessed with the Woodcock-Johnson Applied Problems/Woodcock-Munoz Pruebas de Approvechamineto Applied Problems and the mathematics items from the Early Childhood Longitudinal Study-Birth Cohort (Snow, et al, 2007; Woodock, McGrew & Mather, 2001; Woodcock, Munoz-Sandoval, McGrew, Mather & Schrank, 2004), scored using a three-parameter Item Response Theory (IRT) model (Malone, et al., 2013; alpha=0.82-0.95). Children's language skill were assessed with the Peabody Picture Vocabulary Test-4 (PPVT-4; alpha=0.91-0.95; Dunn, Dunn, and Dunn, 2006) or the Test de Vocabulario en Imágenes Peabody (TVIP; alpha=0.89-0.92; Dunn, Padilla, Lugo, and Dunn, 1986) with W scores calculated by the FACES study personnel.

Child Social-Emotional Outcomes. Teacher reports on children's social-emotional functioning were collected during the fall of Head Start and spring of kindergarten. Teachers reported on items from the Behavior Problems Index (Zill & Peterson 1986), Personal Maturity Scale (Entwisle, et al, 1987) and the Social Skills Rating System (Gresham and Elliott, 1990). These items were collapsed by FACES personnel into composite scores assessing social skills (24 items, alpha=0.88-0.90, range 1-3), with higher scores indicating more positive social skills,

and behavior problems (30 items, alpha=0.86-0.87, range 1-3), with higher scores indicating more negative behaviors.

Child and Family Characteristics. The FACES dataset includes multiple child and family characteristics that may be associated with children's skills as well as with their selection into Head Start, and hence were included as covariates. These data were reported by the primary caregiver in the fall of the child's first year in Head Start and include: child gender (male/female), child age in months, child cohort (3- or 4-years old), child race/ethnicity (white/non-Hispanic, African-American/non-Hispanic, Hispanic/Latino, Multi-Racial/Other), immigrant status (one or more parents not born in the US), household income/poverty ratio, maternal education (less than high school diploma, high school diploma/GED, some college, BA or higher), parental marital status (married/not married), household size, maternal depression indicator, and an indicator for whether the household language was not English. A parent-reported indicator of whether the child had a diagnosed disability at any data collection point was also included. In addition, the following characteristics were also used as moderators: household income/poverty ratio, maternal education, English as household language.

Head Start Program, Center, Classroom and Teacher Characteristics. Information about characteristics of centers, classrooms, directors and teachers were also included as covariates. We include the director's highest degree (Associate's degree/some college, Bachelor's degree, Master's degree or higher) and years of experience, reported by directors. Head Start classroom teachers reported on whether the program was full-day, class size, child:teacher ratio, teacher years of experience, and teacher's highest degree (less than Bachelor's degree, Bachelor's degree, Master's degree or higher). In addition, classroom instructional quality was directly assessed using the Classroom Assessment Scoring System

(CLASS) tool administered in the spring of the child's first year in Head Start (CLASS; Pianta et al, 2008); we incorporate the instructional support subscale, which includes dimensions related to teachers' provision and facilitation of inputs, activities, and social interactions that promote children's higher-order thinking, problem solving, and language skills, with seven point rating scales from 1=minimally characteristic of the environment to 7=highly characteristic (alpha=0.79).

Kindergarten School, Classroom & Teacher Characteristics. Characteristics of the teachers and schools children entered in kindergarten, reported by the child's kindergarten teacher in the spring of kindergarten, were also included as covariates, including school type (public/private), full vs. part day kindergarten, teacher degree (Bachelor's degree, Master's degree, doctoral/other), and teacher years of experience.

Analytic Plan

Prior to conducting analyses, missing data patterns were explored in the analytic sample (N=2,019). Missing values ranged from 0 to 30%. Multiple imputation using chained equations in Stata 14 was used to create 30 complete datasets (Royston, 2005), which were analyzed with the longitudinal weight (PRA16WT) applied using the Taylor Series linearization method to estimate proper variance. These variance estimation procedures accounted for clustering by specifying the appropriate primary sampling unit (PSU) and stratum variables as advised by the FACES user's manual (Malone, et al, 2013). Sampling weights in FACES adjust for differential probabilities of selection and reduce bias from differential nonresponse and attrition (Malone, et al, 2013). The use of weights allows generalization to a nationally representative picture of Head Start children and centers in 2009, the most recent data available on transition practices in Head Start programs.

Following descriptive analyses, lagged OLS regression models were estimated to test whether coordination practices were associated with better child outcomes in kindergarten. Initial models included all child, family, center, Head Start classroom and elementary school covariates described in the measures section (all continuous covariates were centered in the models). After initial analyses, covariates that were non-significant across all models were removed to increase parsimony. All models included lagged measures of the child dependent variable, measured at the fall of the first Head Start year. The incorporation of measures of earlier child functioning is an essential adjustment for unmeasured heterogeneity bias, controlling for all unmeasured factors which have a consistent effect on children's functioning over time (Cain, 1975; Duncan, Magnuson, & Ludwig, 2004).

The first set of models focused on the sum index of Head Start coordination practices. A set of alternate specifications considered each of the eight Head Start coordination practices individually. Next, interaction terms between the sum index of the Head Start coordination practices and the sum index of the school-based kindergarten transition practices were added to the models to test for moderation. Last, interaction terms between the sum index of the Head Start coordination practices and child/family characteristics (i.e. household income/poverty ratio, maternal education, and English as household language) were separately added to the models to test for moderation.

Results

Sample Description

Table 1 provides weighted descriptive data on child and family characteristics, with data on Head Start and elementary teachers and programs presented in Table 2. On average, children in the sample were 47 months in the fall of their first year of Head Start, and 8% had a diagnosed

disability by the end of kindergarten. Fifty-two percent of children began kindergarten in 2011 (four year old cohort), and 48% of the sample started kindergarten in 2012 (three year old cohort). Nearly all children were from low-income families, with the average family income to poverty ratio falling just under one (0.93). Thirty percent of children lived in households where English was not the first language, and 38% of children had one or both parents who were born outside of the United States. Twenty percent of the sample was white, 38% Hispanic, 33% African-American, and 8% other race/ethnicity.

Table 1. Sample Characteristics: Child & Family Characteristics

	% Yes /Mean(SD)
Cohort: 2011	52%
Child Age in Months First Year of Head Start	46.94 (6.59)
Gender (Male)	50%
Child diagnosed with disability by kindergarten wave	08%
Race/ethnicity: White	20%
Race/ethnicity: African-American	33%
Race/ethnicity: Hispanic	38%
Race/ethnicity: Other	08%
Household Size	4.61 (1.64)
Income to Poverty Ratio	0.93 (0.58)
Household Language is Not English	30%
Immigrant Family	38%
Maternal Depression	16%
Maternal Education: Less than HS Diploma	37%
Maternal Education: HS Diploma/GED	35%
Maternal Education: Voc/Tech/Associates/Some College	23%
Maternal Education: Bachelor Degree or Higher	05%
Parent's Marital Status: Married	30%
Parent's Marital Status: Not Married	70%
Maternal Employment: Working Full Time	26%
Maternal Employment: Working Part Time	22%
Maternal Employment: Looking for Work	21%
Maternal Employment: Not in Labor Force	31%
Kindergarten Language Skills	131.03 (15.14)
Preschool Language Skills	92.81 (24.89)
Kindergarten Mathematics Skills	36.50 (7.61)
Preschool Mathematics Skills	13.61 (6.52)
Kindergartner Social Skills	17.89 (4.88)
Preschool Social Skills	15.37 (4.87)
Kindergarten Problem Behavior	4.80 (4.90)
Preschool Problem Behavior	4.47 (4.48)

Notes: N=2,019 children; weighted (PRA16WT), aggregated over 30 imputed datasets.

Seventy percent of children had unmarried parents. Thirty-seven percent of children had mothers with less than a high school diploma, 35% with a high school diploma or GED, 23% with some college, associate's degree, or a vocational/technical degree, and 5% had bachelor's degree or higher. Children in the sample had Head Start teachers with varying education levels (15% high school diploma, 33% associate's degree, 42% bachelor's degree and 11% master's degree). Forty-nine percent of children in the sample had kindergarten teachers with bachelor's degrees, 50% with master's degrees or higher.

Table 2. Head Start & Elementary School Characteristics

	% Yes /Mean(SD)
Head Start Classroom & Center Characteristics	
Full Day Program	59%
Classroom Quality Score (CLASS Instructional Quality)	2.31 (0.67)
Class Size	17.50 (1.98)
Child: Teacher Ratio	8.72 (2.31)
Teacher Years of Experience	12.85 (8.57)
Teacher Degree: HS or Less	15%
Teacher Degree: Associates	33%
Teacher Degree: Bachelors	42%
Teacher Degree: Masters	11%
Center Director Degree: Associates/Some College	22%
Center Director Degree: Bachelors	45%
Center Director Degree: Masters or Higher	33%
Center Director Years at Head Start Program	11.52 (8.11)
Transition part of Education Coordinator's Job	75%
Kindergarten Teacher & Elementary School Characteristics	
Public School	98%
Full Day Program	87%
Kindergarten Teacher Degree: Bachelors	49%
Kindergarten Teacher Degree: Masters	49%
Kindergarten Teacher Degree: Doctoral/Other	1%
Kindergarten Class Size	20.67 (4.86)
Teacher Years of Experience Teaching Kindergarten	8.96(7.89)

Notes: N=2,019 children; weighted (PRA16WT), aggregated over 30 imputed datasets.

Coordination and Transition Practices

Overall, children transitioning from Head Start to kindergarten had directors and teachers who reported numerous transition and coordination activities, with most starting at the beginning or middle of the preschool year. Ninety-eight percent of Head Start directors reported a formal

process in place, and 74% of Head Start education coordinators reported that the transition to school is part of their job responsibilities. Head Start directors reported engaging in an average of 6 (out of 8) coordination practices with the schools their children would be attending, with providing records, helping schools identify incoming kindergarteners, and helping prepare IEPs being the most common coordination practices (Table 3). Although slightly less common, more than half of programs participated in joint trainings (65%) and sharing curriculum (74%). Overall, this shows limited variability in terms of Head Start coordination practices, with high percentages for each coordination practice.

Table 3. Head Start Coordination Practices Reported

	% /Mean(SD)
Coordination Practices: Head Start to Elementary Schools (reported by Head Start director)	
Participate in development of individualized education plans (IEPs)	91%
Provide Head Start records for children	86%
Help schools identify kindergarten students	85%
Meet with kindergarten teacher at school	76%
Share Curriculum Information	74%
Share Expectations	73%
Share Program Policy Information	69%
Joint Trainings	65%
Coordination Sum Index	6.12(1.88)

Notes: N=2,019 children; weighted (PRA16WT), aggregated over 30 imputed datasets.

In contrast, kindergarten teachers reported engaging in an average of only 3 (out of 7) school-based kindergarten transition activities (see Table 4). The correlation between the Head Start coordination sum index, and the school-based transition sum index was weak (r=.05).

Table 4. School-Based Transition Practices Reported

	% /Mean(SD)
School-Based Kindergarten Transition Practices (reported by kindergarten teacher)	
Send info home	86%
Parent Orientation	79%
Children and Parents Visit Classroom	74%
Preschoolers visit K class	40%
Shortened Days	16%
Readiness Camp	15%
Home Visits	06%
Kindergarten Sum Index	3.16 (1.25)

Notes: N=2,019 children; weighted (PRA16WT), aggregated over 30 imputed datasets.

Relationship between Head Start Coordination Efforts and Children's Outcomes

The first set of lagged regression analyses found no significant associations between the Head Start coordination practices sum index and children's language skills, math skills, social skills or problem behaviors in the spring of kindergarten (see Table 5). Considering other aspects of the transition system, results found that Head Start programs with education coordinators reporting responsibility for transition activities had children with significantly higher social skills and lower problem behaviors at the end of kindergarten, with effect sizes of 0.15 and -0.15 standard deviation units (SDs), respectively. In addition, more school-based kindergarten transition practices were associated with significantly higher language scores at the end of kindergarten, with each additional school-based kindergarten transition practice predicting a 0.04 SD unit increase in language scores at the end of kindergarten (see Table 5).

The next set of models examined each of the Head Start coordination practices separately (see Table 6). Overall, results showed that individual practices were not associated with child outcomes. Out of all possible associations, only the relationship between Head Start director's reports that Head Start meet with the kindergarten teacher was statistically significantly associated with increased language skills at the end of kindergarten. Compared to children whose directors did not report meeting with kindergarten teachers at school, those whose directors

reported affirmatively, on average had significantly higher language scores at the end of kindergarten (about 0.16 of a SD unit increase).

Table 5. Head Start Coordination Sum Index Predicting Kindergarten Child Outcomes

	Model 1: Language Skills		**Model 2: Math Skills**		**Model 3: Social Skills**		**Model 4: Problem Behaviors**	
	Coef.	**(SE)**	**Coef.**	**(SE)**	**Coef.**	**(SE)**	**Coef.**	**(SE)**
Lagged Dependent Variable	0.42***	(0.02)	0.65***	(0.04)	0.25***	(0.03)	0.36***	(0.03)
Head Start Coordination Practices Sum Index	0.35	(0.27)	0.25	(0.15)	- 0.06	(0.09)	- 0.05	(0.08)
School-Based Kindergarten Transition Practices Sum Index	**0.71***	**(0.33)**	0.26	(0.18)	- 0.10	(0.13)	0.02	(0.10)
Education Coordinator Responsible for Transition	0.96	(0.90)	- 0.35	(0.45)	0.74*	(0.31)	- 0.76*	(0.29)
Gender (Male)	0.77	(0.59)	- 0.17	(0.29)	- 1.46***	(0.26)	1.61***	(0.28)
Race/Ethnicity: African American	- 2.70**	(1.01)	- 0.34	(0.58)	- 0.17	(0.38)	0.36	(0.33)
Race/Ethnicity: Hispanic	- 2.03+	(1.13)	0.14	(0.66)	- 0.06	(0.53)	- 0.45	(0.43)
Race/Ethnicity: Other	- 1.25	(1.18)	0.50	(0.52)	0.60	(0.57)	- 0.30	(0.60)
Child Age at Start of Head Start (in months)	- 0.01	(0.08)	0.10*	(0.04)	0.11**	(0.03)	- 0.10**	(0.03)
Ever Diagnosed Disability	- 3.28**	(1.10)	- 1.67*	(0.67)	- 1.51**	(0.53)	1.36*	(0.59)
Home Language is Not English	-2.12*	(0.96)	- 0.01	(0.65)	0.17	(0.49)	- 0.18	(0.51)
One or both Parents Born outside US	1.58	(1.07)	0.98**	(0.59)	0.33	(0.47)	- 0.52	(0.55)
Parents in Household Married	0.91	(0.65)	0.60	.(0.36)	0.69*	(0.31)	-0.73*	(0.27)
Maternal Education: HS Diploma/GED	1.55*	(0.67)	0.79	(0.52)	0.42	(0.38)	- 0.60+	(0.34)
Maternal Education: Some College	2.45**	(0.85)	1.02+	(0.56)	0.74+	(0.39)	- 1.18**	(0.36)
Maternal Education: Bachelor Degree+	3.76**	(1.35)	2.49**	(0.89)	0.79	(0.73)	- 1.49**	(0.56)
Kindergarten Teacher Degree: Masters	0.89	(0.65)	0.22	(0.37)	0.18	(0.33)	- 0.33	(0.29)
Kindergarten Teacher Degree: Doctorate/Other	- 2.76	(2.17)	- 0.47	(1.37)	- 0.62	(0.95)	- 0.49	(1.02)
Cohort (2011)	-8.41***	(1.10)	- 7.31***	(0.45)	- 1.76***	(0.43)	1.83***	(0.45)
Intercept	133.97***	(1.53)	39.37***	(0.73)	18.33***	(0.58)	4.82***	(0.55)

***=*p*>.001, **=*p*>.01, *=*p*>.05, +=*p*>.10

Notes: N=2,019 children; weighted (PRA16WT), aggregated over 30 imputed datasets.

Table 6. Individual Head Start Coordination Practices Predicting Kindergarten Child Outcomes

	Model 1: Language Skills		Model 2: Math Skills		Model 3: Social Skills		Model 4: Problem Behaviors	
	Coef.	**(SE)**	**Coef.**	**(SE)**	**Coef.**	**(SE)**	**Coef.**	**(SE)**
Participate in development of individualized education programs (IEPs)	0.60	(1.26)	-0.16	(0.78)	-0.44	(0.48)	0.36	(0.52)
Provide Head Start records for children	-1.57	(1.14)	-0.44	(0.70)	-0.81^{+}	(0.43)	0.37	(0.38)
Help schools identify kindergarten students	0.73	(1.01)	0.04	(0.65)	-0.45	(0.40)	0.65	(0.41)
Meet with kindergarten teacher at school	**2.45****	**(0.90)**	0.77	(0.63)	0.06	(0.35)	-0.55	(0.37)
Share curriculum information	0.75	(0.81)	0.57	(0.48)	-0.03	(0.39)	-0.23	(0.41)
Share expectations	1.55	(1.05)	0.79	(0.60)	0.37	(0.43)	-0.59	(0.40)
Share program policy information	-0.72	(0.91)	-0.32	(0.45)	0.27	(0.44)	-0.15	(0.39)
Joint trainings	-1.14	(0.83)	0.22	(0.50)	-0.27	(0.32)	0.35	(0.33)
School-Based Kindergarten Transition Practices Sum Index	0.69**	(0.31)	0.25	(0.17)	0.10	(0.13)	0.01	(0.11)
Education Coordinator Responsible for Transition	-0.46	(0.46)	0.69	(0.91)	0.71*	(0.32)	-0.72*	(0.30)

***=*p*>.001, **=*p*>.01, *=*p*>.05, +=*p*>.10

Notes: N=2,019 children; weighted (PRA16WT), aggregated over 30 imputed datasets, the models include all child, family, Head Start and elementary school covariates that are listed in Table 4 (coefficients for covariates not shown).

Interactive Effects between Head Start Coordination Practices and School-Based Kindergarten Transition Practices

The second set of regression analyses included interactions between the sum index of the Head Start coordination practices and the sum index of the school-based kindergarten transition practices. Results, shown in Table 7, found significant interactions between Head Start coordination practices and school-based kindergarten transition practices predicting children's language skills and math skills in the spring of kindergarten. Figures 1 and 2 graph these results, showing that coordination practices reported by Head Start were associated with heightened academic skills among children only in the context of low school-based transition kindergarten transition practices, but not when kindergarten teachers reported greater school-based transition practices.

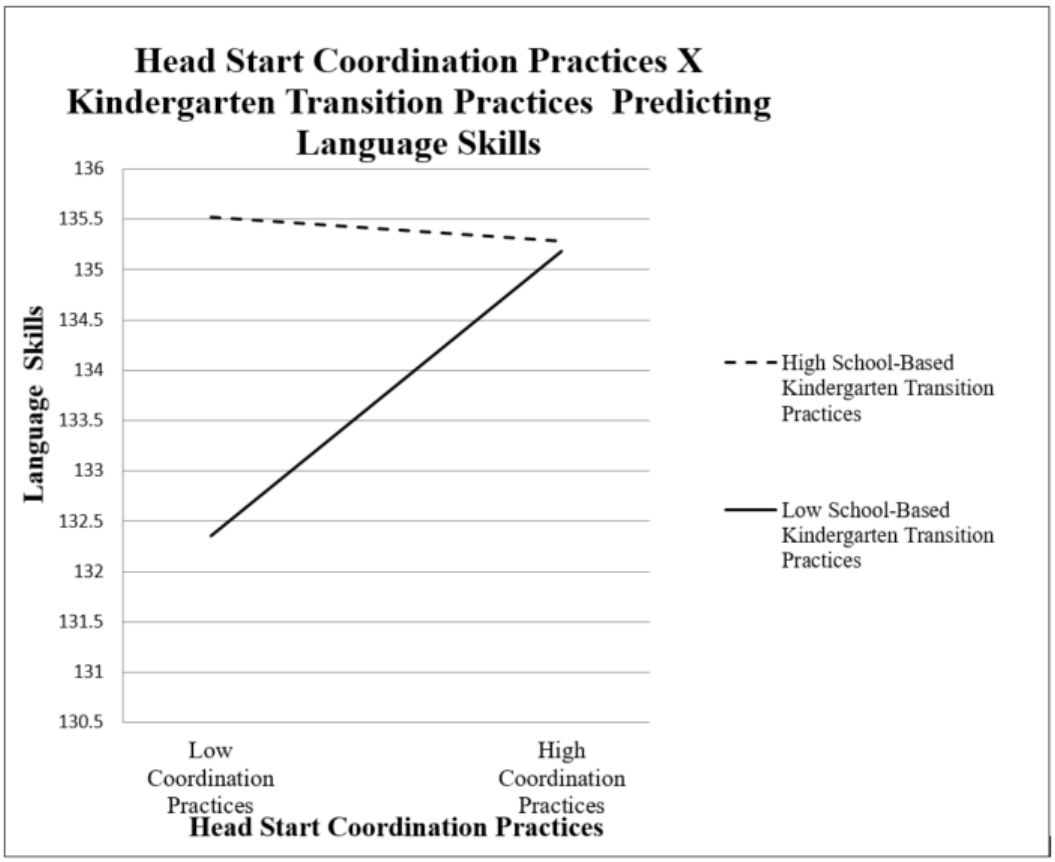
Table 7. Interactive Relationship Between Head Start Coordination Practices and School-Based Kindergarten Transition Practices

	Model 1: Language Skills		Model 2: Math Skills		Model 3: Social Skills		Model 4: Problem Behaviors	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Interactive Models								
Head Start Coordination Practices Sum Index	0.32	(0.24)	0.23+	(0.13)	- 0.06	(0.09)	- 0.05	(0.08)
School-Based Kindergarten Transition Practices Sum Index	0.66*	(0.30)	0.22	(0.16)	0.10	(0.13)	0.02	(0.11)
Coordination X School-Based Transition	**- 0.32***	**(0.15)**	**- 0.23***	**(0.09)**	0.02	(0.07)	0.01	(0.05)

***=*p*>.001, **=*p*>.01, *=*p*>.05, +=*p*>.10

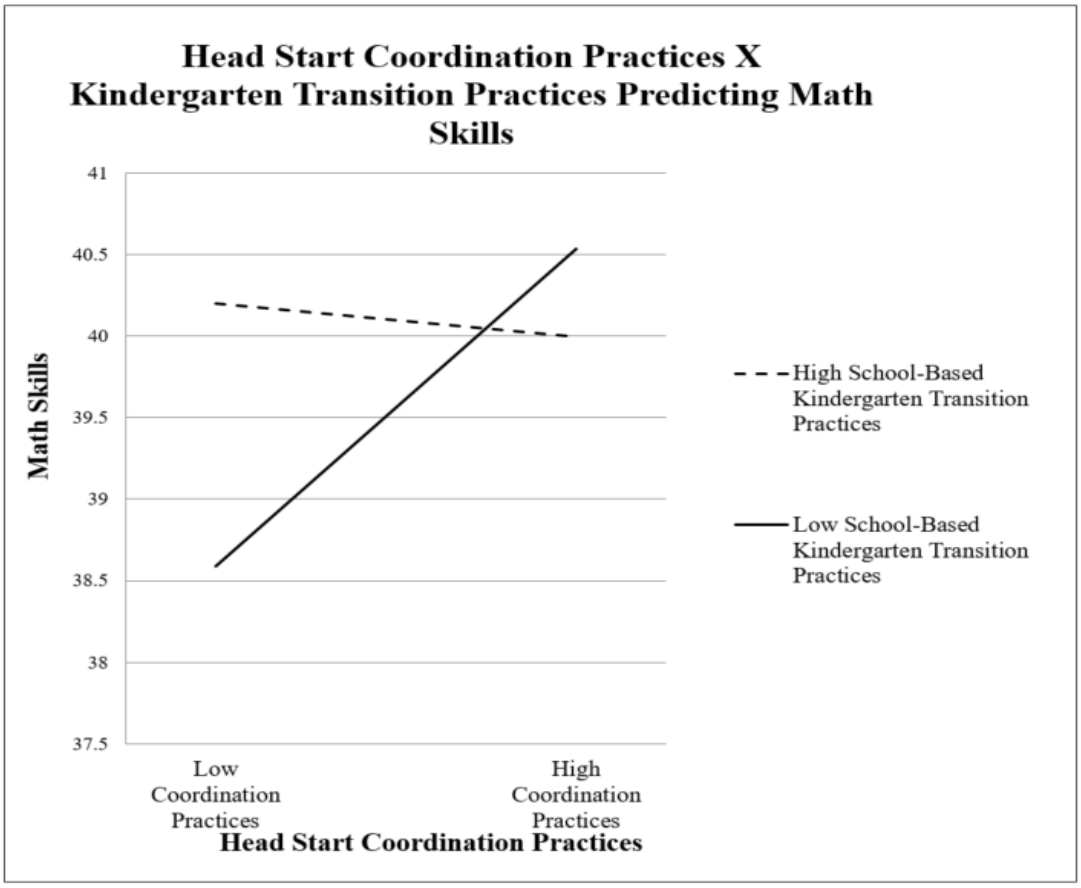
Notes: N=2,019 children; weighted (PRA16WT), aggregated over 30 imputed datasets; the models include all child, family, Head Start and elementary school covariates that are listed in Table 4 (coefficients for covariates not shown).

Figure 1. Graphed Interaction between Head Start Coordination Practices and School-Based Kindergarten Transition Practices on Language Skills



Note: High indicates one standard deviation unit above the mean and low indicates one standard deviation unit below the mean.

Figure 2. Graphed Interaction between Head Start Coordination Practices and School-Based Kindergarten Transition Practices on Mathematics Skills



Note: High indicates one standard deviation unit above the mean and low indicates one standard deviation unit below the mean.

Interactions between Head Start Coordination Practices and Child Characteristics

The final set of models examined whether the effect of Head Start coordination practices varied for children with different characteristics. Models in three separate panels in Table 8 show interactions between the Head Start coordination sum index and: household income/poverty ratio; maternal education; and English as household language, each tested separately for moderation. Results for all models were non-significant showing that the relationship did not vary by child characteristics.

Table 8. Interactive Relationship Between Head Start Coordination Practices and Child Characteristics

	Model 1: Language Skills		Model 2: Math Skills		Model 3: Social Skills		Model 4: Problem Behaviors	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
One or both parents born outside US								
Head Start Coordination Practices Sum Index	0.02	(0.21)	0.07	(0.13)	-0.18*	(0.09)	0.04	(0.10)
One or both parents born outside US	1.55	(1.08)	0.98	(0.59)	0.33	(0.47)	-0.52	(0.55)
Coordination X immigrant	0.68	(0.56)	0.36	(0.32)	0.25+	(0.15)	-0.20	(0.14)
Home Language not English								
Head Start Coordination Practices Sum Index	0.04	(0.21)	0.15	(0.14)	-0.12	(0.9)	-0.01	(0.10)
Home Language not English	-1.84+	(1.00)	0.94	(0.71)	0.22	(0.50)	-0.22	(0.52)
Coordination x language	0.77	(0.49)	0.23	(0.30)	0.15	(0.15)	-0.11	(0.14)
Maternal Education								
Head Start Coordination Practices Sum Index	0.80+	(0.43)	0.47	(0.30)	0.03	(0.13)	-0.11	(0.12)
Maternal Education: HS Diploma/GED	1.55*	(0.70)	0.77	(0.51)	0.41	(0.38)	-0.59	(0.34)+
Maternal Education: Some College	2.48**	(0.85)	1.07+	(0.54)	0.74+	(0.39)	-1.19**	(0.35)
Maternal Education: Bachelor Degree	4.20**	(1.31)	2.61**	(0.85)	0.96	(0.69)	-1.61**	(0.53)
Coordination x Maternal Education: HS Diploma/GED	-0.75+	(0.44)	-0.29	(0.35)	-0.14	(0.16)	0.05	(0.16)
Coordination x Maternal Education: Some College	-0.70	(0.48)	-0.52	(0.34)	0.09	(0.19)	0.12	(0.16)
Coordination x Maternal Education: Bachelor Degree+	-1.45+	(0.81)	-0.52	(0.47)	-0.48	(0.33)	0.33	(0.27)

***=*p*>.001, **=*p*>.01, *=*p*>.05, +=*p*>.10

Notes: N=2,019 children; weighted (PRA16WT), aggregated over 30 imputed datasets; the models include all child, family, Head Start and elementary school covariates that are listed in Table 4 (coefficients for covariates not shown).

Alternate Model Specification with Four-Year Old Only Sample

All analyses were re-estimated on the subsample of children who were 4-year olds at the first wave of data collection and entered kindergarten after one year of Head Start (2011 cohort). This was done as a robustness check to see if the extended time between reported coordination practices and kindergarten outcomes for children who were 3-year olds during the first wave of data collection may have lowered the validity of the report and therefore decreased the chance of finding a relationship between the two. Results for the 4-year old only sample paralleled those of the full sample, and thus the full sample was retained for the models presented. See appendix A for results from the main models on the subsample.

Moving from Phase I to Phase II

The study advisory committee met to discuss findings from phase I and guide the planning of phase II. A notable limitation of the Head Start FACES data analyzed in phase I is that Head Start directors in the study reported whether or not their program engaged in a series of coordination practices, yet no other information was provided about the nature of these activities (e.g., who participates, whether they are for all or specific children, the processes involved to execute the activities). The advisory committee helped design Phase II to address this limitation, as well as to gain the perspectives of Head Start Directors on the benefits and challenges of coordinating with elementary schools to support the transition to kindergarten.

CHAPTER 5: PHASE II QUALITATIVE STUDY

Study Goals

The goals for phase II were threefold: 1) to provide a rich description of the practices and processes Head Start uses to coordinate with elementary schools in support of children's transition to kindergarten; 2) to delineate Head Start directors' views on the benefits of these

practices and features of successful coordination efforts; and 3) to describe Head Start directors' opinions on the challenges of coordinating with elementary schools and ways to improve in the future.

Methods

Data & Sample

To address the goals above, qualitative data were collected through twelve semi-structured phone interviews mid-way through the 2016-2017 school year (December and January). The interview protocol included guiding questions and probes about the participant's background, program, general transition practices, experiences coordinating with elementary schools around the transition, and views of the benefits and challenges (see appendix B for the interview protocol). The protocol was developed with input from the advisory committee and was approved by the Boston College Institutional Review Board.

Head Start directors were recruited through the state Head Start Association in one state in the northeastern United States and interested programs were asked to identify the person within their program who could best discuss their transition practices. This resulted in twelve interviews with sixteen Head Start directors/staff across the state. The sampling strategy allowed for a diverse sample in terms of characteristics of program sites. Interviews were conducted one-on-one by phone with the exception of two interviews where the program elected to have three people on the phone participating simultaneously.

The titles and job responsibilities for each participant varied by program, yet all were in leadership positions. Out of the sixteen participants, seven were Head Start agency level leaders with titles such as Director, Executive Director, or Director of Children's Services. The other nine participants held titles such as Education Manager, Education & Disabilities Manager, Child Development Specialist, or Center Coordinator. The participants in these positions held various

job responsibilities, with some assigned directly to one site and others working across multiple sites within their Head Start agency. All reported having either direct responsibility for transition and coordination activities, or supervisory responsibilities for the staff engaging in transition and coordination activities. For the sake of this study, all participants will be broadly referred to as Head Start directors. All participants were women. Many had been with Head Start for many years, with five having over 20 years of Head Start experience and another five having over 10 years' experience.

Programs varied in size and urbanicity, as well as the number and types of schools and districts they typically transition children to. The breakdown of primary locations were as follows: two served primarily rural areas, four served primarily suburban communities and six served urban areas. The number of children served ranged from 90-700 with some serving children in one site and others serving children across multiple sites. The programs also reported various contexts for transitioning children to kindergarten. For example, one urban Head Start program only transitioned children to one school district, yet children could be going to up to 19 different elementary schools within the district. Another rural program reported that they served children from over 30 communities and had different transition plans in place with over half a dozen different school districts.

Interviews were designed to take approximately 45 minutes, and ranged from 22 to 62 minutes, with an average of 42 minutes. All participants gave written and oral consent to participate in the study, and each received a $15 retail gift card for participation. All interviews were recorded and transcribed by a research assistant.

Analytic Plan

A team of three researchers participated in the analysis process, which included developing and revising the code list, coding, and holding regular discussions throughout the process. Interview transcripts were loaded in to NVIVO software for analysis (QRS International, 2015), and initial codes were developed through an iterative process starting with a priori codes based on the research goals and literature. After interviews were conducted, codes were revised and added. A code list was developed in NVIVO with nodes used to assign codes to phrases within the transcripts (Bazeley & Jackson, 2013).

Multiple cycles of descriptive coding took place, with a first cycle of descriptive coding to assign codes to interview phrases in order to categorize and summarize the content of the interviews (Saldana, 2016; Wolcott, 1994). To begin, all three researchers coded one test interview and through discussions further adapted the codes. When agreement was made about the nature of each code, all interviews were coded by two researchers. While the goal of two coders was to ensure maximum coverage of codes to content (rather than exact agreement), tests of overall intercoder percent agreement in NVIVO were quite high (97%), providing evidence of consistent coding across the team.

Next, code mapping was conducted to match concepts from the codes to each of the three research goals, and to condense and organize the data in a way meaningful for the study (Anfara, 2008; Saldana, 2016). The code mapping was done by two researchers and discussions took place to ensure relevant concepts were included. Tabulations of which interviews covered each concept were also included at this stage. This led to a second cycle of coding to refine and reorganize some of the descriptive codes for parsimony and ease of interpretation. A final

descriptive code list of 54 codes were used in the study (see Appendix C for the full list of codes and the number of references and sources by code).

The analysis process proceeded differently for each research goal at this point. To address the first goal- to gain a descriptive picture of the coordination efforts employed by Head Start programs with elementary schools- descriptive codes of coordination practices were pulled out and organized in a table to understand how many/which interviews discussed which practices, and to delineate exemplars for each practice discussed. Process coding was used to take the codes and turn them in to action ("-ing") words to state the practices participants described doing during the interviews (Charmaz, 2002). For example, phrases coded as "standards," "assessment," "curriculum," were grouped under the process code "Sharing information on program, standards, assessment, and curriculum." These process codes were then analyzed thematically and organized into two broad categories: 1) practices for Head Start to share information with elementary schools; and 2) practices where Head Start serves as a bridge between families and elementary schools.

For the second research goal- to understand the benefits of these practices and Head Start directors' views of successful coordination- relationships were drawn between specific practices discussed and views on the benefits and success of these practices. This analysis was conducted by considering category relationships to connect practices to the benefits described by participants (Urquhart, 2013). To further understand these relationships researchers coded and reviewed phrases where participants described what they believed were the "keys to success" for positive transitions. Through this process a conceptual map was created to better understand the relationships between practices and their benefits, and to gain an understanding of the potential pathways. A similar analysis process was conducted to consider the third research goal- to

understand the challenges and area for improvement in the future- by using the conceptual map to frame these findings.

Results

The interviews with Head Start directors revealed that Head Start programs are spending substantial time, effort and resources on the transition to school, and programs vary in the degree in which their transition efforts are coordinated with the elementary schools that children are entering, the ways they are coordinating and their perceived benefits and challenges.

Directors' Descriptions of Coordination Practices

The first research goal was to gain insight into the coordination practices that Head Start programs are using with elementary schools to support the transition to school. Overall, participants explained lengthy processes they engage in to support the transition, many walking through their activities from start to finish during the year before children enter kindergarten. Many of these activities included transition practices to directly support children and families such as school readiness activities both inside the classroom and as part of family engagement strategies. Some examples included: literacy and social-emotional curricula, sending home books, activities focused directly on preparing children for what to expect in the transition (e.g. books and activities about kindergarten, changing their dramatic play areas at the end of the school year to resemble kindergarten classrooms, grouping children to get to know other children who will be attending the same schools in the following year, creating bulletin boards or books to show families which children are attending the same schools). Acknowledging that many of the families served by Head Start may lack the resources needed to provide their children with the physical materials needed for kindergarten, several participants described how their programs provide backpacks filled with supplies and materials (e.g. books, scissors, folders, pencils) for

children to use during the summer and to bring with them to kindergarten. These direct practices were an important part of the interviews, with participants including them in their overall description of transition practices and school readiness efforts. However, the majority of the interviews (and interview questions) focused more on coordination efforts that would benefit children and families.

Thematic analysis grouped coordination practices into two main categories: 1) *information sharing* between t Head Start and elementary schools; and 2) ways in which Head Start is serving as a *bridge* to connect children and families to elementary schools. Table 9 provides key exemplars of practices in each of these categories, and delineates the programs that engaged in each type of practice. The coordination activities focused on collaboration between Head Start and elementary schools (e.g. sending children's assessment data to schools, meeting directly to discuss needs of individual children, engaging in joint planning or professional development) are under the category of *information sharing* activities since they are may have an indirect benefit to children and families. The *bridge* activities primarily focused on ways Head Start connects families to the schools their children will be attending. The indirect activities and bridge activities both varied by relationships with different school systems, formal partnerships, and location.

Table 9. Head Start Transition and Coordination Efforts to Support Children and Families

Practices by category	Interview Sources
Information Sharing: Head Start connecting with elementary schools to indirectly support children and families	
• Attending each other's events	1,3,5,7,8,9,10,11,12
• Sharing data on children	1, 2, 3, 4, 6, 8, 9, 11, 12
• Sharing information or joint planning on program, curriculum, standards, assessment	2, 3, 5, 6, 7, 8, 10, 11, 12
• Organizing and attending joint professional development	2, 3, 8, 10, 11, 12
• Planning classroom observations for teachers	5, 11, 12
• Meeting in person	3,6,7,8,10,11,12
• Participating in community councils or other community or school committees together	3, 2, 6, 7, 8, 10, 11, 12
• Collaborating about special education needs of children	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Bridge Practices: Head Start serving as a bridge connecting children and families to elementary schools:	
• Planning visits for children and families to elementary schools	2, 5, 7, 8
• Promoting district and elementary school sponsored activities	1, 2, 4, 7, 9, 10, 12
• Supporting, promoting, and ensuring children are registered for kindergarten enrollment	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11,12
• Planning a kindergarten parent night with elementary representation	1, 5, 6, 7, 9, 10, 12
• Providing parents with child assessment data to share with schools	2, 4, 6, 8, 11, 12

Source: Author

Note: Each of the twelve interviews were numbered consecutively. Numbers in the right hand column denote whether a practice was discussed in each of the interviews.

Information Sharing: Head Start Connecting with Elementary Schools to Indirectly Support Children and Families. A major theme that emerged grouped collaborative practices between Head Start and elementary schools that may indirectly support children and families. These practices included sharing data on children (both universally and for specific children); sharing general information to align planning and practices around curricula, assessment and standards; engaging in joint professional development activities; meeting both informally and formally to share information; observing each other's classrooms; and participating in formal community committees or councils. All participants discussed engaging in multiple coordination practices that would fit in the category of information sharing practices. When taken together, all of these activities share a common thread of information sharing of some kind, and can be broken into two subcategories of *knowledge transfer* about individual children or sharing program information in order to support *alignment* and coordination of programming. Even

activities that at face value do not appear to be about information sharing (e.g. joint trainings or participating in community councils), were discussed by participants as ways to connect and share information (both about children as well as about programming) with elementary schools. When discussing these practices, participants frequently spoke about the relationships that are developed and maintained through these activities and interactions with elementary school staff.

Knowledge Transfer: Information sharing about individual children. The majority of Head Start programs included in this study discussed sharing some information on individual children (e.g. children's assessment data or other records about the child's progress in Head Start) with the elementary schools children were entering. This information sharing or knowledge transfer was described as uni-directional where Head Start provided written or oral information about an individual child with the school the child was entering. These practices ranged from universally sending paper records for all children to their new schools, to only sending records for children going to schools that requested the information, or only sharing information about children when there was a specific concern about them individually (e.g. making an informal phone call to a principal to discuss a child's behavior challenges).

In some cases, participants described processes where Head Start and elementary school representatives collaboratively developed a form for Head Start to fill out about each child. Others described sending standardized assessment data, unsure if anyone at the elementary school actually looks at it. Most participants who mentioned this type of data sharing also described a process where they first had parent meetings to discuss the information they would be sharing with the schools and acquired parental permission to share the data with schools.

One participant described a transition profile sheet developed with the district that all community preschool providers fill out for each child which is used by the district for kindergarten placement purposes.

> So then we do a transition profile sheet on every child going to kindergarten to let the public schools know what level a child's at, if they have an IEP, if they have counseling, anything like that with parental permission. So actually this form was developed many, many years ago with the…public schools. It's been tweaked throughout the years. Usually, we do a school readiness meeting at least once during the year. So we sat down with those and we said ok what do you think we should have on them, what's beneficial for you for the public school to know. So when they go to place this child, we know that they're in a good placement…So they have that knowledge of each child, for the better placement within each one of the classrooms. –Director #10

Many participants also discussed how this process has changed over time and often varies by the district the child is entering. One noted that their program moved to a standardized form after years of each teacher sharing their own version. In addition to placement decisions, participants discussed the need for teachers and principals to have knowledge about the children before they enter school.

> If the kindergarten teacher looks at it and they see, I'll throw in little Sally, if they look at it and see little Sally is very quiet, shy, and withdrawn, then they're going to know that it's going to take a little extra time for that child to build that relationship. You know you have someone that needs structure, you know, that teacher's going to know ok first you're going to do this, then you're going to do this. So it really gives the teacher a little snapshot of what's going to work best for that child. Versus if they didn't have any of that, just kind of you know-- ooh wait a minute, what works here? –Director #2

Passing along information on children from Head Start to elementary schools was discussed in the majority of interviews. Nine out of twelve participants described some form of sharing information about all individual children in their programs. However, three programs noted they did not share information on individual children. In one case the participant discussed how they stopped offering to share this information because the elementary schools didn't want

it, and another mentioned privacy issues where they could not share child information. While some directors discussed reasons they were unable to share formal written records with schools for all children, most discussed ways they informally share information on specific children about whom there are concerns. Some described a proactive approach where they made a personal call or contact to the elementary school principal to discuss a specific child and to provide suggestions about what has worked with the child in the past. In other cases, participants described discussions in the first few days of school, when someone from the elementary school calls Head Start about a child to gain a better understanding of strategies to try with them. Some described that the personal communication ahead of time was to "avoid the first day of school call."

> Every year when I get calls the first day of school from, you know, it breaks my heart. Because that means that first day of kindergarten for that child was not a success that that principal is picking up the phone and saying how did you manage this child? Like, something didn't work right there in that transition. So to me it's avoiding that, to me I think all of us want the first day these transitions to be smooth for kids and so why there's small things we could do that would make a difference to help this happen for kids and families. Because then if we're getting a call, the parent's getting a call, you know, that to me is not what we want. – Director #1

However, others viewed this scenario differently, arguing that if the schools were calling them to gain more information about a specific child after the start of school, it was a sign of positive communication between the two systems, indicating a comfort level in which the schools felt they could reach out to Head Start.

> I think we actually have a wonderful relationship with them to the fact that each year they actually call us, they call our special ed department, they call me; and they'll ask us, you know, "we're having a really hard time with this child, what were you doing, what were your successes in the classroom? Um, this parent is giving us a hard time, what did you do to support that parent?" So a lot of times they're actually calling us, whether it's about the IEP, it's a behavior challenge, it's

about the family. So they're not afraid to call, and they really do. - Director #8

Even in programs that did not have a universal system for reaching out to elementary schools to provide information, most participants described outreach to schools for specific children as informal and typically done for children who had specific behavioral challenges or experienced trauma, yet were not special education eligible (and therefore received no formal transition meeting or process).

> So they're not special education, but we want to make sure the school district and our teachers and our staff all get around a table and have a conversation about that child before they leave the program so that they're fully aware of what they are receiving so that they can pick up where we are leaving off. –Director #11

When asked how they decide how children get identified as needing this additional contact, many directors reported they had informal ways of "knowing" who needed it. One participant described how the districts her children transition to do not want them to send any records or assessment data universally, but that many of the school principals are responsive to personal phone calls about specific children who may have challenges as they enter kindergarten.

> If they're on IEPs [individualized education programs] then typically their transition is being discussed through the disabilities department. But if that's not the case, and sometimes we have kids that we've referred and they haven't been picked up, but we have concerns that they are going to have some challenges when they enter. That's a different call that typically I would make…usually, [to] the school principal. It sort of changed over time. I used to call the Early Childhood Coordinator. But what I found is typically these are the people that are saying they [the children] are not eligible for services. So often the kindergarten teacher had no idea that these kids had been referred, you know, and what happens is the first day of kindergarten the teachers are calling us from the schools saying "what's going on?" So I found it more effective over time to actually have these conversations with the school principal where these kids are going to. They are much more open to the conversation because they're going to have these kids very soon. – Director #1

However, one interview described a much more formal case management process used throughout the year to identify children who need additional supports. She described how by the

time they get to the transition, the children are already identified and with parent's permission formal transition meetings are set up between Head Start and the elementary schools. This program stated that all of the districts they transition children to are very responsive to these meetings.

> It's part of our case management, the way we've redesigned it all…We have what we call kids management meetings one Tuesday a month, where our case managers and our family advocates meet at different sites to look through files and talk about kids and talk about the classrooms and make sure that we're touching base. So those are the names that come back to our large leadership team to talk about those families that really need a higher level of coordinator support from multiple areas. - Director #11

One other program described a unique process akin to "speed dating" used to help the district make placement decisions for children for kindergarten. This is a specific process used by one school district that the Head Start program sends about half of their children to each year. The district invites Head Start and other community-based providers to attend.

> Well about the transition, we do have the public schools open up their early childhood center and have the kindergarten teachers there, and our teachers and other teachers from the community and we are all invited to come down and do a quick intro about the children back and forth. It helps the public schools better place children. It's like an 8 minute date kind of thing. –Director #12

According to the participants, sharing information about children takes many forms. In addition to this type of sharing, participants reported multiple ways they share more general information about their programs, curricula, standards, assessment use and how to best align their practices to support children in their communities.

Alignment: Information sharing about programming, curricula, standards, and assessments. Participants described numerous ways that general information is shared between Head Start and elementary schools, with the processes described varying greatly in formality, timing, the type of information shared, who was sharing it, how it was shared and the potential

for how it was used. Some directors discussed very informal ways of getting information about elementary schools, such as former Head Start parents coming back and telling Head Start about what skills their children needed for kindergarten and what the curriculum is like, or a friend who is a teacher in the elementary school providing this information to them in informal conversations. One participant explained the informal channels through which they get information about what is happening in kindergarten classrooms and the expectations for students.

> We have some kindergarten teachers who are friends of families and friends of my staff; so they let us know…A couple of times a year we get report cards on some of the children, and so we see what they're assessing them on the first go around… It's from the parents. So we have, you know, multiple siblings; so, you know, a child that went off to kindergarten last year the parents will be so proud and bring back the report card and show it to us all. You know, this is really what we want to do; we want to stay on top of it all the time…So the teachers then are really aware of what the readiness goals are and what the expectations are for our kids going into the kindergarten class. – Director #5

Others described informal conversations occurring during other transition activities or other meetings. For example, one explained that the same kindergarten teacher comes to the Head Start kindergarten night each year to talk to parents and then often stays after and talks with the director about curricula and other practices. Some described long-standing relationships where they could frequently pick up the phone and get answers about what is happening at the elementary school level.

> I have a nice relationship with a lot of the principals here in X, and a lot of time I'll holler out to them and say is there anything changing this year, anything you're doing different, is there anything you want us to purchase this year? –Director #8

In addition to numerous examples of informal avenues for information sharing, several more formal levers also were described for this information sharing to take place. In the majority of interviews, participants described varying levels of formal joint professional development and

planning activities and formal councils or groups within the community that facilitated information sharing and collaboration.

Eight out of twelve directors discussed the importance of community councils or groups on early childhood that included the public school district, Head Start and other early childhood programs. Some of these groups met with the explicit goal of sharing information on the transition to school and school readiness, but many others were focused on other issues, yet were levers for connection between the Head Start programs and school districts. When discussing their advisory committee for the Head Start agency, one participant explained the following:

> We have a committee called the Children Services Advisory and we do have public school representation on that. A lot of the conversation during the first meeting of the year, which is around November, is really like a debriefing from the schools staff as to what they feel like a majority of the children in the community need extra assistance in…There's other Head Start professionals from the community, we have some staff on there, we have somebody from the X program, we have somebody from the Department of Children and Families, staff from early intervention; it's kind of like a good representation of early childhood services in the area. –Director #3

In other cases, community councils or committees were discussed as a mechanism through which everyone frequently sees each other and keeps their relationships going. Participants talked about how they and elementary school staff consistently share information back and forth through these meetings. Multiple participants discussed ways such groups have come together in pursuit of local or state grants to support their collaboration and early childhood systems in their communities. In some cases specific grants were used to spark these types of committees and conversations or to provide additional training opportunities to ECE and elementary school staff.

> There was a preschool expansion grant. So, I was part of that funding and three other providers plus the public schools; so they all came together to write that grant so the hope would be to get 200 extra slots at some point. So the funding has disappeared so that probably won't happen anytime soon. But we all did work

> together; and through that collaboration there has been a shift, a greater effort to share professional development opportunities for staff. –Director #3

A small number of participants described joint professional development or planning sessions as the norm. While joint professional development was sometimes described with the purpose of joint planning and alignment of curricula, other times it was described simply as a way to bring everyone to the same room, with the outcome of additional conversations about transitions and alignment, and the building of stronger relationships across educational systems.

> When some of the public schools have professional development they've invited our teachers there, and we in turn have invited back the teachers that work with our teachers in our schools. –Director #12

One participant described multiple different groups and committees she either organizes or attends, and while she argued for the importance of involvement in all of them, she pointed to professional development as one of the best ways to build relationships with the school district.

> Yes, and a lot of those relationships were developed in the different meetings, but honestly I feel like they were developed even more because my [training and technical assistance] specialist: she and I have gone to public schools to do trainings on family engagement when parent family community engagement framework came out. So, when you do those types of trainings you kind of get to know the teachers more and you get to know the principals more. –Director #8

For some Head Start programs, finding opportunities for either formal trainings or informal conversations took substantial effort or planning. In contrast, for programs that were co-located in public school buildings, directors talked frequently of inviting elementary staff or being invited by elementary staff to meetings or professional trainings and also mentioned that a lot of informal conversations take place by passing in the hall.

> We have a really interesting situation in our X site. We're in two different floors of the same building. So we're on the first floor, and [the public school] is on the second floor. So it's like an upstairs, downstairs; there's regular communication and we meet regularly. For our single sites that are located in the elementary schools there's a lot of continual conversation and they're nicely integrated. The other nice thing is, because they're right in the public schools when it gets to be that

> kindergarten screening time, with parent's permission, it's really easy to walk that file right down the hallway or have our family advocate take kids to screenings. –Director # 11

The connections built from being in the same physical space can be retained even when this convenience ends. One director reflected on the continued benefits even years after they were no longer co-located with the public schools.

> So they know us, we were their neighbors to the integrated preschools so it's a very different relationship that's developed over time. Even though we're now out of the schools they know a lot about us…I would say it's about 10 years ago that we switched to not being in the schools. But, there's still like we refer kids, we're at integrated preschool meetings, there's still a lot of connection. –Director #1

Another strong theme that emerged within the overarching construct of coordination practices highlighted the key role of special education in creating connections between Head Start programs and elementary schools. Indeed, special education was mentioned in some capacity in all twelve interviews, highlighting the multiple ways in which special education policies or children receiving special education services helped to create connections between Head Start programs and elementary schools.

These connections took many forms. Head Start programs submit referrals of children to the public schools for evaluations, have school staff come to Head Start to provide services directly to children, and have some children attend both a special education program with the public schools for part of the day and Head Start for part of the day. Even participants who reported that they did not have a lot of collaboration with the public schools overall, mentioned that they coordinate about special education. Kindergarten transition meetings are required for all children receiving special education services. The participants discussed attending these meetings and sharing information about the transition and new staffing and services that children and parents could expect as they transition to kindergarten.

Coordination between Head Start programs and elementary schools is mandated and a regular part of educational practice for children with special needs. However, multiple participants mentioned that the benefits of such policies extend beyond special education children, in that Head Start directors reported gaining a lot of information about elementary schools in their districts from their coordination efforts for special education children, information which benefits and informs their whole program and the other children they serve.

> So through those meetings we learn an awful lot about what they're doing and we try to input that in… through the whole program. –Director #7

Bridge Practices: Head Start Serving as a Bridge Connecting Children and Families to Elementary Schools. The second primary theme that emerged in how Head Start programs support children's transition to kindergarten by serving as a bridge between families and schools, providing information, support, and other services to parents to help smooth the transition. Many directors discussed connecting with the public schools to ensure that Head Start staff knew all of the dates for registration and events so they could share this information with parents. Although the description varied, all participants reported holding a kindergarten night for parents where they invite at least one person (e.g. kindergarten teacher, principal, someone from the registration office) from at least one receiving district to talk with parents.

> So we have what we call a transition meeting in, I would say, around February, where we invite the parents of the kids transitioning to kindergarten, but we also invite staff from the school systems that they're going to. And it's a time where parents get information directly from the schools just about all different kinds of things, like what to look for in a classroom, how best to help their kids transition, how to be on the PTA or any kind of parent group they may have.- Director # 6

Some Head Start directors discussed elaborate visits they plan to bring children and families to the elementary schools; others simply promoted or assisted children and families in attending the school sponsored events.

> We do these beautiful transition visits where all of our children, we invite the parents, we take buses over to the schools so they get to meet the principals and they get to meet the teachers and they get to tour the school and they get to see what the cafeteria looks like, where they're going to be eating and they get to go to the library. –Director # 8

All participants reported supporting families in some way in the registration process, but the depth of the support varied from program to program. Some programs reported simply providing the information about when and where registration was to take place, whereas others held meetings about the paperwork needed, and still others were even more directly involved through, for example, providing transportation and translation services to support parents in registering their children for kindergarten, bringing children to screenings, or physically holding registration at the Head Start site. This breadth shows not only diverse practices across Head Start programs, but also the lack of consistent policies at the elementary school level, highlighted in the quote below.

> So it's really, we get all the information so that we can continue to sort of support and share with parents what's going to happen for them. You know, for some towns you have to go and get the paperwork, some towns you get on a list and they mail it out to you, some will have sessions where you can go and get help with the paperwork. –Director #1

Views of the Benefits of Coordinating and Keys to Success

The second research goal was to delineate Head Start directors' views of the benefits of coordinating with elementary schools around the transition to school. Head Start directors unequivocally expressed broadly that they believe there are benefits to coordination with elementary schools. Although it was clear that they believed there were benefits, most participants struggled to identify or express specific benefits for children. This showed a general lack of a theory of change around how coordination efforts would benefit children. When probed, participants did provide examples of benefits to teachers and parents. Through the

analysis process, conceptual maps were created to delineate how specific coordination practices may be associated with benefits for children, through processes such as changes in educational practices of teachers and programs and enhanced parental knowledge and involvement. Figure 3 provides a proposed model for how sharing information (both about specific children and programs in general) may benefit children through changes in Head Start and elementary school practices. Figure 4 provides a proposed model for how Head Start serves as a bridge between Head Start and elementary schools in order to provide benefits to parents in the transition, and in turn children. Overall, participants shared a general sense that what they were doing would benefit children, yet most of the specific benefits they described were indirect in that the coordination efforts benefited Head Start or schools or parents, and in turn, children. These proposed models and pathways are described below.

Benefits of Information Sharing. This study found that Head Start engaged in two different types of information sharing, as described above. First, uni-directional *knowledge transfers of information* about individual children such as assessment data, information on their specific needs, or techniques for working with individual children was shared from Head Start staff to elementary schools. Head Start directors hoped that this type of information provided support to elementary schools to better understand where children are coming from and how to support them academically and socially at the start of kindergarten, which in turn was expected to benefit children's social and academic development in kindergarten. Multiple participants described why they believe it is important to share information on all individual children (i.e. not just those with disabilities).

> I think it's always nice for a teacher to know where to start with a child. If we can help the kindergarten teachers just by giving them the information that we have as far as- this is what this child likes to do, this is what this child is really good at, this is how this child learns best, then they already have kind of a leg up with that child.

> So hopefully they'll be able to tap into that stuff and their teaching can be more effective with that child. Because I think they have a lot less time than we do to figure that stuff out. – Director # 6

The second type of information sharing grouped together bi-directional sharing of general information about curricula, standards, assessments and programming in pursuit of *alignment*. This information was shared between Head Start programs and elementary schools through multiple venues, including: informal and formal relationships between administrators, teachers and other staff; community councils and committees with representation from both; and joint planning and professional development sessions. This type of information sharing has potential to change practices done by both elementary schools as well as Head Start staff. These findings suggests that if Head Start programs have more information about the expectations, standards and skills needed for children to be successful in kindergarten, they will be able to better support children's school readiness skills and set a foundation for kindergarten that will benefit children when they enter. In addition, this suggests that if elementary schools have a better understanding of what is being taught in Head Start they will be able to build upon where the children are coming from and understand how to support them from the time they enter school. In turn, children should receive better educational experiences at both levels and have increased positive adjustment to school and increased academic and social outcomes in kindergarten.

One participant described setting school readiness goals each fall, with input from the elementary schools her children would be entering. To do this she plans one big meeting and invites staff from each school district her children will transition to, although some share feedback through email and sometimes she gets the information from other meetings she attends that have representation from the elementary schools.

> But we just kind of get a sense of what they want every kid to know by the time they leave here and are ready for kindergarten. And those go into, kind of, our plan for the classrooms, so all of the teachers know that these are our school readiness goals. –Director #6

Another participant asks kindergarten teacher to provide feedback on how the former Head Start children are doing in general across multiple domains. After receiving feedback that children needed more work in mathematics last year, she used this information to plan professional development opportunities for her staff and decided to take part in a study on adding mathematics activities to their curriculum.

> Another thing actually that I did do this year based on my data outcomes and feedback from the kindergarten teachers is some of them felt that in some aspects of math, we have social problem solving and then cognitive problem solving. So some of the teachers felt that last year the children were, they didn't score quite as high; so this year I'm actually working with X. So what they're doing is they're doing these young mathematician games with [our children] and they are working with the teachers. –Director #8

Another participant discussed how aligning assessments is a way to tie everything together.

> As far as alignment goes, we do TSG [Teaching Strategies Gold]. A few years ago, the public schools picked up on doing TSG in their schools. So when the children leave us, they're using the same TSG. So it's kind of like a segue into are our children ready? Because every school system has a little bit different strategy. However, TSG is aligned with our Head Start framework, which is aligned with the state standards. They're all aligned so as they're doing that, they're getting ready for going into kindergarten. –Director #10

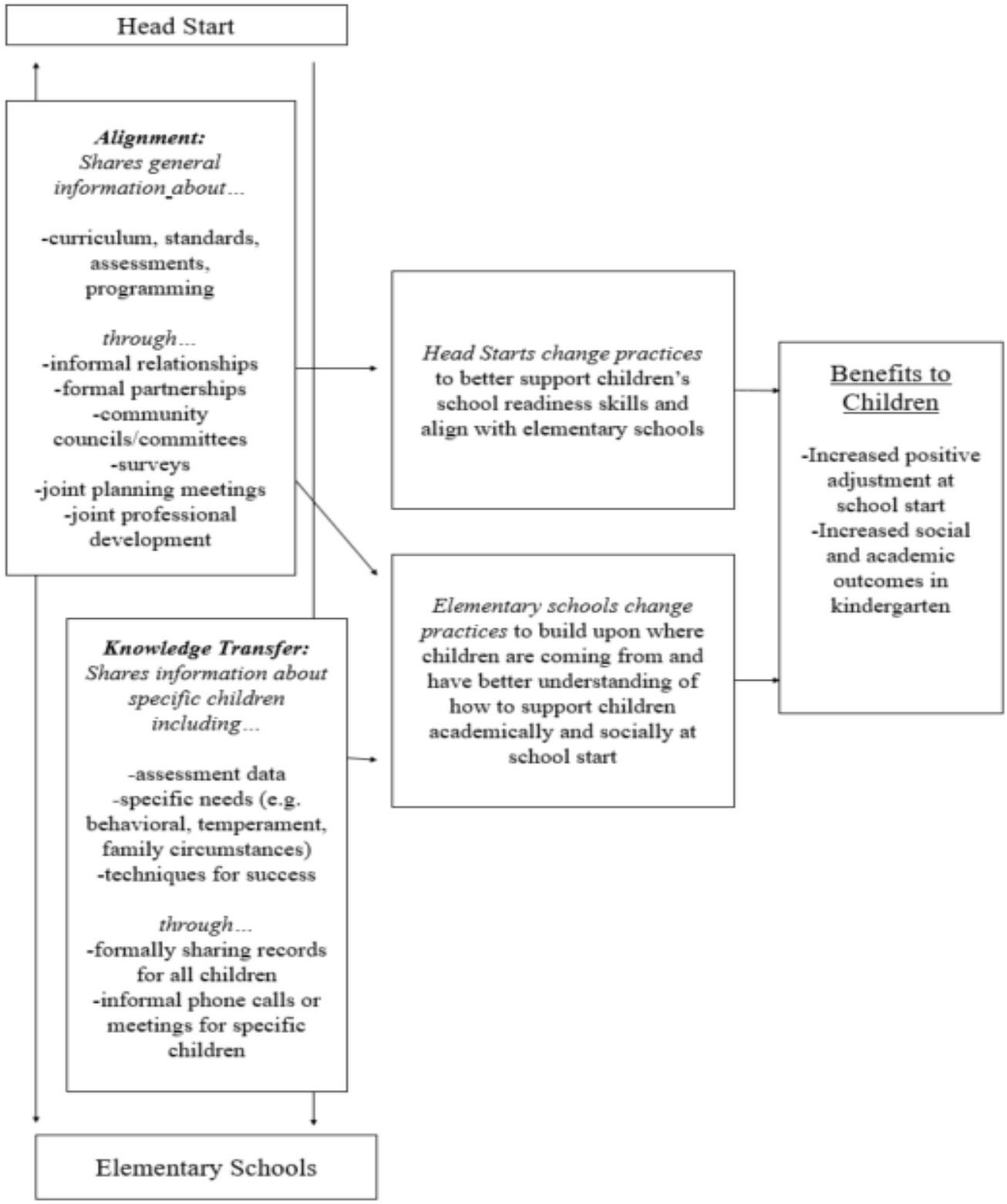
These examples provide considerations for how information sharing may change Head Start practices that align with elementary schools and better support children's school readiness skills. They may also show how information sharing could help elementary schools change their practices in order to better build upon where children are coming from and have a better understanding of how to support children academically and socially at school start. This

pathway, expressed in Figure 3, delineates how different types of information sharing may lead to benefits for children. One participant explicitly alluded to this pathway by explaining how they have plans in place to begin sharing curriculum.

> I do believe that by sharing curriculum that we are going to see some higher results, and definitely a smoother connection when kids start kindergarten. –Director #12

Benefits of Bridge Building. Although participants discussed benefits to children when asked, most participants found it challenging to express exactly how their coordination practices directly benefited children. Yet, many had clear explanations for how practices benefited parents directly. There was a sense that most children are resilient and that it is in fact parents that need the direct practices the most. Analyses found that there were multiple ways Head Start programs coordinated with elementary schools that served as a bridge connecting parents to the schools. A large portion of most interviews was spent with the participants describing their process to support parents in the kindergarten registration process. This included providing paperwork, workshops on what is needed, translation services, and transportation, or even organizing registration to be done in-house at the Head Start center. Participants also discussed working with elementary schools to plan a kindergarten night, and to promote and support families to participate in any events being organized by the elementary schools. Figure 4 provides a proposed conceptual model for how Head Start supports families, which in turn may potentially benefit children.

Figure 3. Proposed Pathways by which Information Sharing between Head Start and Elementary Schools May Benefit Children



Parents Need Coordination Practices More than Children. Participants spoke eloquently about how parents in many ways need the transition activities more than the children.

> I also think transition really when it comes down to it, is more beneficial to the families/the parents of kids. You can't really prepare a child for what they don't know is coming. I mean, you can do the field trips and you can show them what a big school is and then you kind of have to cut it at that, and then just teach them the things they need to know to succeed. I think with parents, it's a lot less stressful to send their babies off to kindergarten when they kind of have a clue of what they're going to be sending their kids off to. –Director #6

Some participants noted that support was particularly important for families who faced additional obstacles such as families who are immigrants and not familiar with the school system and parents whose first language is not English.

> Also, thinking of our families and our parents, having this conversation also helps them because some of the families who English is not their first language, moving from Head Start to this big public school is intimidating. So having our family advocate, our teacher, our staff helping with this transition trying to make this kindergarten experience a little less scary; that benefits some of our families. –Director #12

Registration is an Important Part of the Process. The kindergarten registration come out as a big theme from the interviews, although it was unexpected and not asked about directly in the interview protocol. Processes described ranged from simply letting parents know when to register all the up to working very closely to do the register with them/for them.

> And here's my take on that, if we didn't share that information with parents, the public schools are not doing a heck of a job reaching out to parents. So, that we're getting our parents registered, getting them to meet the teachers, that's really Head Start doing 90% of the work to make that happen…I'm thinking about a group of parents who come to Head Start each year who 70% do not speak English as their first language, that are living in extreme poverty, you know, so you can't compare them to the affluent family who's probably reaching out and making those calls themselves. –Director #1

When explaining the registration process, one participant exclaimed "it works!" and when pressed to explain what they meant by this they explained how working with the elementary schools is beneficial.

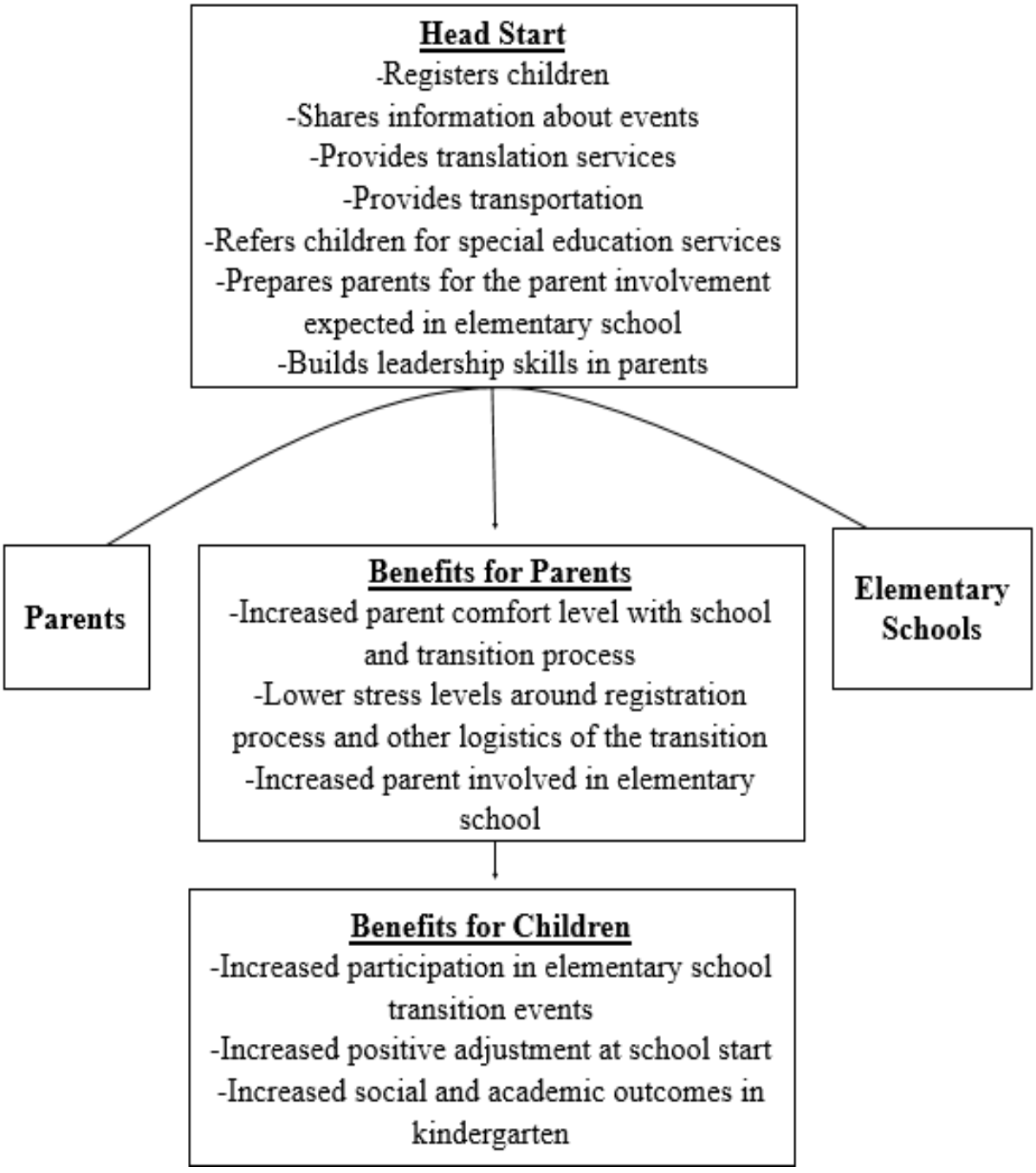
> Well getting every child registered and ready for kindergarten. Because if there's like a registration and the child misses it, our advocates will call over there, get the families, get them registered. So we know that our kindergarten children get registered and are able to attend kindergarten the following year. Along with the teachers getting them ready in the classroom with all of their skills.
> - Directors for program #10

Preparing Parents for More Parent Involvement. There was also a discussion by some programs about preparing parents in general for the family involvement that would be expected of them in elementary schools. Understanding that parent involvement in school is important, Head Start programs described preparing parents in multiple ways, including parent committees, attending parent nights, promoting reading to their children every day and providing example "homework" activities for parents to do with their children.

> So we want to have that success for families, and be able to let them move on and take leadership positions in their schools…In a couple of cases, we've had great luck with people coming off our policy council to go run PTOs. Which is like, we're sad to have lost them because they were so amazing. Then we see the work that they're doing for their school district and we're like yea that's where they need to go next. So it's like there's a lot of benefit to it. –Director #11

Figure 4 provides a proposed model for how the benefits to parents may then benefit children. Although benefits to parents are important in and of themselves, ultimately the hope is that children benefit from this as well. It is important to note that there were very few specifics mentioned of how directors believe children benefit from these practices, although they did express that everything they did was ultimately to benefit children.

Figure 4. Proposed Pathways by which Head Start Coordination Efforts Serve as a Bridge between Parents and Elementary Schools Indirectly Benefiting Children



Where the Paths Break Down: Challenges and Room for Improvement

Finally, interviews also provided an understanding of Head Start directors' views of the challenges of coordinating with elementary schools and ways they think coordination could

improve in the future to better support children and families. Themes that arose included participants wanting more coordination efforts, the reinstatement of some coordination practices that worked well in the past, and the need for some systems to be improved. Many expressed that they are always working to improve transition practices and that they have an interest in learning more about the activities other programs are doing.

> Well I think we try to add more as we go along, too. You know, because every year you're like ok we can do this, we can build this up…And as you go along it's like ok let's add this, let's do this, how can we do this? You know, we reflect and look back and alright this didn't really work, what can we do next year? But really, really, really our focus is to make sure that that transition goes smooth…I believe there's always room for improvement. –Director #2

More of a Good Thing. Participants discussed having multiple approaches, strategies and practices around coordination and transition practices, yet also mentioned more they hoped to do in the future. This included more opportunities for joint training, more in person meetings where staff could visit and observe each other's classrooms, more opportunities for teachers (not just administrators) to connect across the systems, and easier data sharing. One participant expressed the importance of planning more joint trainings in the future.

> I think it's mostly administration talking to each other…I think that it is because I am not teaching in a classroom and I have time to meet with different people and I always bring it back here and talk to different people. But I just think that it would be so helpful for the teachers to actually get to know each other and know what their challenges are and what the real priorities are for kids. –Director #6

This sentiment was shared when participants discussed why they believe that teachers should meet in person (rather than just transferring paper records for children), and visit and observe each other's classrooms. Another participant expressed that learning more about each other's systems would be helpful.

> I think it would be really beneficial for the public school teachers to know about what some of our mandates and some of our requirements are. And I think it would be good for our teachers to hear that about the public schools as well.

> When we can find joint mandates, when we can find things that we know will benefit the child and will benefit the experience for the child then we can set up training so that there's kind of a viewpoint from both sides. I think it would just help everybody just be a little bit more knowledgeable and a little bit more intentional when setting activities and when planning goals…It's just helpful to know exactly what their expectations are. -Director #6

A Throwback to Past Positive Practices: In-Person Communication and Meetings.

Teachers visiting and observing classrooms was discussed by multiple participants as a practice that was more common in the past, but less common in recent years. This was discussed within the context of hoping that it could take place again in the future.

> The X public schools had a thing every year that we've done in the past, although we didn't go last year that they had the kindergarten teachers observe, the kindergarten teachers went into the preschool classrooms in fall. Although they didn't do it this year either, but maybe they'll do it next year because it was good. Then in the spring the preschool teachers could go and observe the kindergarten classrooms, just to get a feel of what was happening in those schools…that was like a nice way to see the other side. –Director #9

She went on to explain why this is important and hopes that it will occur in the future.

> Well it was nice for our pre-school teachers, especially, to see a kindergarten classroom, because they were the ones that visited in the fall. It was also kind of nice to see what's going on in a kindergarten classroom. I think sometimes people think that they're doing like playing and dancing, you know, I don't think they really know what to expect. So it's good for them to see what a typical day looks like. Then, I'm sure it benefits the kindergarten teacher to come and observe a preschool room to just to see what a day looks like, what the routine is, just to see what kind of experiences the kids will have. –Director #9

Another common challenge that emerged was the lack of communication driven by distance, with some programs discussing the ways relationships were stronger when programs were located in the same facilities. One participant discussed how it was much easier to do joint trainings or meetings when located in the same buildings for many years and their efforts to try to continue these practices after they moved out of public school buildings. Her discussion of the challenges also included a poignant description of challenges around time and varying

expectations and regulations that the two systems face, showing the complicated nature of the challenges.

> I think one, when you're in the building it's just easy, you walk across the hall, or they're having a meeting or we're having a meeting. It was just physically easier. I know for a few years we really did try, and we were even trying to invite other childcares in the town, but getting people there was really just, you know, you get busy and you know. Especially for Head Start we have so many regulations around curriculum and assessment that it's a full time job. So really what I used to like about it at the public schools you get some ideas, it was a nice way of sharing. –Director #1

She went on to describe how even when a memorandum of understanding (required for Head Start to have signed by the public schools) is in place, there are still challenges to implement what is signed off on. These challenges include time, resources and scheduling issues.

> When I used to be in the public schools…their teachers used to actually come to a lot of the trainings I used to do. Now, again it's just timing, and honestly I don't put out a lot of effort to invite them either anymore. But we sign a memorandum of understanding each year with the public schools in the towns that our kids are going to go to kindergarten in. And in that memorandum, and it's required by Head Start, it talks about joint training and sharing curriculum; it has all the aspects, and they sign it every year. But the amount of planning you would have to do in advance you know to have your professional development days match up, and each of us have mandated trainings we have to do that don't match up. It's just that realistically, to make that all happen, is really hard…It's in the agreement that we both sign; it just doesn't happen honestly. –Director #1

Another participant who expressed a less than ideal connection with the public schools described multiple challenges to get her basic required tasks completed, including the signing of a memorandum of understanding, and getting the services needed for their children with special needs.

> We still don't feel like the transition for children is as smooth as it could be. It's been kind of a struggle as to what can we say and do, and we are federally mandated to meet certain requirements or we face a non-compliance and jeopardize our funding; so it's been a tricky few months. Their staff [district] that

> they're sending no longer are knowledgeable about Head Start and so they don't feel invested in honoring the Head Start standards and requirements. So they refuse to get background record checked and so they are not complying with the IEPs and they can only service children in classrooms rather than individually. And, you know, they're not necessarily qualified. Our federal standards mandate that somebody must be truly certified in the field that they're an expert in and right now we have a high school special ed teacher servicing 3 and 4 year olds. They have agreed to meet with us quarterly. So they are doing that. We have an M.O.U. in place and they have not signed off on it yet. So it's six months past the sign date. Despite the meetings there is limited feedback as to what their plan is too. –Director #3

These challenges echo other participants' discussions of how the relationship between Head Start and elementary schools has big implications for special education children. Director #1, who also expressed a number of challenges in relation to coordinating with districts, describes how the relationships, and in some cases, the location make it easier or harder for children to get the services they need.

> I can say that when we were in the public schools it was just so much easier to get a child picked up. Like even now the X public schools will come out and do a classroom observation; 9 out of10 times that kid looks like the most perfect kid in the whole world. But when you're in the public schools you can go across the hall and say "send someone over to observe what's happening right now"…But, you know, in the long run if you service these kids, it is just easier. So even if this child didn't get an integrated preschool program, they got 30 minutes of speech. The speech therapist was in the building; so if she had a cancellation, she would come down to the Head Start classroom and do a small group with these kids. –Director #1

Ready to Share, but Systems Lag. Sharing of data was mentioned in all interviews. Half of the participants described a strong process in place to share data, three participants had no real process in place for sharing data and four expressed that they have a process in place but there are challenges. While some of the programs with no real process in place expressed skepticism that the schools were interested in data sharing, multiple participants explained that both Head

Start and the elementary schools were ready to share data and were on board with having a better process in place, but logistical limitations were holding them back. For example, multiple participants described using the Teaching Strategies Gold (TSG) assessment system and that the public schools often use it as well. Yet, they are unable to share data directly through the system.

> So it's how we pull through that data, which we haven't been able to quite figure out around how GOLD is set up. But since we use GOLD, they use GOLD; how do we pull that data through so that we automatically have it? In one of our school districts we're actually working on trying to schedule a data team meeting between the public school, us, and there's another early childhood center; and we will look at measures to see how we could work that .–Director #11

Another participant explained that they also use TSG, but the public schools decided not to and created their own assessment system. Another participant put plans in place to both use and share data this way, but funding limitations have stopped this plan.

> For the public schools and the method for transitioning that information the idea was going to be to use the TSG assessment system, but they stopped funding that and so that no longer is something that they're doing at the public school level. So there is nothing that is able to be transitioned over. –Director #3

When asked about challenges, only one participant did not cite any challenges. Overall, all participants expressed a sincere interest in continuous improvement; even their discussion of challenges often pointed constructively at ways to improve.

CHAPTER 6: DISCUSSION

Overview of Findings

Phase I

This study provides the first examination of coordination practices engaged in by Head Start programs in a nationally representative sample and presents a descriptive look at the variety of activities Head Start programs use to connect and coordinate with elementary schools and support children and families' transition to school. Not surprising, based on their regulations and

mandates, the majority of Head Start directors reported formal processes and many activities to support the transition for children and families overall. Engagement in coordination efforts with elementary schools showed slightly more variability. The most common coordination activities (with over 85% reporting affirmative) included: participation in developing IEPs for children with disabilities, helping schools identify kindergartens, and providing Head Start records for children. The least common activity reported was participating in joint trainings with elementary school teachers or staff, although this was endorsed by nearly 2 out of 3 programs (65%), and meeting with the kindergarten teacher at the school fell somewhere in the middle (76%). Overall, directors reported participating in six out of eight coordination activities. Overall, a high percentage of directors reported to participating in each coordination activity. Moreover, nearly three-quarters of programs had an educational coordinator assuming responsibility for coordination and transition activities.

These descriptive results show a robust combination of efforts engaged in by Head Start programs to support children's successful transition to kindergarten. However, lagged OLS regression models adjusting for a broad array of child, family, and school covariates as well as elementary school-based transition practices failed to find a direct relationship between more coordination practices and children's academic and behavioral functioning in the spring of kindergarten. When considering Head Start coordination practices individually, the only significant relationship was between Head Start directors' report that they meet with kindergarten teachers at the elementary school and higher language skills for children at the end of kindergarten. Although this finding must be interpreted cautiously, it is notable that this particular coordination practice is fairly different in nature than the other activities. Of the practices reported, this is the only activity that denotes that the activity is bi-directional. Many of

the practices were about sharing information from Head Start to elementary schools and there was no information as to whether such information was received or considered. However, meeting with a kindergarten teacher at the school provides at least some indication that there is effort at coordination coming from both sides, with both the kindergarten teacher and Head Start involved. Although we do not know, based on this report, what the nature of the meeting is, what is discussed, and who is involved, there is some indication that this activity is qualitatively different than the other practices reported on by Head Start Directors in the study which could be completed with no participation from elementary schools.

Two other patterns of findings tempered the general lack of benefits found for coordination practices in this study. First, across all models there was a significant connection between Head Start education coordinators' reports of responsibility for transition activities and improved behavioral functioning (higher social skills and lower problem behaviors) among children in kindergarten. This suggests that having a key point person responsible specifically for the transition to school may be beneficial for supporting children's behavioral functioning, above and beyond the specific coordination and transition practices engaged in by Head Start programs and elementary schools. It is possible that this variable is actually a proxy for other more intensive coordination and transition practices that may need a point person to ensure full implementation.

A second pattern that emerged in the results derived from interaction models seeking to better understand the intersection between Head Start coordination practices and elementary-school-based transition practices. These models found that Head Start coordination practices were significantly related to children's language and mathematics skills in kindergarten for children entering elementary schools which engaged in limited school-based activities to support

the transition to school. This pattern is inconsistent with our hypothesis that a combination of high coordination and transition practices would be most supportive of strong transitions to kindergarten for children. Rather, the interaction results suggest that Head Start coordination and elementary school-based transition practices may serve more as substitutes rather than compliments for one another. In other words, these results suggest that children who have neither Head Start programs that engage in coordination efforts nor elementary schools that engage in transition practices show the lowest academic functioning in kindergarten. However, in the absence of strong kindergarten transition practices, Head Start coordination practices may provide a benefit for children's successful transitions to kindergarten in academic arenas. And regardless of Head Start coordination practices, we found that kindergarten transition practices were associated with higher language skills for children in kindergarten. In this sample, there was notably higher variability in elementary school-based transition practices than in Head Start coordination practices, variability which may have provided more power for significant associations with children's outcomes.

Phase II

Head Start directors reported coordination activities that could be grouped into two categories: 1) *indirect* ways that Head Start is supporting children and families in the transition to kindergarten by coordinating with elementary schools; and 2) ways in which Head Start is serving as a *bridge* to connect children and families to elementary schools. Some of these activities were discussed as universal and others were for specific children and families (e.g. children with behavior concerns, families whose first language was not English).

Analyses showed that coordination between Head Start and elementary schools focuses particularly around information sharing that results in *knowledge transfer* of information about individual children, and/or sharing information in the pursuit of *alignment* of practices.

Information sharing takes place through multiple venues and levers (e.g. sharing formal written records, informal discussions at meetings, engaging in joint professional development, through connections around special education services).

Head Start directors believe that there are benefits to coordination efforts, yet found it hard to provide specific examples even when pressed in the interviews. However, based on their discussions of benefits, it is posited that there are pathways by which sharing information is linked with changes in teacher/school practices and therefore child outcomes. In addition, it is posited that activities that specifically support parents are also linked to benefits for children. Participants stressed the importance of relationships, meeting in person to share information and how location can support coordination efforts. In addition, the majority of Head Start directors discussed the importance of continuous improvement and ways to enhance coordination efforts in the future. These included building relationships, having co-located programs and the need for more time and resources to support these efforts in the future.

Limitations

In considering the implications of these results, it is first essential to address limitations of the research. As suggested above, the somewhat limited variability in reports of Head Start coordination practices in the Head Start FACES data provides evidence that most programs are following guidelines by engaging in practices to coordinate with children's elementary schools; yet this same limited variability may have restricted our ability to uncover associations with children's functioning in kindergarten. Head Start reports of coordination practices in the Head Start FACES data were also general, in relation to overall program practices, and not connected to individual children, making it unclear whether specific study children were directly exposed to or would benefit from each practice. In addition, the binary reports on coordination practices

provided no information on the content, quality or quantity of the coordination practices. For example, 76% of Head Start directors reported that their program meets with kindergarten teachers at school. Yet, this information leaves many questions unanswered about whether this practice is for all children or just specific children, the content of the meetings, when and how often meetings take place, and whether either party finds the meeting beneficial.

Head Start directors' detailed descriptions of transition and coordination practices in the interviews sought to mitigate this limitation by providing additional information that was not possible to glean from the FACES data. However, notable limitations of the interviews also exist. First, the interviews only provided the opinions of Head Start Directors and did not include the voices of Head Start teachers, elementary school staff, principals or kindergarten teachers. Although all of the Head Start directors expressed that their coordination practices benefit children, they had a difficult time explaining exactly how and in what ways they are beneficial. It is possible that kindergarten teachers who have a deeper understanding of children's adjustment at the start of school and outcomes in the first year would explain the benefits in a different way. In addition, it must be mentioned that Head Start is only one provider type in a large mixed delivery system of preschool providers in the US. Future research should include examination of coordination efforts between multiple types of preschool providers and elementary schools.

It is also important to note that the assumption in this study is that coordination is positive and promotes continuity and benefits for children, but it is also possible that coordination could have unintended consequences. For example, promoting continuity of practices that are less than optimal for children may have null or even harmful effects (Stipek et al, 2017). In addition, sharing information about children could affect kindergarten teacher's early perceptions of

children, potentially biasing their opinion and how they interact with the children, despite children's own actions that may prove the information inaccurate (Meisels, 2007).

Other challenges in the data and analytic models for Phase I are important to acknowledge. Models assessed associations between coordination practices reported in the fall of children's year 3- or 4-year old Head Start experience and their functioning in the spring of kindergarten, a long 18 to 30 month gap. Head Start Directors in phase II explained that most of their transition and coordination efforts were for four-year olds who would be going to kindergarten in the following year, rather than all children in the program. Moreover, coordination practices may be expected to affect children mostly strongly during the transition period; by not having information on children's functioning at the beginning of kindergarten (outcomes were assessed in the spring of kindergarten), the FACES data may have missed the period in which the benefits of coordination efforts may be strongest. Finally, it must be reiterated that the data for phase I were correlational, and hence could not identify causal associations. Still, models employed prospective longitudinal data and adjusted for a broad range of theoretically-derived child and family covariates to account for selection into contexts, Head Start and kindergarten covariates to help to isolate unique relationships between coordination practices and gains in children's skills in kindergarten, and lagged measures of children's functioning as an additional control against unmeasured heterogeneity bias, providing a rigorous assessment of connections between coordination practices and children's functioning above and beyond these associated factors.

Tying it all Together: Implications for Policy, Practice and Future Research

Despite the limitations, this study provides a first of its kind look at coordination practices between early education and elementary schools and adds to a national conversation on

the best ways to support children's chronological transitions within a PreK-3rd framework. Taken together, the results from phase I and phase II provide some important take-away message to inform policy, practice and future research. These include key consistencies across the two phases, some areas where phase II helped illuminate results of phase II, and other ways that the combination of results push us to think harder about what is needed for future research.

Although the approaches were quite different, there were some key consistencies across the two phases. Reports from Head Start directors in the Head Start FACES data as well as in the interviews showed that the transition to school is an important part of Head Start's focus in the year before kindergarten and the process starts quite early in the school year. In addition, the FACES data showed that Head Start programs are engaging in multiple activities to coordinate with schools and a high percentage of programs reported engaging in each activity. The interviews also yield descriptions of many different coordination activities with each activity being reported by multiple participants. Both phases showed that Head Start programs are engaging in a breath of activities to coordinate with elementary schools.

The analyses of the FACES data provided limited evidence that coordination practices directly predict child outcomes at the end of kindergarten overall, yet, they did point to some interesting findings that connect with findings from phase II. First, Head Start directors' reports of meeting with kindergarten teachers at the school was significantly associated with children's language skills at the end of kindergarten, even when accounting for other coordination activities, elementary school-based transition practices and a host of child/family covariates. Taken by itself, this finding did not feel meaningful because it was the only statistically significant association among multiple tests, and hence could be spurious. However, the interviews with Head Start directors in phase II provided a host of evidence that in person

meetings were key for sharing information about individual children, as well as for supporting alignment across programs. Indeed, directors expressed a real interest in finding more time and ways to connect in person not only administrators to administrators, but including the teachers as well. This consistency provides an interesting consideration for programs planning transition activities. Although 76% of Head Start directors in the FACES data reported "meeting with kindergarten teacher at school," this was not one of the most common activities reported. In addition, a majority of directors interviewed reported not doing this enough and that they hoped there would be more in-person meetings and classroom observations in the future. Interestingly, directors also stressed the importance of joint trainings and involvement in other community councils or meetings that would bring together Head Start staff and elementary school staff face-to-face. This was deemed an important part of relationship building and information sharing. While these activities are notably more time intensive, it is important to consider that the majority of participants in the interviews expressed the importance of connecting in-person and hoped for more in the future. Past research has shown that these time-intensive activities are typically the least frequent activities engaged in (Little, Cohen-Vogel, & Curran, 2016), yet this study provides evidence that they may be key to the success of coordination.

In addition, many participants in phase II expressed that location plays a key role in this relationship building and facilitates in-person meetings and communication. However, the FACES dataset did not include information on whether Head Start programs in the study were located in elementary school buildings. Future research could explore whether there is a statistically significant relationship between location and coordination practices, and whether there is interactive effect. While many programs may not be able to change locations in the future based on facility limitations, these findings provide an important consideration for

programs to assess whether there are other ways to ensure in-person connections if they cannot be physically co-located. In addition, local education agencies can consider this finding as they plan for facilities in the future. For example, one interview participant discussed working for many years with their local school district to have Head Start and district prekindergarten classrooms housed in the same wing of the elementary school building.

Information sharing across systems can take many forms from simply sending records to having more intensive sharing of program information. Themes that emerged from phase II showed that the majority of coordination practices explained by Head Start directors could be categorized into transferring specific information about individual children or general information about the program. Although the information sharing indicators tested in phase II did not yield significant associations with child outcomes, past research has emphasized the importance of information sharing and has found positive significant relationships with child adjustment in kindergarten. For example, Cook, Dearing & Zachrisson (2016) found that when teachers in the first year of school in Norway reported receiving both general program information AND information about the specific study child from the preschool programs children were coming from, children were rated with higher social adjustment skills at school entry. While it was not clear from the data in that study whether the information sharing was done in person or through simply sharing records and information, the fact that teachers had to report both types information in order to get positive results suggests that there may have been more intensive communication and stronger relationships in those cases whether teachers reported both. In some ways, descriptions of the benefits of information sharing in phase II were consistent with this research, with Head Start directors expressing the importance of information sharing. In addition, it is possible that true sharing of program information in a meaningful way

that will inform practice must really be done in-person, connecting it to the finding discussed above about the importance of in-person meetings. Although the hypothesized pathways between information sharing (see Figure 3) and positive changes in teacher practices at the kindergarten level (and possibly Head Start level) that in turn lead to improvements in child outcomes were not directly tested in this study, this is something that should be considered for future research. In particular, specific mediating processes such as parental stress around the transition, and preschool and elementary school changes in practices as a result of coordination have not been captured in existing data sets and should be considered for future data collection and research efforts.

Other inconsistencies between the results in phase I and phase II lend themselves to more considerations for future research. For example, interviews with Head Start directors expressed the importance of coordination activities bridging families to elementary schools, particularly for parents who are immigrants, whose first language was not English, or who lacked educational opportunities of their own. However, these variables were directly tested as moderators in phase I and the models failed to find that the relationship between coordination practices and child outcomes varied by these family characteristics. Past research on transition practices has found mixed evidence of whether transition activities mean more for certain children (Cook & Coley, 2017, Shulting, et al, 2005). The interviews with Head Start directors show that some practices are done to meet the needs of specific families (e.g. translation services, transportation to events, sharing information about specific children only), yet more research is needed to discern whether specific transition and coordination practices are particularly beneficial for children and families with additional risk factors. Overall, interview participants struggled to explicitly articulate the ways coordination practices benefit children (although all expressed that they are beneficial).

Future work around coordination (by both practitioners and researchers) should focus on understanding and mapping the ways coordination will be beneficial to children.

Findings from phase I suggest that coordination efforts by Head Start programs with elementary schools are particularly important for children's language and math skills when their elementary schools are less engaged in transition practices. This raises questions about whose responsibility it is to support children's transitions across systems. These findings may reflect a policy context that has required Head Start to initiate coordination efforts, but has not required local education agencies and schools to reciprocate. As a result, we must consider whether coordination practices are really coordination if only side participates in them. For example, if Head Start sends children's records to schools, but no one reads them, or Head Start invites elementary staff to joint trainings, but no one comes, does this count as coordination? Understanding that both sides are an important part of the transition process, a study that conducted focus groups with early education programs and elementary school staff found that elementary school principals play an important role in coordination across systems and their leadership is key (Bornfreund, 2016). This is important considering that some interview participants in this study noted that the lack of leadership and support at the district level could make signing MOUS and other coordination difficult. More research is needed to understand the role all parties play in coordination to ensure that the maximum benefits for children and families are realized. This includes the need for research on early education programs beyond Head Start. Head Start was strategically chosen to be studied here due to their focus on transitions, yet to truly understand what is needed for early education programs to successfully coordinate with elementary schools, future research needs to include data and voices of the breadth of early childhood programs including state prek-k programs, community-based private and non-profit

providers, and family child care. As noted above, Head Start's lack of variability in terms of coordination practices may also have limited the ability to detect a relationship between coordination efforts and child outcomes. A greater diversity of practices in future research could better illuminate the nature of this relationship.

Future research should also consider the role of states to support local coordination. A recent report profiling the strategies used by three different states to support the transition from pre-k to kindergarten (Loewenberg, 2017) recommended that states provide tools and guidance to support local communities to plan and prioritize transition activities. The report showed that some states are implementing policies to incentivize districts and local communities to do additional work in this area. In addition, as new requirements for coordination become realized through state plans under ESSA and other creative measures are taken at the state level, there is hope that early education programs, districts and states will see transition and coordination as a true joint responsibility. As new policies and local and state practices continue to unfold, more research and evaluation work will be needed to further understand the specific coordination efforts that support children's transition across systems and their long-term success.

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APPENDICES

Appendix A: Alternative Models on Sample of Children who were 4 Years Old in Wave 1

Head Start Coordination Sum Index Predicting Kindergarten Child Outcomes (Four Year Old/2011 Cohort Only)

	Model 1: Language Skills		Model 2: Math Skills		Model 3: Social Skills		Model 4: Problem Behaviors	
	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)	Coef.	(SE)
Lagged Dependent Variable	0.45***	(0.02)	0.66***	(0.04)	0.27***	(0.04)	0.41***	(0.49)
Head Start Coordination Practices Sum Index	0.43	(0.27)	0.23	(0.19)	- 0.03	(0.12)	- 0.06	(0.11)
School-Based Kindergarten Transition Practices Sum Index	0.86*	(0.37)	0.11	(0.20)	0.09	(0.15)	0.06	(0.14)
Education Coordinator Responsible for Transition	0.27	(0.93)	0.22	(0.56)	1.26**	(0.42)	- 1.46**	(0.45)
Gender (Male)	0.20	(0.74)	- 0.63+	(0.32)	- 1.73***	(0.33)	1.79***	(0.36)
Race/Ethnicity: African American	- 2.74*	(1.13)	- 0.38	(0.79)	- 0.25	(0.47)	0.50	(0.51)
Race/Ethnicity: Hispanic	- 2.13+	(1.19)	0.06	(0.95)	- 0.20	(0.71)	- 0.53	(0.57)
Race/Ethnicity: Other	- 3.07*	(1.28)	-0.01	(0.79)	0.37	(0.86)	0.15	(0.96)
Child Age at Start of Head Start (in months)	- 0.06	(0.09)	0.04	(0.05)	0.11*	(0.04)	- 0.10*	(0.04)
Ever Diagnosed Disability	- 3.88*	(1.54)	- 1.05	(1.08)	- 1.68*	(0.75)	1.43	(0.92)
Home Language is Not English	-2.22+	(1.27)	0.03	(1.04)	-0.13	(0.75)	0.33	(0.59)
One or both Parents Born outside US	2.11	(1.25)	1.94*	(0.80)	0.75	(0.71)	- 1.16*	(0.55)
Parents in Household Married	1.13	(0.90)	0.83+	(0.47)	0.67	(0.39)	-0.75*	(0.35)
Maternal Education: HS Diploma/GED	1.18	(0.88)	0.80	(0.62)	0.73	(0.46)	- 0.49	(0.45)
Maternal Education: Some College	1.72	(1.17)	1.18	(0.81)	0.76	(0.53)	-0.78*	(0.54)
Maternal Education: Bachelor Degree+	2.16	(1.87)	1.90	(1.18)	1.09	(0.84)	- 1.66*	(0.78)
Kindergarten Teacher Degree: Masters	0.89	(0.79)	0.62	(0.49)	0.47	(0.41)	- 0.69+	(0.37)
Kindergarten Teacher Degree: Doctorate/Other	- 2.96	(2.47)	- 1.57	(0.49)	- 0.73	(1.47)	- 0.30	(1.24)
Intercept	126.03***	(1.32)	31.57***	(0.93)	16.08***	(0.72)	7.22***	(0.71)

***=*p*>.001, **=*p*>.01, *=*p*>.05, +=*p*>.10

Notes: N=1,043 children; weighted (PRA16WT), aggregated over 30 imputed datasets.

Appendix B: Interview Protocol

Transitioning Across Systems: Early Educators' Views on Coordination Efforts to Enhance Children's Success in Kindergarten

SEMI-STRUCTURED INTERVIEW PROTOCOL

Opening:
Thank you for agreeing to participate in this study on the viewpoints of early educators concerning children's transition to kindergarten and the challenges and opportunities present when early educators coordinate across systems to support the transition. This interview will take approximately 45 minutes. You are free to stop participation at any point and do not need to answer all questions. This interview will be recorded, but your name and program will not be used in any findings or articles that result from this study. You will receive a $15.00 gift card to Target for your participation and this will be sent to you by mail. Do you have any questions before we get started?
This interview will have three parts. First, I will ask you some questions about your professional experiences and the activities and practices your program/school engages in to support the transition to kindergarten. Second, I will ask you to reflect upon the opportunities and challenges present when trying to coordinate across systems to support the transition. Third, I will provide some information about a recent study I conducted on this topic and ask you to provide your thoughts on the findings.

Part I: Experiences

Guiding Question: Tell me about your experience working at your school/Head Start center?
Probes:

- How long have you been at the center/school?
- What is your role?
- How many children do you serve?
- Where is your center located? In a school building? Is the program/classroom jointly funded by other sources than Head Start?
- What type of setting would you consider your program in? Rural? Urban?

Guiding Question: What activities does your program/school engage in to support children's transition to kindergarten?
Probes:

- Are there activities directly aimed at children?
- Activities directly aimed at parents and families?

Guiding Question: Are there specific activities that your program/school engages in to connect and collaborate with the elementary schools children are going to attend/the preschools children previously attended?
Probes:

- Do you share curriculum/program information?
- Do you share children's records and/or assessment data?
- Do you participate in joint trainings or planning sessions?

Guiding Question: Are these activities done for all children or just specific children? All schools or specific schools?
Probes:

- Who determines whom the activities are done for?
- How is this determined?
- Do these activities change each year or are they fairly consistent?

Guiding Question: How long has your school/program engaged in these activities?
Probes:

- Are they new? Been done for many years?
- Have they changed over time with new leadership or funding (e.g. new superintendent or director, new Head Start regulations, new funding from the state or others (for Massachusetts- Race to the Top Early Learning Challenge, state funding for P-3 planning))?

Part II: Insights & Challenges

Guiding Question: What do you believe is the benefit to coordinating across systems to support the transition to school?
Probes:

- In what ways is it beneficial?
- Which activities do you believe are the most beneficial? Why?
- Who benefits from the activities? Children? Families? Teachers?
- Would you expect to see a difference/benefit that could be measured? How?
- Are there circumstances when it is not beneficial?

Guiding Question: In what ways do you alter your teaching/program practices based on information gained from transition activities?
Probes:

- What ways do your practices change?
- Which transition activities specifically alter your teaching or program practices?

Guiding Question: In what ways do you believe transition activities support children's transitions? Parents' transitions?
Probes:

- In what ways are you meeting the needs of parents? Children?
- In what ways could you improve?
- What are the transition activities you do particularly well?

Guiding Question: Are there particular challenges present when trying to coordinate with the programs your children are coming from/schools your children are going to?
Probes:

- What are the challenges?
- Are there different challenges for different children or programs?

Guiding Question: What supports would make coordinating across systems easier and more productive?
Probes:

- Who would need to be part of this coordination?
- What other resources or support would be needed?

Part III: Connecting to Research Findings

Guiding Question: A preceding study on the transition to kindergarten found that in general, Head Start transition activities were not related to how children were doing in kindergarten, but found that kindergarten teachers transition activities were related to children's language and math skills in kindergarten. However, the study also found that Head Start transition activities mattered more for children, if they had kindergarten teachers who reported doing less transition activities.
Probe:

- What do you think the unique roles of kindergarten teacher transition activities are?
- What do you think the unique roles of preschools transition activities are?
- How and why is it important for the two to work together? Why not?

Guiding Question: The research also found that there is a unique role that Head Start education coordinators/managers play in supporting children's transition to school. When education coordinators in the study reported that the transition to kindergarten was part of their responsibility, children were rated better on social skills and lower on negative behaviors at the end of kindergarten. How would you interpret this finding?
Probe:

- What is the role of the education coordinator in your program?
- What activities do they focus on around the transition to school?
- Do they connect directly with the schools children will be entering?
-

Closing:
Guiding Question: Is there anything else you would like to share about supporting children's transition to school?
Thank you for participating in today's interview and taking time out of your busy schedule. As noted, you will receive a $15.00 gift card to Target for your participation. This will be sent to you by mail. Would you mind providing your mailing address so that we can mail you the gift card? Please keep in mind, we will not use your name or program/school name in any documents or publications from this research and your name will not be attached to anything we discussed today.

Appendix C: Coding Summary List

Code Name	# Sources	# References
Demographic information		
Current position	12	22
Job responsibilities	12	44
Years with Head Start	12	22
Location	12	37
Program size or number of children served	12	46
Number of districts/schools transitioning to	12	36
Other	2	2
Activities for getting children or families ready while still in Head Start		
In Head Start activities	6	19
Kits or materials	6	18
Preparing parents for the transition	12	69
Connecting parents and/or children to elementary schools		
Connecting children to elementary schools	4	11
For parent and/or child visits to schools	7	10
Providing parents information they need	7	14
Registration	12	60
To promote other elementary school sponsored activities	5	9
Communication between Head Start and elementary schools		
Attending each other's events	10	22
Joint professional development	8	27
Joint planning sessions	6	13
Contact after the start of kindergarten	7	16
Meeting in person	9	23
Observing Classrooms	5	10
Who to contact at elementary school level	12	33
Sharing general information	12	38
Sharing child records	11	75
Other	4	6
Alignment of practices		
Assessments	9	10
Curriculum	9	14
Standards	9	23
Who are practices for		
All children	9	25
Specific children	7	17

Behavior concerns	4	8
Disabilities	7	10
Family trauma or other risk	4	10
Medical concern	2	4
Certain Districts	1	1
Benefits		
Children	10	32
Families	11	29
Teachers or schools	11	29
Other	5	12
Room for improvement/challenges		
Changes over time	12	46
Data sharing	6	22
Parent/child participation	5	16
Teacher/elementary school participation	10	36
Time or resources	8	20
No Challenges	1	1
Attitudes towards transition and coordination		
Importance of	11	30
Reflection and improvement	9	37
Wanting invitation to table	4	5
Relationships	11	81
Longevity	7	13
Leadership	7	17
Special Education	12	54
Keys to success	12	76
Community or state partners	12	80

Source: Authors