FAMILY MATTERS: ADULT INVOLVEMENT AND EARLY CHILDHOOD OUTCOMES ACROSS LOW- AND MIDDLE-INCOME COUNTRIES

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Education Policy – Doctor of Philosophy

2022

ABSTRACT

FAMILY MATTERS: ADULT INVOLVEMENT AND EARLY CHILDHOOD OUTCOMES ACROSS LOW- AND MIDDLE-INCOME COUNTRIES

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Nourishing care through caregiver involvement helps children grow and thrive to their full potential. Caregiver involvement develops different aspects of children's development, such as their motor, cognitive, and socio-emotional skills. Extensive research establishes that early childhood care and education (ECCE) is closely linked to children's environments, involving their caregivers and immediate surroundings, and also their socio-cultural interactions, overarching identities, values, and cultures in which children are embedded. Yet, the bulk of the existing literature on caregiver involvement in ECCE is based on Western countries. I address this gap in the research through three studies based in low- and middle-income countries (LMICs). Through a literature review, the first study analyzes the conceptualization and measurement of parental involvement in ECCE in LMICs. This study reveals crucial gaps in the conceptualization and measurement of parental involvement. There is an urgent need for comprehensive frameworks and valid, reliable measures that are better aligned to understand caregiver involvement in ECCE embedded in their local contexts in LMICs.

The second study quantitatively analyzes home-based parental and adult involvement in ECCE across Ghana, The Gambia, and Zimbabwe. Using UNICEF's Multiple Indicator Cluster Surveys (MICS) data for the three countries, I conduct descriptive and multi-variate regression analysis. I examine variation in parental and adult involvement, child and household factors that

influence involvement, and associations between involvement and early childhood development outcomes. The primary contribution of this study is the careful exposition of the important role other household members apart from parents, play in children's literacy and numeracy development, executive functioning, and overall development. The third study analyzes parental perceptions of early childhood education (ECE) in the context of increased global recognition of the need for responsive parental involvement. Through qualitative interviews with eighteen parents living in a low-income urban settlement in Delhi, India, I analyze parental perceptions, beliefs, and expectations of ECE. I find a dissonance between international and national policies on ECE, and local parental perceptions of children's early education. Although the international community and national policies push for a child-centered, developmentally-appropriate curriculum at the ECE level, parents prefer a cognitively focused education that develops reading, writing, and numeracy skills early on.

As part of the conclusion of my dissertation, I present a conceptual framework that brings together findings from the three studies. This framework builds on existing theories and evidence yet expands the understanding of adult involvement particularly for LMIC contexts. My dissertation provides a breadth and depth of analysis on caregiver involvement while paying attention to variations in local contexts, environments, and socio-cultural settings. In doing so, this current research has highly pertinent implications for policy programs and future research. An increased understanding of parental and adult involvement patterns in relation to early childhood outcomes will facilitate better-informed policy programs for children and communities, addressing social inequalities in the long run.

ACKNOWLEDGEMENTS

I have been able to complete this doctoral program and dissertation because of many people who have supported and believed in me.

I am deeply grateful to all the participants who shared their stories and lives which helped in making this research happen. This dissertation would not have been possible without the generosity and patience of the parents, teachers, and other scholars who participated in this study, as well as the children and families who are a part of the UNICEF Multiple Indicator Cluster Surveys data.

I will forever be grateful to my advisor, Dr. Amita Chudgar, for being a committed and generous advisor and mentor. I am grateful for your unwavering support during the dissertation research process, especially during the pandemic when the world was particularly bleak. Thank you for believing in my research and insightful feedback that was key in shaping this dissertation. Through my research assistantship with Dr. Chudgar, I got the opportunity to grow as a scholar while conducting meaningful policy research on education issues.

Thank you to my committee members for their guidance towards my doctoral research. Dr. Josh Cowen, thank you for your intellectual support and kindness, it was an additional pleasure to work with you during my teaching assistantship. Dr. Siddharth Chandra, thank you for helping me think more deeply about the approaches and methods I adopted in my research. Dr. Bethany Wilinski, thank you for your constant encouragement and helping me push my ideas forward by offering a different perspective. To the Michigan State faculty that taught me in and out of the classroom and broadened my thinking, thank you. Additionally, I thank the College of Education

and the MSU Graduate School for the generous funding support that has made this research possible.

I thank my parents, Madhu and Anil Grover for providing me with opportunities to learn, grow, and thrive. Thank you for instilling in me a spirit of curiosity, a feeling of kindness towards others, and a love for reading. Thank you to my sister, Malika Grover, for always being my closest confidant. Being so far away from home it would be an understatement to say that I have missed my family, but I am grateful for their encouragement, love, and support for the journey I went on. Thank you to my partner and husband, Arnav Vasudev, for being around every step of the way on the roller coaster that this PhD has been. My in-laws, Vandita and Anand Vasudev, who have embraced me in the family with much love and affection. To Akshat Vasudev and Nesara Kishor, thank you for always cheering me on. To the extended Grover family and newly added Vasudev family, thank you for the joys of being a part of a large, loving clan.

I am grateful for being supported by a strong group of women who constantly inspire me. To my closest companions, Ila Kulshrestha and Shaleen Wadhwana, who redefined friendship for me about fifteen years ago, thank you for being by my side with your unwavering support. And to Purava Joshi, Isha Chaudhry, Ila Reddy, Nuvodita Singh, and Surabhi Mall, I thank you for believing in me, for caring, and for the gift of your friendship.

My graduate school friendships have been a source of joy and comfort in the past few years. To Andrea Chambers, thank you for the countless study and venting sessions, always being a sounding board for my research dilemmas, and your ongoing support. Thank you to Jainisha Chavda and Shota Hatakeyama for being the best research assistantship team I could have ever had. Thank you for being such great cohort-mates. Thank you to Amit Sharma, Manasi Mishra, Vivek Vellanki, Katie Schenkel, Valetin Kuechle, Danielle Brown, Marisol Masso, Annie

Hemphill, Daman Chhikhara, and Puja Chhikara, for their friendship and making my time at MSU special and memorable. I am also grateful for peer groups and networks that helped me along the PhD, especially the EAD Writing Group, Collaboration Across Education Policy Students, and the first-year Education Policy workshops. Thank you to the College of Education and broader Michigan State University community. I am grateful for the guidance of the many people keeping our department and college running through their dedicated service.

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Chapter 1. Introduction

The global community and national governments have made remarkable progress in developing and delivering early childhood care and education (ECCE) programs and policies, backed by a relevant and reliable evidence base. Yet, country-level estimates indicate that in low-income and middle-income countries (LMICs), 250 million children (43%) younger than 5 years are at risk of not reaching their developmental potential (Grantham-McGregor et al., 2007). One of the biggest factors in the early years of life that promotes child development is the nurturing care and protection received from parents, family, community, and other caregivers. Caregivers spend extended periods of time with their children providing nourishment and responsive care, while creating stimulating environments. This nurturing care has lifelong benefits for children including improvements in health and wellbeing, and increased ability to learn and earn (Britto et al., 2017).

Extensive foundational theories and empirical research in child development proclaims that ECCE is closely linked to children's environments. Children's caregivers, their immediate surroundings, as well as their socio-cultural interactions, and overarching identities, values, and cultures in which they are rooted are crucial for holistic child development. Despite the pivotal link between contexts, cultures, and child development, research in this discourse has often been criticized for being heavily influenced by Western notions of development (McCoy, 2022; Pence & Nsamenang, 2008; Yoshikawa & Kabay, 2015). Evidence-based policies in LMICs will be remiss if they adopt programming based on the parental involvement literature that is currently predicated on perspectives of middle-class families in the Global North. Greater research is needed that pays special attention to local contextual perspectives of caregiver involvement in

order to include variations in contexts, environments, and socio-cultural settings of human development.

This research on caregiver involvement is highly pertinent because in the past two decades ECCE has been the major priority area of the global education and development agenda of LMICs. Moreover, the issue of caregiving and caregiver involvement with young children has become particularly relevant amidst the ongoing global pandemic. During the peak of the pandemic, with all types of educational institutions shutting down across LMICs, parents were struggling to find ways to provide adequate social and cognitive stimulation to their children (Yoshikawa et al., 2020). Supported by previous evidence, research published during the pandemic highlights the key role parents need to play to mitigate the negative effects of COVID-19 on young children's development (Fontanesi et al., 2020; Shumba et al., 2020). To contribute to the research on parental and adult involvement in early childhood care and education based on LMICs, my dissertation research provides a breadth and depth of analysis on caregiver involvement.

The first study (Chapter 2) analyzes the conceptualization and measurement of parental involvement in early childhood care and education in LMICs. Given that the bulk of the existing literature on caregiver involvement in ECCE is based on Western countries, how does the literature on low- and middle-income countries conceptualize and measure parental involvement? I respond to this question by conducting a literature review. I examine the main definitions, theoretical frameworks, measures, and scales used in the existing evidence base that analyzes parental involvement. This study reveals crucial gaps in the conceptualization and measurement of parental involvement in ECCE in LMICs. There is an urgent need for

comprehensive frameworks and valid, reliable measures that are better aligned to understand caregiver involvement embedded in their local contexts in LMICs.

The second study (Chapter 3) quantitatively analyzes patterns in home-based parental and adult involvement in early childhood care and education (ECCE) across Ghana, The Gambia, and Zimbabwe. In many LMICs, extensive community networks and strong ties with extended families imply that multiple caregivers beyond parents respond to and interact with young children. However, there is limited research on interactions between non-parental adult members and children in the household. Utilizing UNICEF's MICS data for the three African countries, I conduct descriptive and multi-variate regression analysis to examine the variation in parental and adult involvement, child and household factors that influence involvement, and associations between involvement and children's developmental domains (literacy and numeracy, socio-emotional, learning, and physical development). Study findings show expected patterns in how parental involvement varies and there are positive, significant associations between mothers' involvement and children's literacy and numeracy development. The primary contribution of this study is the careful exposition of the role other household members play in children's development. In looking beyond traditional notions of stimulation that parents provide, this study reveals substantial engagement of other members and its positive, significant association with children's literacy and numeracy development, executive functioning, and overall development.

The third study (Chapter 4) qualitatively analyzes parental perceptions, beliefs, and expectations of early childhood education (ECE) in a low-income urban settlement in India. There is international recognition of the need for responsive parental involvement in children's early education. However, are the needs and expectations of low-income parents reflected in global and national visions, and consequently by ECE institutions? I answer this question

through a qualitative study of parental perceptions including their beliefs and expectations based on interviews conducted with parents living in a low-income urban settlement in Delhi, India. Study findings suggest a dissonance between international and national policies on ECE and parental views and expectations from children's early education.

As part of the conclusion of my dissertation (Chapter 5), I present a conceptual framework that brings together findings from the three studies. The first study indicates a lack of holistic conceptualization, frameworks, and measures of parental and adult involvement in ECCE based on LMICs. Thus, although the second and third studies are to an extent constrained by the existing frameworks and measures, these two studies move beyond those limitations by exposing nuances of adult involvement which facilitate the design of a comprehensive framework. This framework builds on existing theories and evidence yet expands the understanding of adult involvement particularly for LMIC contexts.

Chapter 2. Conceptualizing and measuring parental involvement in ECCE

2.1. Introduction

Extensive evidence establishes that children need nourishing care to grow and thrive to their full potential. Primary caregivers spend extended periods of time with children providing responsive care while creating stimulating environments. This caregiver involvement develops different aspects of children's development, such as their motor, cognitive, and socio-emotional skills (Bornstein & Putnick, 2012). Multiple foundational theories (e.g. Bronfenbrenner, 1979) postulate that early childhood care and education (ECCE) is closely linked to children's environments, not only involving their caregivers and immediate surroundings but also their socio-cultural interactions, overarching identities, values, and cultures in which children are embedded.

Clarifying early childhood terminology used in this paper, I use the concept of early childhood care and education or ECCE to include an overarching perspective on the health, nutrition, care, and early learning that children aged 0-8 need to ensure their later social, emotional, and cognitive development. When I refer to early childhood development or ECD, it implies a focus only on the cognitive and non-cognitive development of the child, whereas by early childhood education or ECE, I refer only to the early or preschool education of a child.

In the past two decades, ECCE has become a major priority area of the global education and development agenda of low- and middle-income countries (LMICs). Despite the critical link between contexts and child development, the bulk of research conceptualizing and measuring parental involvement in ECCE is based on Western notions of child development. For instance, as McCoy (2022) explains that although close to 90% of the world's children live in LMICs (World Bank, 2019), yet fewer than 8% of studies published in the top three developmental

psychology journals between 2006 and 2010 focused on these settings (Nielson et al., 2017). While there are a number of frameworks conceptualizing parental involvement in education in Western countries, limited attention has been paid to whether these definitions adequately capture the construct of parental involvement in LMICs. A paucity of overall frameworks for thinking about caregiver involvement in ECCE in the LMIC context has also meant the lack of valid and reliable measures of caregiving involvement in relation to child development in these countries.

I undertake a literature review to obtain a holistic perspective on the current theoretical frameworks, conceptualizations, and measurement of parental involvement in ECCE, while also examining the extent of the research gaps that exist. I address three main research questions in this review: i) How is parental involvement conceptualized in the broad education and child development literature? How does parental involvement in the broad literature translate to the ECCE literature based on low- and middle-income countries? ii) How is parental involvement in ECCE measured in the literature based on low- and middle-income countries? iii) What are the knowledge gaps in the conceptualization and measurement of parental involvement in ECCE in the literature based on low- and middle-income countries?

The current paper is structured in the following manner: having introduced the research theme in Section one, in Section two, I discuss the methodology I adopted to conduct this literature review. In Section three I present the theoretical understanding of parental involvement in ECCE, including broad conceptualizations as well as the seminal frameworks in the discourse. In Section four I review how parental involvement is measured in the ECCE literature by focusing on the type of measures, scales and datasets, and research methods used in studies. In Section five I identify gaps in the literature related to the conceptualization and measurement of

parental involvement in ECCE. Although the scope of this review is focused on LMICs, however, in each section I describe some seminal literature from high-income countries.

2.2. Methodology

In this study, I conduct a literature review to identify the conceptualizations and measurement of parental involvement in early childhood care and education based on low- and middle-income countries. In this section I explain the methodology for the review including the criteria to select studies and how the studies were analyzed.

2.2.1. Selection of studies

I conducted a systematic search of studies that shed light on the conceptualizations and measurement of parental involvement in ECCE. To address research questions 2 and 3 which are limited to literature based on LMICs, I define "low- and middle-income countries" based on the World Bank's country categorizations.

To find relevant studies, I used four databases: ERIC (on EBSCO), Education Source, the African Education Research Database (AERD), and Google Scholar. The search was conducted in March 2022 and was limited to studies in English, published between 2010 to 2022 to find the most recent research published. That said, to detail out a comprehensive picture of fundamental theories and measures that shaped parental involvement in ECCE, I included some seminal studies from before 2010. Many of these studies were based on populations from high-income countries. The preliminary search process led to the identification of 156 studies through ERIC, 115 studies through Education Source, 67 studies through Google Scholar and 48 studies through AERD. After reviewing the appropriateness of the studies for the current literature review, the final selection included 75 studies for research question 1 and 47 studies for research question 2

and 3. The Appendix section of the paper includes greater details about the search criteria of the studies.

2.2.2. Analysis of selected studies

After selecting studies for the literature review, I analyzed them in the following manner. First, I reviewed the studies for their definitions of parental involvement, and I also noted whether the study was only an analysis of parental involvement itself or whether there was an analysis of the relationship between parental involvement and child outcomes. Second, in these studies I identified evidence of theories and frameworks the authors may have used in analyzing the construct of parental involvement. I then separately reviewed published works in which these theories and frameworks were developed. I describe and analyze the findings of the review in the subsequent section, paying careful attention to the conceptualization and measures used to study parental involvement in ECCE.

2.3. Theoretical explanations of parental involvement

Early childhood care and education broadly caters to children from the prenatal period to eight years of age. The systematic search of research revealed that in the broad education and child development discourse, parent involvement literature can be of three types : literature focused on parenting science, child development, and education. I use these three research themes to review conceptualizations of parental involvement. I then categorize theoretical frameworks that have guided parental involvement in ECCE based on their level of focus: only on the parents, on parents and schools, or on parents and their wider contexts. In the sections below I start with conceptualizations and frameworks broadly, and subsequently narrow down on parental involvement in ECCE specifically in low- and middle-income countries.

2.3.1. Understanding parental involvement

Parental involvement in early childhood care and education evolves as the child ages. For an infant, parental involvement is providing a stable environment. Along with meeting children's nutritional and health needs, parents should provide care that is "responsive, emotionally supportive and developmentally stimulating (Britto and colleagues, 2017, p. 91). As the role of education increases in a child's life, parental involvement is generally of two types. First is home-based parental involvement which includes parents doing stimulation activities with the children, parents assisting students with their homework, expressing parental expectations of academic work and encouraging success at school, engaging in educational activities and outings with their children, and providing an environment conducive to learning (Chowa, Masa, & Tucker, 2013; Fan & Chen, 2001). Second is school-based parental involvement, which involves parental interactions with teachers, participating in school activities and school organizations (Chowa et al., 2013; Fan & Chen, 2001). The studies reviewed showed that to study parental involvement in ECCE means investigating the related themes of parenting, child development, and education which closely connect to ECCE.

2.3.1.1. Parenting science

The study of parenting is heavily influenced by theories from psychology, philosophy, and anthropology. Based on these theories, scientific analysis of parenting involved studying direct connections between parental practices and child outcomes through empirical studies and experiments (Bornstein, 2006). In his review of the science of parenting, Bornstein (2006) describes the evolution of seminal theories such as, Freud's theories on parenting, theories about conditioning specific behaviors in babies , theories of child psychology that place strong emphasis on parents, theories that focus on a child's role in the parent-child relation, and family

systems theory which governs that other factors beyond the parent and the child like the "patterns of transactions between them and others" (p. 898) influence parenting. Parenting science has emerged as a discipline through this evolution of theories. Current research in parenting science now focuses on processes that may mediate the ways parental practices affect a child.

According to Bornstein (2006), contemporary research in parenting has failed to adequately represent cultural diversity and the complexities of current parenting. Moreover, the discipline has focused too narrowly on populations of predominantly "Anglo-Saxon background" (p. 899). While research on parenting was flourishing in Western countries in the 1900s, only quite recently did theoretical literature note that effective parenting strategies can be developed, influenced, and modified through education and culture (Bornstein, 2006; Keller et al., 2004; LeVine, 2004).

Despite universal parenting traits, parents develop across countries, cultures, and social systems. "Human beings also acquire knowledge of what it means to parent by living in a culture: Generational, social, and media images of parenting, children, and family life—handed down or ready-made—play significant roles in helping people formulate their parenting cognitions and guide their parenting practices" (Bornstein, 2006, p. 895). For instance, Keller and colleagues (2004) examine the socialization goals (independence versus interdependence) of five parenting styles across Cameroon, Costa Rica, India, Germany and Greece. The authors find that socialization goals are fundamentally interconnected with ecocultural and economic contexts, such as, parents' education and economic conditions, parents' and siblings' gender and ages, etc.

2.3.1.2. Child development

Within the field of child development or early childhood development, since the early 2000s scholars have acquired in-depth knowledge about the role of early experiences and responsive parenting in shaping a young child's life. Influential experimental studies conducted in Jamaica (S. Grantham-McGregor & Smith, 2016; Meeks Gardner, Walker, Powell, & Grantham-Mcgregor, 2003), Bangladesh (Hamadani, Huda, Khatun, & Grantham-Mcgregor, 2006), Brazil (Eickmann et al., 2007) in the late 1990s - early 2000s, along with other LMICs, established the efficacy of parental caregiving and parental stimulation interventions. Scholars find that parenting and attachment relationships "help(s) with the development of security, confidence, and trust between infants, toddlers, and their parents" (Shonkoff & Phillips, 2000, p. 229). Evidence shows that improving these caregiver relationships has significant and positive impacts on multiple child developmental domains.

More recently, the Nurturing Care Framework developed by the World Health Organization (WHO), UNICEF, and the World Bank Group in collaboration with other international partners, builds upon scientific knowledge about child development and how effective policies and programs can strengthen it. Of the five inter-related components of the Nurturing Care Framework, two foundational ones are: 1) responsive caregiving, which involves parent/caregiver "…observing and responding to children's movements, sounds, gestures, and verbal requests" (p.14), and 2) opportunities for early learning (World Health Organization, United Nations Children's Fund, & World Bank Group, 2018). As the global community including national governments, implementing partners, and communities adopt the nurturing care agenda to promote early childhood development, methods from implementation research are

more recently being used to respond to challenges of policy implementation, and taking them to scale.

In the past, implementation research has been widely used in promoting health interventions to scale. By deeply analyzing the mechanisms behind policy programs, implementation research provides a useless lens to examine issues such as, factors affecting implementation (e.g., income and geography), processes of implementation (e.g., home visits and multi-sector coordination), and the relationship between results of implementation and local contexts (Britto, Singh, Dua, Kaur, & Yousafzai, 2018). Combining theories of early childhood development and policy programs, in the past decade scholars have made use of implementation research to study the conditions and contexts in which such parental involvement and related caregiving interventions flourish, broadly aimed at improving the quality of care provided to young children.

The emerging field of implementation research within early childhood development has facilitated focused inquiries into the effectiveness of parenting and stimulation interventions on child and parent outcomes, specifically for LMICs. Systematic reviews of such interventions shed light on the notions of parental involvement in low- and middle-income countries (for example, Baker-Henningham & Lopez Boo, 2010; Britto, Ponguta, Reyes, & Karnati, 2015; Jeong, Franchett, Ramos de Oliveira, Rehmani, & Yousafzai, 2021; Jeong, Pitchik, & Yousafzai, 2018)The reviews defined parenting interventions broadly to include stimulation activities done by the parent with the child, shared book reading, attachment and parental sensitivity, behavior management, positive discipline, maltreatment prevention, and parental mental health. These reviews indicate that parenting interventions affect child outcomes, such as cognitive and socio-emotional development, positively (Britto et al., 2015). Such interventions also had a positive

effect on parental outcomes, such as parenting knowledge, parenting practices, and parent–child interactions (Jeong et al., 2021; Jeong, Pitchik, et al., 2018). Moreover, discussing program characteristics in detail, each of these reviews indicate that the intensity, quality, timing, and duration of the intervention affect the success of the intervention. In this way, implementation research has helped in defining what aspects of parental involvement or parent-child interactions are most effective in the conditions they are implemented in.

2.3.1.3. Education

Stemming from the recognition that both school and home are important institutions that educate and socialize children, there has been abundant research on the effects parental involvement has on child outcomes including children's academic achievement and their development (Fan & Chen, 2001). There is a voluminous literature based on high-income countries, especially the United States (Boonk, Gijselaers, Ritzen, & Brand-Gruwel, 2018; Desforges & Abouchaar, 2003; Fan & Chen, 2001; Lee & Bowen, 2006). This literature spans education levels, including, early childhood education, elementary school, middle school, and beyond. Most of the education research on this topic has been focused on analyzing the effects of parental involvement on academic achievement, and thus there remains a lack of consensus on the definition of parental involvement in education itself (Boonk et al., 2018; Fan & Chen, 2001). Research on parental involvement in education based on LMICs is limited but has grown at a fast pace in the last decade (Borgonovi & Montt, 2012; Li, Yang, Wang, & Jia, 2020; Sun, Liu, Chen, Rao, & Liu, 2016).

In general, studies define home-based involvement to include activities parents do at home to promote their children's learning, parents' communication with their child on school issues, and other types of home involvement such as monitoring school progress, guidance in

learning activities at home or helping with homework (Boonk et al., 2018). The current review notes that several researchers also considered parental expectations for their child's academic achievement as a form of involvement. In terms of school-based involvement, studies usually defined it as the activities and behaviors parents were involved in at school. These included attending parent-teacher conferences and other school events. Additionally, school-based involvement included participation in activities such as volunteering in the classroom, going on class trips, and participation in school functions (Tan, Lyu, & Peng, 2020).

Recent parental involvement literature focuses heavily on the research themes of parenting, child development, and education. Parenting science has been more cognizant of parenting traits across countries, cultures, and social systems. Backed by theories from psychology, philosophy, and anthropology, there is growing empirical evidence examining how specific cultural environments influence different components of parenting. Literature in parenting science and child development in particular has underlined the importance of using ecological frameworks to understand parental involvement in ECCE. Combined with knowledge based on education theories, it is evident that it is not only parental characteristics that influence parental involvement, but also the physical characteristics of the home learning environment, parent-teacher interaction, school characteristics, as well as broader constructs of social networks, and neighborhood and community characteristics.

2.3.2. Theoretical frameworks of parental involvement

In this section I present some of the main theoretical frameworks that have guided parental involvement in ECCE based on whether their focus is only on the parents or their focus is on parents and schools, or if their focus is on parents and wider contexts. Some of the key frameworks include those focused mainly on parents such as Hoover-Dempsey and Sandler's

(1997) and Grolnick and Slowiaczek's (1994) models, along with theories of social and cultural capital. Frameworks focused on parents and schools include Epstein's parental involvement model (1995), Ho and Willms's (1996) model, and Hornby's (2011) model. It is mostly ecological models and theories from psychology and philosophy that interpret parental involvement in a wider context. Critics point out that except a few commonly used frameworks, this niche area of parental involvement in education research lacks strong guiding theoretical frameworks (Fan & Chen, 2001; Eva Y H Lau, Li, & Rao, 2011; Ule, Živoder, & Du Bois-Reymond, 2015).

2.3.2.1. Frameworks focused on parents

There are several commonly used frameworks of parental involvement that only focus on parents and their individual capacities and capabilities. For instance, Hoover-Dempsey and Sandler's (1997) model, relates parent's own beliefs about their sense of efficacy to how well they think they can assist in their child's education. The authors proposed that a greater sense of self-efficacy is linked to improved parental involvement in children's education. Another framework that describes the role of parents is Grolnick and Slowiaczek's (1994) model which defines parent involvement from the perspective of parents dedicating resources to the child. According to Grolnick and Slowiaczek, parents can manifest their involvement in three ways: through behavioral involvement, say by visiting the child's school and meeting with the teacher; through personal involvement, such as parents showing concern about their child's educational experiences; or through intellectual involvement, such as reading books, solving math problems, and discussing current social and cultural events with their child.

Additionally, notions of capital are also well-suited to theorize about parental involvement. For instance, Eng et al (2014) use Coleman's social capital theory (Coleman,

1988). According to Coleman, certain intangible resources embedded in people's values, beliefs, and social networks facilitate certain actions and constrain others. So, Coleman postulated that a culture in which parents hold high expectations from their children to perform well in school will significantly support the educational system (Coleman, 1988). Lareau (2001) further used Bourdieu's concept of social capital to explain that parents possess different levels of cultural capital pertaining to their child's education: personal dispositions, attitudes, and knowledge gained from experience; connections to education-related objects, and connections to education-related institutions (Lee & Bowen, 2006). An example from an LMIC is Donkor's (2010) study based on a marginalized community in urban Ghana. Donkor (2010) uses human, social and cultural capital theory to explain how capital develops when schools and parents engage together in enhancing children's educational experience.

2.3.2.2. Frameworks focused on parents and schools

Other frameworks focus on explaining the relationship between parents and schools. These frameworks are grounded in ecological systems theory (Kim and Sheridan, 2015) but only concentrate on two interacting systems within which children learn, in homes and schools. Epstein's parental involvement model (1995) describes six aspects for developing positive relationships between students and their teachers, their families, and their communities: parenting, communicating, volunteering, learning at home, decision-making, and collaborating with the community (Epstein, 1995). Ho and Willms (1996) proposed four general dimensions to describe parental behaviors that facilitate child development, which are, home discussion, home supervision, home-school connection, and volunteering work for school events. The last framework I highlight is proposed by Hornby (2011) who builds on the "partnership" aspect of parent-school interactions. Hornby (2011) explains that teachers are viewed as experts on

education, while parents are viewed as experts on their children. The partnership between these two key players is built on seven principles of trust, respect, competence, communication, commitment, equality, and advocacy.

2.3.2.3. Frameworks focused on parents and wider contexts

More recently, parental involvement theories have been fully mapped onto theories of human development, such as ecological models and family systems theory. Such theories incorporate children's learning contexts beyond their homes and schools. Ecological models are particularly well suited to LMICs because these models pay special attention to different cultures and environments. Of particular importance are Bronfenbrenner's (1979) ecological framework and the more recent bioecological model postulated by Shonkoff (2010). These models argue that multiple factors around children, from the immediate physical setting of the parents, parental characteristics (income, education, employment, values, etc.) siblings, and school, to broader, more implicit cultural values and social customs impact child development over time. The model given by Seginer (2006) goes a step further and maps parental involvement directly onto Bronfenbrenner's nested ecological levels to describe home-based involvement and external factors that are relevant to parental involvement.

Theories from other disciplines, such as family systems theory, attachment theory, socio-cultural theory of cognitive development, have also been used to explain parental involvement in early childhood. Although typically used in family counseling and therapy, family systems theory has recently been used in the context of early childhood care and education and parental involvement. An important concept of the theory is that interconnected members of the family, influence the others in predictable and recurring ways (Van Velsor & Cox, 2000). Family systems theory can explain why members in a family behave the way they do in specific

situations (Fingerman & Bermann, 2000). These explanations can be used by the ECCE and education discourse to better serve children and families.

Attachment theory explains the emotional bonds and attachment that emerge between an infant and their primary caregivers, mainly the mother. These bonds help in the development of security and trust in the infant thereby contributing to their social and emotional development. I also highlight the socio-cultural theory of cognitive development given by Vygotsky (1978). Vygotsky's theory underlines the importance of social activities and play behaviors especially in the use of tools of the mind in the development of cognitive abilities (Roopnarine & Davidson, 2015). Moreover, according to socio-cultural theory, parents, caregivers, peers, and overall culture are responsible for developing higher-order functions in the child. Originating in different tenets of psychology, all these frameworks closely align with ECCE and are helpful to explain parent-child or caregiver-child interactions.

Ecological child development frameworks have proved most effective in accounting for overarching contexts and environments in which children survive and thrive, and thus such frameworks have been more popular than others to explain parental involvement at the early childhood level. Crosnoe, Leventhal, Wirth, Pierce, & Pianta (2010) undertake a study of around 1300 American children using data from the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development (NICHD SECCYD). The authors examine children's stimulation in three environments: at home, in preschool child care, and grade 1 classrooms. The authors find that children who experienced cognitive stimulation in multiple settings of early childhood had higher rates of learning than their peers early in school, ultimately indicating that targeting multiple rather than single contexts in improving children's learning may be more powerful. However, despite acknowledging the multifaceted nature of

children's stimulation such frameworks have not been extended to account fully for different family structures and demographics in diverse country contexts.

2.3.2.4. A critique of existing frameworks

After reviewing the literature, I believe that the most commonly used frameworks in this area may not be entirely useful or relevant to capture parental involvement patterns in LMICs. Most frameworks from the education literature adopt a rather unidirectional or bidirectional view on parent involvement with only parents, or parents and schools as key elements in the framework. However, over time the empirical literature has established that parental involvement in ECCE is a multifaceted construct which includes a variety of parental perceptions and behaviors, closely dependent on parental characteristics. With increasing awareness that parental involvement should be viewed as multidimensional, the parental involvement construct has been mapped onto ecological models as well. This has allowed parental involvement to be placed within a broader ecological context which includes the children and parents' immediate physical environment along with parental characteristics, their family structures, cultural beliefs, and policy systems. Despite an advancement in frameworks, many of the commonly used theoretical frames still cannot be used to explain parental involvement, specifically for the early childhood care and education level in LMICs. I highlight two examples to support my argument.

First, some frameworks are more suited to explain the behavior and perceptions of middle-income populations in Western or high-income countries. What we currently see in the LMIC literature is the constructs of home-based and school-based parental involvement (originating in the West) being lifted and placed in LMIC contexts. I question whether the resulting frameworks really reflect meaningful interpretations of LMIC contexts and how such contexts influence parental involvement.

For instance, in emphasizing school-based activities these models and frameworks are biased toward middle-class parenting characteristics and norms that may not be applicable or feasible for low-income families even in Western countries (Bettencourt et al., 2020), let alone low-income families in LMICs. In examining parental engagement indicators in early learning for low-income, urban families, Bettencourt and colleagues (2020) note that in Epstein's (1995) family-school-community framework, half of the parental involvement components relate to school-based activities (for example, volunteering at school, involvement in school decision-making through serving on school committees, and school-community collaborations to bring resources into the school). There is a strong correlation between the nature of work parents are employed in and their involvement in their children's lives. For low-income parents who may be working multiple jobs or working shifts, engaging in such school activities during the day may be unrealistic and unfeasible, and may even foster a deficit perspective when parents with limited time or resources are unable to participate in school activities (Bettencourt et al., 2020).

Second, in many LMICs, children spend considerable amounts of time with family members apart from their primary caregivers, their parents. In some instances, these family members act as substitutes for the child's parents, and in other instances the other members complement parental caregiving. The Nurturing Care Framework of 2018 highlights responsive caregiving as one of the five components of nurturing care which helps children reach their developmental potential. As an ECCE model, the Nurturing Care Framework acknowledges the role of other family members. As one of its guiding principles, this model explains, "Families are at the center of nurturing care for young children. In the period from pregnancy to age 3, intimate family members are the people most consistently present in children's lives. As such, they are the primary providers of nurturing care. To provide it, families – in all their diversity and all their

forms, biological and social – need information, resources, and services. Mothers, fathers, grandparents, and other primary caregivers all need to be included in programs that are designed to educate and support families in providing nurturing care." (World Health Organization, United Nations Children's Fund, & World Bank Group, 2018, p.26).

Although the Nurturing Care Framework pays attention to caregivers in the household apart from parents, this model addresses caregiving as one element of ECCE. To deepen the understanding of this link between responsive caregiver involvement and child development, we need more involvement frameworks which are directed at uncovering specific mechanisms and types of caregiver involvement in ECCE. An ECCE framework for LMICs would, for instance, be inclusive of diverse family demographics and family structures. Such a framework would pay attention to how other members in the household apart from parents engage with young children in the household, what type of stimulation they provide, who the other members are, and how does adult involvement influence children's stimulation, learning, and early education.

Thus, future work is needed to develop a comprehensive framework that allows for a more complete portrait of parental involvement and its nuances specifically for ECCE in LMICs. That said, conceptualization of a construct is closely linked to its measurement. With a lack of relevant, valid, and reliable measures of parental involvement in ECCE, it is difficult to conceptualize it. Thus, comparable, global measures of caregiving and parental involvement are urgently needed for LMICs to 1) understand broad as well as nuanced patterns of parental involvement, 2) examine the associations between parental involvement and child development, and 3) guide policy and intervention programs aimed at improving the developmental trajectories of children.

In general, there is a paucity of overarching conceptualizations of parental involvement in ECCE in low- and middle-income country contexts. In the absence of a single comprehensive framework for parental involvement, specifically for the early childhood care and education level, the three connected research themes of parenting science, child development, and education lend themselves to an overarching understanding. These research themes reveal multiple distinct definitions, measures, and conceptualizations of parental involvement in the literature. However, since most of the evidence is based on the United States, these theoretical understandings are often more Western than they are heterogenous. Moreover, with a growing awareness of the multifaceted nature of parental involvement, literature in the discourse has moved away from unidirectional frameworks to multidimensional ecological models. Yet, it needs to be assessed whether these multifaceted models capture critical parental involvement indicators in low- and middle-income country contexts. With a limited set of parental involvement measures for LMICs it becomes difficult to assess these models. Given the close links between the conceptualization and measurement of parental involvement, in the next section I review the measures, scales, and datasets used in the existing ECCE literature. Comparable, global measures of caregiving and parental involvement developed for LMIC contexts will not only facilitate an improved conceptualization of parental involvement, but they would also enhance our understanding of parental involvement's influence on child development, and guide policy and intervention programs.

2.4. Measurement of parental involvement

The conceptualization and measurement of a construct go hand-in-hand. It would be challenging to create a framework for a construct that has not been adequately or reliably measured and vice versa. One encounters this dual challenge while examining parental

involvement in ECCE in low- and middle-income countries. Measures and indicators of parental involvement that have some universal applicability allow for an understanding of whether and how globally, families are providing their children with cognitive, socio-emotional care that leads to positive child development. A general paucity of global measures makes it challenging to identify aspects of caregiving and parental involvement that are most meaningful to measure cross-culturally, as well as operationalize and measure these aspects at the population level (Kariger et al., 2012).

In this section I review the measures that have been used to study parental involvement in ECCE. I look at the type of measures feasible to study parental involvement, the popular scales and datasets in the discourse, and the type of research methods that have been used to analyze parental involvement. While I briefly mention some seminal measures from the United States, I focus on measures and studies based on LMICs.

2.4.1. Type of measures

Predominantly, two techniques help in capturing or measuring parental involvement in early childhood in a quantitative manner. The first technique is retrospective measurement which is the most commonly used measure in which parents, teachers, or a combination of these individuals report on parental involvement practices. The measures are retrospective in that they require the informant to think back, over a specified or unspecified time period, to report on the frequency of parents' involvement practices – at home and/or at school. These can be helpful to get an idea about what parents do on a regular basis (Pomerantz and Monti, 2015). Additionally, they are also cost-effective, taking little time to administer and allow for larger, representative samples.

The second technique is quantifying involvement through daily reports and behavioral observations. On the one hand, such methods can be time-consuming (for both the surveyors and parents/families), and also costly to collect on a larger scale. On the other hand, these measures can provide an extremely accurate perspective on involvement, say if parents are asked each day (for a period of 7-14 days) about whether and how much they used a parental involvement practice (Pomerantz and Monti, 2015). A number of studies have also used behavioral observations to examine parents' involvement in children's education, focusing exclusively on the quality rather than quantity of involvement (Pomerantz and Monti, 2015).

2.4.2. Scales and datasets

In terms of scales used to measure parental involvement, two scales have commonly been used in the United States to study parent and family involvement at the early childhood and higher education levels. First, the Early Childhood Longitudinal Study (ECLS) collects national data on children's status at birth and at various points thereafter. The ECLS includes information on children's transitions to non-parental care, early education programs, and school, along with children's experiences and growth through 8th grade. The program includes three longitudinal studies that examine child development, school readiness, and early school experiences (Naudeau et al, 2011). In particular, the ECLS-K, is the arm of the study that focuses on the Kindergarten Cohort of 1998−99, following children from kindergarten through eighth grade. The dataset includes information on family involvement at home, family involvement within school, parents' educational expectations for their children, and school's outreach activities.

Second, the National Household Education Surveys contains the Parent and Family Involvement in Education (PFI) survey which collects data about students who are enrolled in kindergarten through grade 12 or are homeschooled for equivalent grades. With parents as the

respondent, the data includes information on various aspects of parent involvement in education, such as help with homework, family activities, and parent involvement at school, such as attending a school or class event (McQuiggan, Megra, & Grady, 2017).

Till fifteen years back, the most commonly used scale to measure parental involvement and early learning environments in LMICs was the HOME inventory. The HOME inventory first created by Caldwell and Bradley (2003) was designed to measure the quality and quantity of stimulation and support available to a child in their home environment. The HOME inventory created for the United States context has since been adapted for non-U.S. contexts too. This inventory assesses household support and stimulation provided to children during hour-long, observation and interview-based sessions at the child's home (Kariger et al., 2012). Through 45 items, the main concepts measured through this survey are: caregiver responsiveness, acceptance (including discipline), provision of appropriate stimulation, materials for encouraging learning/development, and the physical environment of the household (Kariger et al., 2012). A large number of studies in LMICs have used the HOME inventory. Studies such as, Trude et al.'s (2021) longitudinal study in Brazil and South Africa, and Bradley & Corwyn's (2005) review of studies using HOME surveys highlights that researchers have modified the HOME survey to be consistent with local beliefs and practices around child development in multiple countries.

UNICEF's Multiple Indicator Cluster Surveys (MICS) data provides information on household characteristics, women, and child well-being for a large set of countries. Starting in 2009, in its questionnaire for children aged below five, MICS introduced an early childhood development module which included questions about engagement activities done by parents and other household members with the sample child (Loizillon, Petrowski, Britto, & Cappa, 2017).

These parental and adult involvement questions are one component of the Family Care Indicators (FCI).

UNICEF developed the FCI as a set of items to be included in the MICS and other nationally-representative household surveys to help countries evaluate progress toward achieving internationally-endorsed and supported goals relating to children's rights and well-being. FCI items were selected from other surveys from the US (such as the HOME inventory and Early Childhood Longitudinal Study measures), and from other LMICs. Moreover, before being finalized the FCI items went through extensive field-testing in multiple countries in the early 2000s (Kariger et al., 2012). These indicators gather information about aspects of family care practices or qualities that have been commonly observed across cultures and appear to be fundamental to the caretaking of young children in a variety of cultural settings. Broadly, the indicators cover caregiver responsiveness and warmth, provision and organization of the physical setting, and encouraging learning or exploration (Kariger et al., 2012). The FCI have also been used by independent research projects (for example, Bartoli, Joshi, & Wolf, 2022; Hamadani et al., 2010; Jakiela, Ozier, Fernald, & Knauer, 2020; Jeong, Obradović, et al., 2018).

More recently, some scholars examining parental involvement in China have developed the Chinese Early Parental Involvement Scale (CEPIS). CEPIS captures the multidimensional nature of parental involvement in Chinese early childhood care and education settings. The scale covers six valid and reliable dimensions of parental involvement: parent instruction, parent discussion, language and cognitive activities, homework involvement, home-school conferencing, and preschool involvement (Eva Yi Hung Lau, Li, & Rao, 2012).

2.4.3. Research methods used

A review of empirical studies on parental involvement in ECCE indicates, that the commonly used scales in quantitative studies were the HOME inventory, the Family Care Indicators, and the Chinese Early Parental Involvement Scale. In the rest of the quantitative studies reviewed, parental involvement was measured through a range of indicators including, items based on the FCI, helping the child with homework, reading with the child, talking to the child about their academic performance, whether the caregiver knew the child's teacher's name, visiting the school during the current session, amongst other indicators. From the 46 empirical studies reviewed, 14 had used the MICS surveys, 7 did not use the MICS surveys but used the same scale as the MICS, the Family Care Indicators scale, 3 had used the HOME inventory, 2 studies had used the Chinese Early Parental Involvement Scale (CEPIS), and 13 had used their independent measures of parental involvement. Finally, out of the 46 empirical studies, 8 studies were qualitative studies.

Thus, apart from secondary datasets, several studies undertake primary data collection and construct individual measures of parental involvement. To indicate the broad range of indicators, I highlight three studies that examine parental involvement at different points in the ECCE phase. The first study focuses on the psychosocial stimulation and nutritional supplementation aspects of parental involvement. As part of experimental research on the topic, a seminal study in Jamaica (Walker, Powell, Grantham-McGregor, Himes, & Chang, 1991) involved evaluating the impact of psychosocial stimulation and nutritional supplementation on cognition and education of children aged 0-2 years. The second study focuses on home-based and school-based parental involvement with children aged 4-5 years. Wolf & McCoy (2019)'s research is based in Ghana which involves primary data collection using the MICS module to

measure at-home stimulation activities and resources available for learning. For measuring parental school-based involvement, the authors use a set of indicators developed for a previous study conducted by Bidwell & Watine (2014).

The third study also focuses on home-based and school-based parental involvement, but with children aged 6-8 years. This research project conducted by the Pratham Education Foundation and the University of Cambridge examines the potential of community based accountability relationships to raise children's foundational learning outcomes in India. As part of this study, researchers shed light on how parental perceptions of children's learning can influence parental involvement in early education (Cashman, Sabates, & Alcott, 2021). The study based in Uttar Pradesh, India collects information on parental involvement activities based on four items: parents check the child's textbooks or notebooks, someone in the household helps the child with their studies, someone in the household reads or tells stories to the sample child, and a household member visited the child's school during the session the survey was administered in. Thus, even within the ECCE period, parental involvement can be measured in a wide variety of ways.

Analysis of quantitative studies using data from the MICS highlights that scholars often categorize parental involvement items into two categories: cognitive stimulation behavior (mother or father reading, telling stories, and naming, counting, and drawing with their young children) and socio-emotional stimulation behavior (mother or father playing with children, singing songs, and taking children with them out of doors) (Bornstein & Putnick, 2012; Sun et al., 2016). Some MICS studies also incorporate other measures in the Family Care Indicators scale including, household material resources available for enriching experiences (Bradley & Putnick, 2012); formal learning resources such as books and store-bought toys (Bornstein,

Putnick, Bradley, Lansford, & Deater-Deckard, 2015a); and informal learning resources such as makeshift toys (Bradley & Putnick, 2012).

UNICEF's MICS information allows useful comparisons across countries not only based on parental and adult involvement in children's development, but other household-level characteristics that facilitate rich descriptive analyses. That said, there are two main drawbacks of the MICS data – first, aligning with limitations of retrospective measures, MICS information on parents' involvement may be prone to some bias because parents may not be able to accurately recall and report on the parents' involvement practices. Second, while MICS captures instances of parental involvement activity done in the three days before the survey administration, these may not give a comprehensive picture of the quality and frequency of each of the involvement activities in each phase of the child's life.

These limitations of the MICS dataset underline the need for more comprehensive measures of caregiving outcomes, so that indicators are not only relevant across programs and capture a broad spectrum of patterns across diverse cultural contexts but are also standardized to some extent to enable comparisons across world regions. Supporting the call for development of population-level caregiving measures is a new study by Mccoy and colleagues (2022). Through multiple imputation and predictive modelling using UNICEF's MICS data, the authors generate estimates of experiences of multiple dimensions of nurturing care among children aged 3–4 years across LMICs. The scholars find that exposure to nurturing care is lowest for the dimensions of responsive caregiving and early learning amongst other domains. Mccoy and colleagues (2022) say that while substantial literature has paid attention to the "first 1000 day" period of a child's life, the "next 1000 day" period needs greater research. This is the preschool age-group or the

ECCE period, which authors argue is in dire need of improved global measures and monitoring of nurturing care.

Qualitative studies in this review include more overarching measures of parental involvement. Studies conducted by Donkor (2010), Ule et al. (2015), won Kim (2017), Yulianti, Denessen, & Droop (2019) examine parental educational aspirations and future plans for their children, and role of parents in educational decision-making. These studies also delve into parental beliefs and perceptions of ECCE. While discussing school-based parental involvement, these qualitative studies talk about the role of parental involvement and support with school work and parental participation in the school focusing on home–school relations.

Most of the evidence on the relationship between family-care, parenting, and parental involvement practices and child development comes from studies gathering extensive data on small samples of children, often using observational techniques, both in high-income and low- and middle-income countries (Kariger et al., 2012). Additionally, the bulk of the studies are conducted using measures of parental involvement based on scales that have been established in the context of high-income countries (Chowa et al., 2013). From this review, it is evident that the Family Care Indicators and the Home inventory are two parental involvement scales available to use for studying adult involvement in LMICs. A distinction between the HOME inventory and the FCI is that the HOME inventory incorporates direct observations and caregivers' reports, whereas the FCI is entirely caregiver-reported. In terms of secondary datasets, beyond the UNICEF MICS surveys, there is limited availability of datasets based on LMICs that allow for research on parental involvement in children's development and education.

2.5. Gaps in conceptualization and measurement

In the past two decades, research on early childhood care and education in low- and middle-income countries has strengthened our understanding of this critical period of growth, development, and learning in young children's lives. Moreover, substantial literature shows the positive impacts warm, responsive caregiving and parental involvement has on children's development and education. This review focusing on the conceptualization and measurement of parental involvement in ECCE in low- and middle-income countries reveals several gaps.

One of the main gaps the review highlights is that a comprehensive conceptualization of parental involvement specifically for early childhood care and education remains missing. It is only after reviewing three different discipline areas of parenting science, child development, and education does one see some overarching patterns that can be applied to the construct of parental involvement in ECCE in LMICs. Conceptualization and measurement of parental involvement are closely linked; with a lack of one, the other would be limiting as well. An investigation of measures of parental involvement points to only one main scale and dataset (UNICEF's MICS) that provides standardized information for early learning and education for a large set of LMICs.

The second gap in this branch of literature is the limited scope of parental involvement that the conceptualizations and measures capture. The current parental involvement in ECCE literature based on LMICs is growing substantially. This evidence base shows that parental involvement is determined by a variety of possible sources of influence. However, there are still aspects that parental involvement in ECCE should be inclusive of that are not captured in the current discourse. Multiple studies suggest that greater effort is needed for global, comparable measures to collect detailed information on the frequency and the quality of interactions that take place between caregivers and young children rather than settling for a minimum standard (Sun et

al., 2016). Moreover, it would be useful for quantitative surveys to the extent possible, to collect information on parents' beliefs and attitudes around early learning in different cultures and settings (Mccoy et al., 2018).

Other aspects closely related to parental involvement that are not included in current measures and scales of involvement are certain family characteristics. For instance, a key characteristic of parents is their employment status and type of employment. The MICS misses out on including these details. Additionally, research indicates that in many LMICs, primary caregivers are often the child's parents; however, extensive community networks, strong ties with extended families, and kinship caregiving, mean that there are many other household members who are available, respond to, and interact with young children. Although the MICS collects information about other household members that may be doing stimulation activities with the sample child, the surveys do not have further information about the other members, such as who the other members are, their sex, age, education level, employment status, and relationship to the child.

2.6. Conclusion

In the current study I carried out an extensive literature review of the conceptualizations and measurement of parental involvement in early childhood care and education in low- and middle-income countries. Considering that the literature on this topic is still growing, to address the research questions proposed for the review meant first looking at parental involvement studies in the broad discourse of education and child development across world regions. I subsequently focused on parental involvement in ECCE in LMICs.

The review is centered around two key categories, of conceptualizations and of measurement of parental involvement. In terms of conceptualizations, the review finds that for

ECCE, it is helpful to categorize studies in the inter-related research themes of parenting science, child development, and education. Many studies on this topic have noted that parental involvement in ECCE can either be parents' involvement or activities related to education and learning done with children at home or parents' involvement with schools and teachers. Considering that early childhood development is a fundamental component of ECCE, parental involvement also takes the form of stimulation activities with young children.

Given a lack of conceptualization and frameworks on the topic in the LMIC contexts, it follows that measurement of parental involvement will be lacking as well. The review indicates that empirical literature that uses quantitative methods depends on two scales of measuring parental involvement, the HOME inventory and the Family Care Indicators. The latter are collected as part of UNICEF's MICS data. Empirical literature that uses qualitative methods analyzes parental perceptions, beliefs, expectations about ECCE and ways in which these perceptions ultimately influence parents' home-based and school-based involvement.

In line with the analysis categories of conceptualization and measurement, through this literature review, I identify two main gaps. First, there is a need for a clear definition of parental involvement, along with strong guiding frameworks especially for low- and middle-income countries. Currently most of the evidence base on LMICs is based on Western notions of parenting, parent involvement, and child development. Second, there is an urgent need for a greater number of valid, global population-level indicators of family-care practices that are more inclusive in their approach to measuring parental involvement in ECCE. These indicators will not only facilitate comparisons across countries, but they can subsequently be used for developing and guiding policy interventions and programs that aim to improve children's developmental potential.

APPENDIX

APPENDIX

I conducted a systematic search of studies that shed light on the conceptualizations and measurement of parental involvement in ECCE. To address research questions 2 and 3 which are limited to literature based on LMICs, I define "low- and middle-income countries" based on the World Bank's country categorizations.

I used ERIC (on EBSCO) and Education Source as the two biggest Education databases at Michigan State University. I used ERIC for searching the national literature on the topic in the United States. I used Education Source for selecting the international literature since this database caters to studies beyond the United States. I used Google Scholar to expand my search to studies and reports published by non-academic institutions. I also used the African Education Research Database (AERD) which is a fairly recent database of studies undertaken in the past decade by scholars based in Africa, that aims to raise the visibility of African research. Considering that of all 121 LMICs, 54 (45%) countries exist on the African continent, I used this database to identify studies that other databases may not feature.

In order to capture a wide range of sources, I did not restrict search parameters by type of documents (such as, scholarly articles, books, dissertations, working papers, etc.) or by field (such as, author, publication title, abstract, document text). However, I did limit the search to studies in English, published between 2010 to 2022 to find the most recent research published. That said, to detail out a comprehensive picture of fundamental theories and measures that shaped parental involvement in ECCE, I included some seminal studies from before 2010. Many of these studies were based on populations from high-income countries. I selected these studies if they were commonly cited in the selected studies. To limit the scope to LMICs in the study

searches specifically for research questions 2 and 3, I used the following key terms for geographical regions: “Asia”, “Africa”, “Latin America”, “low- and middle-income countries”, and “developing countries”.

I used adjacent terms in closed quotation marks (e.g., “parental involvement”) combined with Boolean operators (e.g., “AND” and “OR”) to enhance the search process. The first search condition involved finding literature related to parental involvement. I used the following search terms: “parental involvement”, “parental engagement”, “parent participation”, “caregiving”, “parenting”, “parent-child relationships”, “parent-child involvement”, and “parent-child interactions”. The second search condition involved finding literature related to education, I used the following search terms: “education”, “primary school or elementary school or primary education or elementary education”. The third search condition involved finding literature related to early childhood care and education. I used the following search terms, “child development”, “early childhood care and education”, “early childhood development”, “early childhood education”, “preschool or kindergarten”. These three search conditions helped separate the body of studies to those related to parental involvement in ECCE. This preliminary search process led to the identification of 156 studies through ERIC, 115 studies through Education Source, 67 studies through Google Scholar and 48 studies through AERD.

These studies were then reviewed to determine their appropriateness for the current literature review. First, I reviewed the abstract and excluded those that did not directly mention any analysis of parental involvement, whether in terms of its conceptualization or measurement. Second, I reviewed the abstract and/or main text of these studies and excluded those targeting science education or STEM education or higher education. Third, I carefully reviewed the main text of the studies to exclude studies that focused on children’s health or mental health in schools

(e.g., studies analyzing child sexual abuse victimization prevention programs). This resulted in the final selection of 75 studies for research question 1 and 47 studies for research question 2 and 3.

After selecting studies for the literature review, I analyzed them in the following manner . First, I reviewed the studies for their definitions of parental involvement, and I also noted whether the study was only an analysis of parental involvement itself or whether there was an analysis of the relationship between parental involvement and child outcomes. Second, in these studies I identified evidence of theories and frameworks the authors may have used in analyzing the construct of parental involvement. I then separately reviewed published works in which these theories and frameworks were developed. I describe and analyze the findings of the review in the subsequent section, paying careful attention to the conceptualization and measures used to study parental involvement in ECCE.

Chapter 3. Cross-national analysis of parental and adult involvement in early childhood care and education in Ghana, The Gambia, and Zimbabwe

3.1. Introduction

In a child's early years, primary caregivers provide nourishment, care, and involve themselves in the child's development, learning, and education. Caregiver beliefs and expectations of the education the child will receive are also influential in shaping adult involvement. Children up to age eight are most receptive to warm and responsive involvement by caregivers, which facilitates the development of crucial cognitive and socio-emotional abilities (Yousafzai et al., 2014). These abilities are ultimately essential for children's mental and physical health and a productive adulthood (Heckman, Pinto, & Savelyev, 2013). I use the concept of early childhood care and education or ECCE to include an overarching perspective on the health, nutrition, care, and early learning that children aged 0-8 need to ensure their later social, emotional, and cognitive development.

Children's caregivers spend extended periods of time with them, providing nourishment and responsive care. In many low- and middle-income countries (LMICs), primary caregivers are often parents. However, through extensive community networks, strong ties with extended families, and kinship caregiving, there are a host of other household members who are available, respond to, and interact with young children. These other members who may be equally or more involved than the parents could be complementing or substituting for parental involvement. Yet, research on interactions between non-parental adult members and children in the household is rare. As Chapter 2 points out, parental or in fact caregiver involvement needs to be conceptualized keeping in mind contextual variations in caregiving patterns across LMICs.

In general, the evidence base on adult involvement in early childhood is limited by its Western bias. Research on adult involvement is primarily based on middle-class populations in Western countries, in which, parents are the primary caregivers. Outside of formal childcare settings, young children spend extended periods of time with their parents. Translated to non-Western contexts, these insights limit the researcher's focus to parents alone, often ignoring the important role of other caregivers. In fact, child well-being research based on LMICs has tended to be even narrower, focusing primarily on mothers. Scholars have often argued for an approach that is more inclusive of traditional caregiving customs, practices, and values (Pence & Nsamenang, 2008). This is particularly true for the African region where factors related to adult involvement such as income, education, urbanicity, family structures and household demographics, and other caregiving customs and values vary widely across countries. Early childhood care and education (ECCE) and parenting intervention programs designed for African countries will be remiss if they are not based on existing, diverse patterns of parental and adult involvement.

In this paper, using UNICEF's Multiple Indicator Cluster Surveys (MICS) data collected between 2017 and 2019 from Ghana, The Gambia, and Zimbabwe, I conduct a comparative analysis of home-based parental and adult involvement. From the detailed discussion in Chapter 2 it is clear that the MICS data is one of the commonly used datasets that allows for global comparisons on caregiver involvement. The data offers a useful scale, the Family Care Indicators, to measure adult involvement. Using multiple ways to measure involvement, I study variations in parental and adult involvement, child and household factors related to involvement, as well as associations between involvement and child development outcomes. I use a combination of descriptive and multi-variate regressions to carry out this analysis.

This paper contributes to the comparative education and ECCE literature in several ways. First, child well-being research based on LMICs has usually focused on mother and child involvement. This research has generally paid very little attention to the interactions between the child and other members, including the child's father. I address this gap in the literature by quantitatively measuring parental and adult involvement in ways that offer a nuanced analysis of involvement in relation to child development. Second, previous parental involvement research makes comparisons across world regions using large country samples. However, studies with such extensive sample sizes are not able to pay attention to the local contexts of each country. Although this study is smaller in scope, my analysis of a focused sub-set of African countries facilitates comparisons of parental and adult involvement based on context-specific factors. Third, an increased understanding of parental and adult involvement and the associations between involvement and children's early development outcomes will facilitate better-informed policy programs, addressing social inequalities between children and households in the long run. Finally, there is increasing research (Shumba et al., 2020; Yoshikawa et al., 2020; Winthrop, 2020) highlighting the key role caregivers (including parents) can play to mitigate the negative effects of the COVID-19 pandemic on young children's development. Such discourse needs greater evidence on family involvement patterns from under-researched LMICs which this current study generates.

This study finds some expected factors and associations explaining parental and involvement in Ghana, The Gambia, and Zimbabwe. In all three countries, parents and adults engage more in socio-emotional than cognitive tasks; wealth and maternal education are key drivers of cognitive involvement across adults and across countries; and mothers' involvement is related to literacy and numeracy development. However, the results associated with others'

involvement for Ghana, The Gambia, and Zimbabwe reveal novel insights that are yet underexplored in the literature. The current study findings show that other household members play an important role in children's lives. Others' involvement increases in the presence of adult females and older children suggesting that the "other" adults may be adult females and older children in the household. In Ghana and The Gambia, other members complement rather than compensate for mothers' cognitive involvement and assist in caregiving. However, in Zimbabwe, other members compensate for parents' involvement patterns. Aligned with this result, the study finds that others' cognitive involvement is strongly and positively related with children's literacy and numeracy development.

The rest of the paper first summarizes the relevant and current research on parental and adult involvement in low- and middle-income countries, followed by a description of the sample country contexts. Then, data, key variables and the estimation strategy used in the paper are discussed, followed by the results of the regression estimations. The final section of the paper presents a discussion of the results.

3.2. Literature review

This review focuses on home-based parental and adult involvement, that is, how parents and other adults get involved in young children's learning, education, and development *at home*. Analyzing the literature from LMICs on these topics, the majority of my review below focuses on parent-child interaction during the early childhood period. However, to reflect the realities of caregiving in LMICs, I also made a concerted effort to look beyond traditional notions of parental involvement and focused on other forms of involvement and caregiving other adults in the household provide to young children. In discussing how the early childhood research

conceptualizes adult involvement, I analyze the literature on factors that influence involvement, and the relationship between involvement and child development outcomes.

In selecting literature for this review, I used the following criteria. First, I reviewed literature on low- and middle-income countries (based on the World Bank's country categorizations), making an exception for some seminal studies based on high-income countries. Second, I searched for peer-reviewed journal articles in English, using the following databases: Education Source, Google Scholar, and The African Education Research Database. Third, I used a variety of terms to find literature on parental involvement: "parental involvement", "parental engagement", "caregiving", "parenting", "cognitive caregiving", "socio-emotional caregiving", "parent-child relationships". To examine adult involvement specifically, I used search terms such as "multiple caregiving", "shared caregiving", "kinship care", "allomothers", to find additional literature. For child outcomes, I used the following search terms: "early childhood care and education", "early childhood development", "early childhood education", "preschool or kindergarten". Finally, for geographical key terms, I used: "Asia", "Africa", "Latin America", and "low- and middle-income countries".

In this review, I discuss how parental involvement is conceptualized in the literature. Additionally, I examine the empirical literature on parental involvement by looking at factors that are associated with parental involvement, as well as the associations between parental involvement and early childhood development. Finally, I expand the focus of the review to include new research and critiques that look beyond involvement of mothers and fathers and focus on the involvement of other adult, non-parental members in the household.

3.2.1. Conceptualizations of parental involvement

The literature broadly interprets parental involvement to be home-based or school-based. Parental involvement in children's development and education evolves as the child ages. During early childhood, parents provide a stable, responsive environment for their child, along with meeting the child's nutritional and health needs. As the role of education increases in a child's life, parental involvement changes to be of two types. First, home-based parental involvement which includes activities parents do at home to promote their children's learning, parents assisting students with their homework, expressing parental expectations of academic work and encouraging success at school, engaging in educational activities and outings with their children, and providing an environment conducive to learning (Chowa et al., 2013; Fan & Chen, 2001). Second, school-based parental involvement, which involves parental interactions with teachers, and participating in school activities and school organizations (Chowa et al., 2013; Fan & Chen, 2001).

As presented in the first paper of this dissertation, the conceptualization of parental involvement appears to be discipline specific. For the scope of this paper, I discuss how the child development and early childhood care and education literature from low- and middle-income countries understands parental involvement. Within the field of child development, scholars starting in the early 2000s acquired in-depth knowledge about the role of early experiences in shaping a young child's development. The scholars found that parenting and attachment relationships "help(s) with the development of security, confidence, and trust between infants, toddlers, and their parents" (Shonkoff & Phillips, 2000, p. 229). More recently, the Nurturing Care Framework, developed by the World Health Organization (WHO), UNICEF, and the World Bank Group, in collaboration with other international partners builds upon scientific knowledge

about child development and how effective policies and programs can be developed to strengthen it. Of the five inter-related components of the framework, two foundational ones are: 1) responsive caregiving, the ability of the parent/caregiver in "…observing and responding to children's movements, sounds, gestures, and verbal requests" (p.14), and 2) opportunities for early learning (World Health Organization et al., 2018).

Within early childhood care and education research, there are a growing number of studies beyond those from the United States and other Western countries. In the past few decades there has been an increasing interest in early parental involvement in LMIC environments. In their seminal systematic review, Walker et al. (2011) find that parental involvement is a key "protective factor" for supporting the well-being and development of children in LMICs. Other parenting outcomes including parenting knowledge, parenting practices, parent–child interactions, and parental depressive symptoms influence child well-being. Moreover, scholars and practitioners are increasingly recognizing how parental involvement supports education during this early phase, children's foundational reading and literacy, as well as school readiness skills. In fact, several studies focus on parental involvement in the context of a child's early learning environment – in terms of the learning resources, human capital, and household wealth the child is surrounded with.

Most of the recent research on parental involvement in early childhood in LMICs is based on limited datasets. One of the most popular datasets used by these studies is UNICEF's Multiple Indicator Cluster Surveys (MICS). Based on the Family Care Indicators scale, the MICS data has a brief module on whether the sample child's parents or other household members engage in six specific activities with the child. Moreover, MICS data also captures other useful information about the child's home background and early learning environments across 118 countries. Apart

from secondary datasets, the empirical literature also identifies primary data collection efforts as part of experimental and non-experimental studies. For instance, Wolf & McCoy (2019)'s research based in Ghana involves primary data collection using the MICS module to measure at-home stimulation activities and resources available for learning. For measuring parental school involvement, the authors use a set of indicators developed for a previous study conducted by Bidwell & Watine (2014). As part of experimental research on the topic, two seminal studies in Jamaica (Walker et al., 1991) and Bangladesh (Hamadani et al., 2006) involve evaluating the impact of psychosocial stimulation and nutritional supplementation on cognition and education of children based on primary data collection.

In general, scholars have identified a need for stronger guiding theoretical frameworks especially for low- and middle-income countries. In the education literature based on the United States, the two most popular parental involvement frameworks are Epstein's framework (1995), and Hoover-Dempsey and Sandler's (1997) model. Epstein's parental involvement model describes six aspects for developing positive relationships between students and their teachers, their families and their communities: parenting, communicating, volunteering, learning at home, decision-making, and collaborating with the community (Epstein, 1995). Hoover-Dempsey and Sandler's (1997) model, relates parents' own beliefs about their sense of efficacy to how well they think they can assist in their child's education. Both of these frameworks focus heavily on school-based parental involvement, which as some studies note may not be how parents in LMICs approach their child's education.

Given the multifaceted nature of ECCE, several recent parental involvement frameworks have developed in the context of theories of human development. For instance, ecological models and family systems theory are well suited to LMICs because these models pay special

attention to different cultures and environments in which the child develops. Of particular importance are Bronfenbrenner's (1979) ecological framework and the more recent bioecological model postulated by (Shonkoff, 2010). These models argue that multiple factors around children, from the immediate physical setting of the parents, siblings, and school, to broader, more implicit cultural values and social customs impact child development over time.

Thus, parental involvement in education and learning evolves as the child ages. Scholars are increasingly recognizing the key role responsive parental involvement plays in child well-being and development, as well as supporting foundational literacy, numeracy, and school readiness skills. Ecological frameworks that incorporate both immediate environments of the child and overarching policies and customs are most well-suited to study parental involvement in the context of low- and middle-income countries.

3.2.2. Factors associated with parental involvement

In order to conduct in-depth analysis of parental involvement in multiple countries, it is imperative to set a context; there is a need to understand factors that may be directly or indirectly associated with parental involvement before analyzing the associations between parental involvement and children's developmental outcomes.

3.2.2.1. Child-level factors

Every child has unique characteristics which are associated with the degree and type of parenting provided by caregivers. Child age and sex are two such characteristics. Studies show that parents often engage in responsive, warm interactions with children who are the same gender as them as compared to children of the opposite gender (Ivrendi & Isikoglu, 2010; Sun et al., 2016). As children move from preschool to primary school, parents' caregiving practices are

likely to change from just playing to, cognitive and socio-emotional engagement, to engagement with school activities, to providing motivational and financial support.

3.2.2.2. Household-level factors

Just as children vary from each other, even families are different based on several characteristics. Many studies find strong links between parents' own education and parental caregiving and involvement in children's education (Iltus, 2006; Marphatia, Edge, Legault, & Archer, 2010). Specifically, maternal education leads to a more stimulating environment for the child. With improved education, mothers may be better equipped to understand and use resources available to them, thereby strengthening their caregiving knowledge and practices (LeVine, 2004). Additionally, research highlights that parental employment and flexibility of parental work can influence parental involvement in education (Marphatia et al., 2010; Reynolds, Fernald, & Behrman, 2017; Vikram, Chen, & Desai, 2018). The direction of the relationship can be negative when working parents may have decreased time to spend with their children, or it can be positive when being employed enriches parenting skills and the quality of parental involvement improves. Certain household characteristics, such as household wealth share a positive relationship with parental involvement (Bornstein & Putnick, 2012; R. Bradley & Corwyn, 2005).

Other household-level factors, such as place or residence (urban or rural), and number of older siblings may also have an impact on parental involvement. Although there is limited literature studying the association between parental involvement and place of residence (urban or rural), the wide economic and educational inequalities between urban and rural areas in developing countries should be accounted for. In developing countries older siblings may step in and substitute for parents' caregiving (Glick, 2002; Jakiela, Ozier, Fernald, Knauer, et al., 2020),

thus making the presence of siblings an important factor influencing parental stimulation activities.

3.2.3. Associations between parental involvement and child outcomes

In line with the main early childhood outcomes in the current study, in this section, I focus on the empirical literature analyzing associations between parental involvement and different types of child developmental domains: cognitive development, socio-emotional development, physical development, and executive functioning.

3.2.3.1. Parental involvement and cognitive development

The literature defines cognitive stimulation as the parental activities, learning materials, and learning environment that promote age-appropriate language and problem-solving skills (Walker et al., 2011). Experimental studies from countries as diverse as India, Bangladesh, China, and South Africa show that improving mother-child interactions and parent counseling lead to an increase in cognitive development (Walker et al., 2011). A randomized control trial (S. M. Grantham-McGregor, Powell, Walker, & Himes, 1991) implemented in Jamaica in 1986 has been particularly influential. Under this experiment, for two years stunted children aged 9–24 months received nutritional supplementation, or psychosocial stimulation, or both through home visits by a health worker. In a follow-up study nineteen years later, Walker and colleagues (2005) find that stunted children who received home-based stimulation in early childhood showed sustained cognitive and educational benefits even when the children were 17–18 years old with effect sizes of 0.4–0.6 standard deviation. Other more recent studies from multiple world regions find that early home literacy activities including parental practices and attitudes towards reading with their child positively affected the child's reading performance (Malik, 2018; Park, 2008); teacher training with parent and community activities in Rwanda led to

literacy gains for children (Friedlander & Goldenberg, 2016); maternal and paternal stimulation significantly mediated intervention effects on children's cognitive and socio-emotional development (Jeong, Obradović, et al., 2018).

3.2.3.2. Parental involvement and socio-emotional development

Parents encourage socio-emotional development in their child through sensitive responsiveness and avoiding harsh physical punishment (Walker et al., 2011). Examining enriching caregiving practices across 28 LMICs using MICS data, Bornstein & Putnick (2012) find that in many countries, a greater proportion of mothers engage with socio-emotional caregiving than cognitive caregiving. In terms of parental disciplining practices in LMICs, Lansford & Deater-Deckard (2012) acknowledge that there is wide variability across countries in adoption of violence by parents. However, on a more positive note, the researchers find that parents most frequently valued explaining to the child why something was wrong instead of adopting harsher parenting. Increased parental involvement shows higher social and emotional development in children (Allen & Daly, 2007; Bornstein, Putnick, Bradley, Lansford, & Deater-Deckard, 2015b), greater social competence, more self-direction and self-control, better mental health, and display of fewer delinquent behaviors (Desforges & Abouchaar, 2003). Moreover, positive parenting interventions reduce the use of negative discipline behaviors and increase positive behaviors (Malik, 2018).

3.2.3.3. Parental involvement and physical development and executive functioning

Research (Tran, Luchters, Fisher, Thach, & Tran, 2016) shows that home-based parental involvement is highly positively correlated with children's executive functioning and motor development in multiple LMICs. For instance, in Bangladesh, two types of caregiving practices – 'play activities' and availability of 'varieties of play materials'— resulted in strong associations

with children's psychomotor development and language development (Hamadani et al., 2010). Some studies show positive associations between paternal stimulation and executive functioning of children (Jeong, Mccoy, Yousafzai, Salhi, & Fink, 2016). Evidence from 62 low- and middle-income countries shows that maternal stimulation is positively associated with children's cognitive, reception language, and gross motor development (Cuartas, Rey-Guerra, McCoy, & Hanno, 2020).

3.2.4. Beyond parental involvement

Greater knowledge of early childhood care and education beliefs, attitudes, and practices followed in different LMICs will be informative in not only guiding future ECCE policies but also producing richer research. In several LMICs, there are many other caregivers, besides the parents, who provide frequent care, are consistently available, and respond to a young child's needs (Mesman et al., 2018). For instance, in many African countries, the concept of family includes all close and distant relatives who collectively contribute towards child-rearing and caregiving (Kuyini, Alhassan, Tollerud, Weld, & Haruna, 2009). Biological parents do play major roles in child upbringing; however, a custom embedded in African society is that it is the shared responsibility of all family members to bring up children. This custom is given different terms in research, such as 'social parenthood' (Huang, Bornheimer, Dankyi, & de-Graft Aikins, 2018), 'shared child-rearing' (Cotton, 2021), 'kinship caregiving' (Ariyo, Mortelmans, & Wouters, 2018). Yet, research on such interactions between non-parental adult members and children in the household is rare (Mesman et al., 2018).

Literature on shared caregiving specifies who these other members usually are and discusses several reasons for this custom. Studies highlight that often grandparents, aunts and siblings, especially older siblings in high-fertility populations, participate in caregiving towards

young children. There may be several reasons for such shared caregiving. It could be voluntary, for emotional bonds and companionship, social or political prestige, educational or job prospects of the child, a desire to strengthen social ties and changes in marital status, demand for domestic labor, to continue family relationships, and provide culturally-appropriate training for the child. Shared caregiving could also be for involuntary reasons, during times of crises such as due to the death of a parent, economic crisis, family breakdown, separation, conflict, disaster, and migration (Ariyo et al., 2018).

Most of the caregiving research discusses mothers, with some burgeoning literature on father-child interactions. Since research about links between non-parental caregiving and child development in the ECCE literature is rare and fairly recent, I summarize evidence from LMICs, both in and beyond Africa[1]. Literature notes that shared caregiving by grandparents, aunts, and older siblings in non-Western countries increases female fertility rates and also child survival in those populations (Mesman et al., 2018). Through a review of the literature, Aubel (2012) finds that grandmothers play a central role as children's caregivers exercise significant influence on maternal nutrition and care related practices in Asia, Africa, and Latin America. In Brazil, Pearson et al (2019) find grandmothers' mental health symptoms to be associated with the grandchildren's emotional and behavioral development.

The introduction of the adult involvement activity module in the MICS data has facilitated scholars to examine maternal, paternal, as well as non-parental involvement and caregiving in multiple LMICs. Cuartas, Jeong, et al.'s (2020) study focuses on 'high' levels of

[1] There is some literature that analyzes the relationship between non-parental, non-adult household members (such as siblings) and young children. However, in this paper and this review, I focus on examining adult involvement and child development.

adult involvement (adults who engage in 4-6 activities, out of a total of 6 activities, with the sample child). Based on 62 LMICs, the authors demonstrate that a substantial proportion of other caregivers (21%) engage in high levels of stimulation (4-6 activities). Another example is the study by Ong'ayi and colleagues (2020), who analyze the association between adult involvement and children's literacy skills in Kenya. The authors find that other household members' engagement in book reading is associated with children's ability to read words and recognize symbols. My current study is similar to the above two papers in that all three focus on household members beyond the parents who interact with the sample child.

However, my study builds on and extends the literature beyond Ong'ayi et al's (2020) and Cuartas et al.'s (2020) work in several ways. First, Cuartas and colleagues only focus on variations in adult involvement, and Ong'ayi et al (2020) look at the association between adult involvement and children's literacy skills. My study, however, includes both types of analysis – variations in adult involvement as well as associations between adult involvement and child outcomes. Moreover, as compared to Cuartas et al's study which analyzes adult involvement variation based on country-level variables (region, country income, country's well-being (HDI)), and household-level and child-level variables (household wealth, child sex, urbanicity), my study examines variations in adult involvement based on household wealth, location, mothers' education, and the child's attendance at an ECCE institution. Also, where Ong'ayi et al's study examines child literacy only, this current paper looks at a wider set of child outcomes including literacy and numeracy, socio-emotional, physical development and executive functioning.

In addition to the above differences, the current study is distinct from Ong'ayi et al's (2020) and Cuartas et al.'s (2020) research in the type of MICS data it analyzes. The current study uses the most recent MICS data (Round 6) for all three sample countries, whereas Cuartas

et al use MICS6 data for 3 (Lao PDR, Iraq, and Sierra Leone) out of 62 countries, and Ong'ayi et al use MICS5 data for Kenya. Finally, Cuartas et al conduct their study for 62 low- and middle-income countries and Ong'ayi et al focus only on Kenya. I carry out a comparison study based on a smaller set of three African countries (Ghana, The Gambia, and Zimbabwe) contextualizing study findings based on rich household demographic descriptions.

Empirical research based on low- and middle-income countries has focused mainly on examining mother and child interactions, with growing literature on the father's role in child development. Evidence shows that child's age and sex, parental education, parental employment, parental age, household wealth, and household location, are some factors that influence which parents get involved in their child's development and education. Moreover, experimental and non-experimental analysis shows significant benefits of positive, responsive involvement for children's cognitive, socio-emotional, and physical development, along with their executive functioning. Although, recent studies show that with diverse family systems and cultures in low- and middle-income countries, future research needs to pay greater attention to other members in the household and their role in contributing to child well-being.

3.2.5. Problem statement and research questions

A child's caregivers spend extended periods of time with them providing nourishment and responsive care. In low- and middle-income countries, family structures and extensive community networks mean that along with parents, there are many other adults available and providing child care. The current discourse on the effects of the global COVID-19 pandemic on young children underlines the key roles parents and other caregivers must play in promoting child development. However, most theoretical early childhood involvement frameworks and available empirical evidence are heavily influenced by Western discourses. Greater knowledge

of involvement in different countries will go a long way in informing context sensitive policies. In this section, I identify key gaps in the literature on parental and adult involvement. I also discuss how I address these gaps in my paper and extend the evidence base.

First, most of the involvement and caregiving literature from LMICs focuses on mother-child interactions, as echoed by other studies. Research has paid limited attention to links between maternal, paternal, and other caregivers' involvement with children and children's early outcomes. Through my paper I extend the evidence base by comprehensively analyzing involvement using multiple measures. I analyze three main types of measures for mothers', fathers', and others' involvement: 1) individual activities done 2) type of involvement (cognitive versus socio-emotional), as well as 3) intensity of involvement (measured by the number of activities the adult does with the sample child).

Second, studies that quantify caregiver involvement in LMICs mostly carry out comparisons between a large set of countries. However, due to their extensive scope, such studies are unable to include contexts into their analysis. Thus, quantitative studies miss out on rich detailed explanations of parental and adult involvement situated in specific country contexts. This paper includes comparisons across countries, and since I use a small sample of countries, I am also able to attend to country contexts in my analysis more carefully. I have intentionally selected countries from Sub-Saharan Africa that come from a similar region with shared socio-cultural histories yet provide meaningful variation.

Third, there is limited literature analyzing socio-economic inequalities in adult involvement using recent data from LMICs. Most of the prior quantitative studies covered in the above review were done using older data collected before 2015. Since then, MICS and DHS have come out with more updated, recent data on involvement activities. I address this gap by

using the most recent MICS Round 6 data available for the sample countries. Moreover, I use several socio-economic factors, such as household wealth, location, mothers' education, and child's ECCE attendance to examine inequalities in parental and adult involvement.

To address these gaps identified in the literature, I use MICS data to examine three research questions for Ghana, The Gambia, and Zimbabwe: i) How does parental and adult involvement vary across and within the three countries? ii) To what extent do child- and household-level factors explain parental and adult involvement? iii) What is the association between parental and adult involvement and children's developmental domains (literacy and numeracy, socio-emotional, learning, and physical development)?

3.3. Sample country contexts

This section presents criteria for country selection as well as a discussion of the sample country contexts.

3.3.1. Sample country selection

As per World Bank classifications, Sub-Saharan Africa (SSA) consists of 48 countries. In order to select my country sample, I first chose SSA countries for which UNICEF MICS data for the latest round were available. This search resulted in 15 countries in Africa for which UNICEF MICS data were available at the time of dissertation analysis. Given my language limitations, from the 15, I chose countries for which data was available in English. This criterion resulted in 5 anglophone African countries which were, The Gambia, Ghana, Lesotho, Sierra Leone, and Zimbabwe. From these 5, for the current study I selected The Gambia, Ghana, and Zimbabwe to have a mix of countries based on their Human Development Index, ECCE policy systems, and existing ECCE literature on these countries.

3.3.2. Country contexts

Before diving into the analysis, this section presents national statistics and related caregiving information for Ghana, The Gambia, and Zimbabwe, as summarized in Table 3.1 below.

Table 3.1: Development indicators and early childhood care and education policies in the sample countries

Indicators	Ghana	The Gambia	Zimbabwe
GDP per capita[1] (in current US $)	2202	751	1464
Country HDI ranking[2] (out of 189 countries)	142	174	150
Country HDI classification[3]	Medium	Low	Medium
Country GINI coefficient[3]	43.5	35.9	44.3
Preprimary gross enrollment rate (%)[4]	115	42	47
Year country adopted national ECCE policy[5]	2004	2004	Not drafted, not implemented
Main type of ECCE service provision	Mainly public provision after 2004	Mainly private provision for elite HHs; otherwise, public & community	Mainly community ECCE centers; importance given to public provision post early 2000s

Source: 1 – World Bank (https://data.worldbank.org/indicator/NY.GDP.MKTP.CD); 2 - UNDP (http://hdr.undp.org/en/content/statistical-data-tables-7-15); 3 – World Bank (https://data.worldbank.org/indicator/SI.POV.GINI); 4 – World Bank (https://data.worldbank.org/indicator/SE.PRE.ENRR); 5 – Neuman & Devercelli (2012) and Vargas-Barón & Schipper (2012)

3.3.3. Ghana

As Table 3.1 highlights, according to World Bank country classifications, Ghana is a lower middle-income country with a per capita GDP of 2200 USD (World Bank, 2019). Located in West Africa, it has a total population of 30 million with a medium HDI rank of 142 out of 189 countries. Since its transition to multi-party democracy, Ghana is considered one of the more stable countries in West Africa ("Ghana country profile", 2018).

Before the 2000s, ECCE provision in Ghana was generally through the private sector; it was expensive and accessed mainly by children in urban areas (Bago et al., 2020). In the early 2000s, Ghana formulated a policy especially for ECCE, and in 2007, the Education Reform Act guaranteed two years of early childhood schooling under the free compulsory basic education policy (Aheto-Tsegah, 2011). This policy revision made Ghana the first Sub-Saharan African country to pass national legislation for universal access to ECCE (Kabay, Wolf, & Yoshikawa, 2017). Serious policy efforts for ECCE have resulted in Ghana having the highest pre-primary enrollment rate on the continent as of 2015-2016 (Kabay et al., 2017).

Home-based caregiving of children looks different in urban versus rural Ghana. Although traditionally Ghanaian society was characterized by the extended family system and shared child-rearing, socio-economic changes and globalization have led to the emergence of the nuclear or small family system, where responsibility of child-rearing falls mainly on their immediate caregivers. Especially for parents who move to urban cities in Ghana, a mix of schools and church, and less often extended family members and close friends act as 'surrogate' caregivers (Kuyini et al., 2009). In Ghanaian rural communities where family bonds are still strong, caregiving of children by extended family members and other relatives is an integral part of child development (Abdullah, Cudjoe, & Manful, 2020).

3.3.4. The Gambia

According to Table 3.1, with a population of 2.5 million, The Gambia is a small country located in West Africa, ranking 174 out of 189 countries on the HDI rankings. It has a GDP per capita of 751 USD, and it was categorized as one of the 10 poorest countries in the world in 2015 (World Bank, 2015). High multidimensional poverty implies overlapping deprivation of human

capital deficits and limited access to basic infrastructure (World Bank, 2020). The Gambia functions on an agrarian economy but has witnessed rapid urbanization in the recent years.

There are three types of ECCE service provision in The Gambia: i) private ECCE centers, located mostly in urban areas and accessed by the rich ii) public ECCE centers built alongside public primary schools and iii) community-based centers, which are located in communities not served by primary schools (Blimpo, Carneiro, Jervis, & Pugatch, 2019). The preprimary enrollment rate in The Gambia as of 2018 was 42% (World Bank, 2018). ECCE provision in the past few years has been driven by the private sector which is unaffordable by poorer households. However, the revised national education policy of 2012 aims at strengthening the community ECCE centers to reach deprived sections of the society (Ministry of Basic and Secondary Education, The Gambia, and Gambia National Commission for UNESCO, 2014).

There is very limited country-specific research on caregiving and child development based on The Gambia. In general, the common household structure for most ethnic groups in the country is patrilineal, and multi-generational, with extended family groups residing within a compound of varying size. Like in Ghana, there is a culture of grandmothers and older children taking care of young children in the case of absent mothers (Sagnia, 2004).

3.3.5. Zimbabwe

Zimbabwe has a population of 15 million. As Table 3.1 shows, ranking 156 of 189 countries on the HDI, Zimbabwe is a medium HDI country with a per capita GDP of about 1464 USD. The HIV/AIDS epidemic of the 1980s and then a fiscal crisis severely affected the lives of children in the country. While economic and political conditions have stabilized since 2009 and many public services have improved in Zimbabwe, high rates of prenatal, chronic malnutrition and orphanhood, psychological trauma and disrupted education in the country's past imply that

various social indicators in Zimbabwe are comparable with what they were 20 to 25 years ago (Munro, 2015).

Early childcare services in Zimbabwe have mostly been community driven with public provision increasing only in the early 2000s. The 1980s post-independence era in Zimbabwe saw an increasing working force in urban areas, and to an extent even in rural areas demanding greater ECCE services. During that time, ECCE service provision was mostly community driven without direct support from the government. However, with the Zimbabwean government realizing the importance of ECCE, there was serious effort to strengthen its preprimary education system. Towards the end of the 1990s, the Ministry of Education, Sport and Culture took the ECCE centers operating as community-based programs under its wing. ECCE centers also started mushrooming in rural areas (Mangwaya, Blignaut, & Pillay, 2016). In 2004, the Zimbabwean government mandated public primary schools to attach two ECCE classes catering to children aged 3-5 years (Sibanda, 2018).

As in other African countries, in Zimbabwe too, parents' child-rearing beliefs are based on traditional values of the region. However, similar to the situation in Ghana, with modernization and changes in family structures (for instance, greater female headed households), traditional child rearing practices are evolving. Nuclear and single-parent families in Zimbabwe are raising children on their own without the help of extended family networks (Matsvange & Mugweni, 2018). Such families depend more and more on alternative forms of childcare, such as child-minders, nurseries, or preschools. This is true even in rural areas of the country which are increasingly seeing fragmentation of families (Matsvange & Mugweni, 2018).

To summarize, traditional African customs underpin certain practices of multiple caregivers of young children beyond the biological parents. Overarching contextual factors make

Ghana, The Gambia, and Zimbabwe three unique sample countries to study parental involvement in early childhood care and education. In terms of national ECCE services, Ghana has effectively leveraged national policy and legislation towards universalization of ECCE access. Given socio-economic and demographic changes, caregiving in Ghana is also evolving in urban versus rural areas. In The Gambia, ECCE provision is still mainly through the private sector and caters to the elite population. At the local level, older siblings and grandmothers play key roles in taking care of young children. The Zimbabwean government has taken existing community ECCE centers under its' wing and has also mandated ECCE classes to be a part of public primary schools. In terms of caregiving, with greater instances of family fragmentation extended families have a smaller role to play in childcare than they historically did. In the context of socio-economic and demographic changes, associations between parental, adult involvement and child development make for a compelling analysis.

3.4. Data and methods

This section describes data for the study, key variables I use in the regression models, and the empirical methodology for each of the research questions.

3.4.1. Data

I use UNICEF's Multiple Indicator Cluster Surveys (MICS) that collect internationally comparable health, social, economic, and wellbeing data on women and children across different countries. The MICS surveys adopt a two-stage sampling protocol: households with children under age five are randomly selected from the national census using probability proportionate to size sampling. Interviewers deal with the problem of survey non-response by returning to the households at least one more time to encourage participation before marking the interview as incomplete (Mccoy et al., 2018).

From the six rounds of MICS conducted till now, I utilize data from Round 6 collected between 2017 and 2019 for Ghana, The Gambia, and Zimbabwe. The "Early Childhood Development Module" in the MICS administered to mothers or primary "caretakers" of children aged 3 to 4 years is of particular importance to the current study. This module includes data on adult involvement and ECCE indicators. I also use household demographic information reported by the household head as part of the household questionnaire. Since the Early Childhood Development Module is available only for children aged 3 to 4 years, the final sample for the current study includes children only in this age-group.

3.4.2. Key variables

I use the following key variables in analyzing parental and adult involvement in children's development and education.

3.4.2.1. Parental and adult involvement

MICS6 data collects information on the involvement of several adult members in a child's life. This information is in the form of binary variables (0 = No, 1 = Yes) of whether a mother, father, and other adult member in the household do six activities with the child. These six activities are: i) adult reads books to the child, ii) adult tells stories to the child, iii) adult sings songs or lullabies to the child, iv) adult plays with the child, v) adult takes the child outside the house to play, vi) adult names/counts/draws things with the child. The respondent of the MICS questionnaire, most often the child's mother or primary caretaker, reports this information about themselves, as well as the other adults specified in the questionnaire.

Using the above information, I measure parental and adult involvement in three ways that offer a nuanced analysis of how adults in the household interact with the sample child. First, I

analyze the individual involvement activities as binary variables (0 = No, 1 = Yes) for the mother, father, and other adults in the household. Additionally, I create a binary variable for any of the three adult's involvement in each of the six activities, by coding the variable 1 if the mother's or father's or others' involvement is 1 for a specific activity. This variable is termed "any adult" or "adult" involvement.

Second, following the approach used in the existing literature (Bornstein & Putnick, 2012; Sun et al., 2016), I categorize the six involvement activities as cognitive involvement (adult reads books, tells stories, names/counts/draws things with child) and socio-emotional involvement (adult sings songs or lullabies, plays with, takes child outside the house to play). I analyze whether mother, father, other or any adult engages in any of the three cognitive activities (0 = No, 1 = Yes) and engages in any of the three socio-emotional activities (0 = No, 1 = Yes). Thus, I create a cognitive and socio-emotional involvement measure separately for the mother, father, other, and any adult in the household.

Third, I measure the 'intensity' of adult involvement related to the number of activities adults engage in with the child. For this third type of measure, I borrow from Lassassi (2021)'s approach. I create a count measure index of the number of activities done by each adult. Each of these indices range from 0 (no activity) to 6 (all activities) done separately by the mother, father, other, and any adult. For these indices, the highest value for the index (6) indicates the highest "quality" of adult–child involvement. Only for the descriptive analysis, I also examine which of these adults do 'no' (0 activity), 'low-quality' (1-3 activities), and 'high-quality' (4-6 activities) involvement with the child.

These are just three ways I have chosen to analyze the parental and adult involvement construct. However, I acknowledge that these categorizations of involvement using a small set of

involvement activities may perhaps be limiting or may discount culture and local contexts in certain ways. For instance, across cultures and countries, there are different social practices and beliefs while engaging with children. To understand and illuminate links between parental and adult involvement on one hand, and local contexts on the other hand, in addition to the above categorizations, I undertake principal component analysis of the involvement construct. I discuss this analysis more in Section 3.4.3.

3.4.2.2. Control variables for involvement

MICS data provide a range of variables at the child-level and household-level which are important to understand variation in parental involvement and its association with child outcomes. With respect to child-level factors, I include age and sex of the sample child and whether the child has ever attended an ECCE institution. For household-level factors, I control for household wealth, location (urban or rural status), number of adult females (aged 15-49), adult males (aged 15-49), older children (aged 5-17) and younger children (aged below 5) living in the household. Additionally, I control for primary caregiver's age, whether the primary caregiver is the child's biological mother, and whether the child's father stays at home or not. Finally, I also control for the mother's education level[2]. Given the lack of data on parental employment in the MICS, I am unable to control for the type of work parents engage in.

3.4.2.3. Early childhood outcomes

The Early Childhood Development Index (ECDI) constructed by UNICEF is used as the proxy measure for the global reporting on one of the Sustainable Development Goal indicators

[2] I could not use father's education level as a control because of a large amount of missing data in the variable.

(Goal 4.2.1) to measure the proportion of children under 5 years of age who are developmentally on track in health, learning and psychosocial well-being.

I follow the measurement approach outlined in the UNICEF manual for statistical data analysis of the MICS (Mizunoya & Amaro, 2020). As part of the Early Childhood Development module for children ages three to four years, MICS6 allows measurement of several types of child development domains consisting of a total of ten indicators. The ten indicators are represented as binary variables (0 or 1) in the data. MICS categorizes these ten indicators into four domains of development in a specific way. MICS then goes on to describe children being "on-track" or not for each of these development domains as well as children overall being developmentally "on-track" or not.

i.) A child is "on-track" with regard to **literacy and numeracy development** if at least two of the following are true.

1. Child can identify/name at least 10 letters of the alphabet (0 = No, 1 = Yes)
2. Child can read at least four simple, popular words (0 = No, 1 = Yes)
3. Child can name and recognize the symbols of all numbers from 1 to 10 (0 = No, 1 = Yes)

ii.) A child is "on-track" with regard to **socio-emotional development** if at least two of the following are true.

4. Child gets along well with other children (0 = No, 1 = Yes)
5. Child does not kick, bite, or hit other children or adults (0 = No, 1 = Yes)
6. Child gets distracted easily (0 = No, 1 = Yes)

iii.) A child is "on-track" with regard to **executive functioning**[3] if at least one of the following is true.

7. Child can follow simple directions on how to do something correctly (0 = No, 1 = Yes)
8. When given something to do, child can do it independently (0 = No, 1 = Yes)

iv.) A child is "on-track" with regard to **physical development** if at least one of the following is true.

9. Child can pick up a small object with two fingers (0 = No, 1 = Yes)
10. Child is not sometimes too sick to play (0 = No, 1 = Yes)

The ECDI is calculated as an overall score of children who are developmentally on track in at least three of these four domains. According to UNICEF (Mizunoya & Amaro, 2020), "a sample child is considered to be developmentally on track and well-prepared for starting primary school in areas of health, learning, and psychosocial well-being when the ECDI is equal to one" (p. 35). Thus, "**overall development**" is coded 1 if children are developmentally on track in at least three of these four domains, and 0 otherwise.

In addition to these five developmental domains constructed by UNICEF, I further add my own measure of development through a composite count index called "ECD score" which is the number of developmental tasks (ranging 0 -10 tasks) the sample child is able to do accurately.

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[3] MICS calls this "Approaches to Learning", however, I have rephrased it "Executive Functioning" to be clearer about this child developmental domain.

3.4.2.4. Control variables for early childhood outcomes

With the development domains as the dependent variables, I control for household wealth, location (urban or rural status), and the mother's education level. Additionally, I also control for the sample child's age and sex, along with whether the child has ever attended an ECCE institution.

3.4.3. Principal component analysis

In this section, I discuss the reasoning behind undertaking Principal Component Analysis (PCA), and the methodology adopted for the same. The results of this analysis are presented in Section 3.5.5.

UNICEF MICS offers a limited set of involvement activities which I use to measure the construct of parental and adult involvement. Although these involvement activity measures have been tested and validated as part of a longer list of Family Care Indicators (Frongillo, Basnet, Halpin, Petrowski, & Cappa, 2022), I carry out a deeper analysis of only these involvement activities for each adult (mother, father, and other) and for each country (Ghana, The Gambia, and Zimbabwe). The main goal of the PCA is to "reduce" the data in such a way that parental or adult involvement can be summarized with relatively few "factors" or "components" that capture the maximum possible information from the original variables. Through this analysis, I illuminate the links between parental and adult involvement on one hand, and local contexts and countries on the other hand.

I adopted the following steps for analyzing involvement activities for each adult per country using PCA. First, I decided not to standardize the involvement activity variables, since they were already in a binary (0 = No, 1 = Yes) format. Second, in order to retain an appropriate

number of factors that explain involvement, based on the trade-off between simplicity (retaining as few as possible factors) and completeness (explaining most of the variation in the data) I calculated the covariance matrix for the involvement activities in the dataset. The covariance matrix showed the eigenvalues and eigenvectors of the associated components or factors. I followed Kaiser's rule to retain factors with eigenvalues above 1. I also used screeplots to corroborate the factor retention. Third, I observed the factor loading matrix to understand the correlation between the original variables and the associated components/factors. Fourth, I undertook factor rotation by "rotating" or re-orienting the factor loadings matrix to simplify the factors loading structure as much as possible. I adopted both orthogonal and oblique rotation methods for the factor rotation. Finally, I recast the data along the selected principal components.

3.4.4. Estimation strategy

This section describes the empirical methodology I follow to analyze each research question. All analysis was conducted using the svyset and svy survey commands in Stata 16.0 to account for survey data and clustering of observations by country and within country sampling clusters using probability weights.

3.4.4.1. Research question 1: How does parental and adult involvement vary across and within the countries?

I answer research question 1 through descriptive analysis. I analyze variations in parental and adult involvement across and within the three countries using the involvement measures presented in the Key variables section. First, I examine the individual involvement activities done by the mother, father, other, and any adult in the household. Second, I compare cognitive and socio-emotional involvement of the mother, father, other, and any adult in the household. Third, I explore the four count indices. These indices measure the total number of activities done

by the mother, father, other adult(s), and any adult in the household. Fourth, for the descriptive analysis specifically, I also examine whether the mother, father, other, or any adults engage in 'no' (0 activity), 'low-quality' (1-3 activities), and 'high-quality' (4-6 activities) involvement with the child.

Finally, I use household-level and child-level characteristics to explain the variation in parental and adult involvement I find through the descriptive analysis. For household-level factors, I look at variations in involvement measures by household location, household wealth, and mothers' education levels. For child-level factors, I focus on variations in involvement by child's attendance at ECCE institutions.

3.4.4.2. Research question 2: To what extent do child- and household-level factors explain parental and adult involvement?

For research question 2, I use a Linear Probability Model (LPM) for the following multiple regression model:

$$\boldsymbol{INV} = \alpha_0 + \boldsymbol{Child}\ \alpha_1 + \boldsymbol{Household}\ \alpha_2 + \ u \qquad (1.1)$$

In equation 1.1, $\boldsymbol{INV}$ represents the set of involvement variables I use. As explained in the methodology section, using the different ways I measure involvement, I run two types of regression models with involvement, $\boldsymbol{INV}$, as the dependent variable for Ghana, The Gambia, and Zimbabwe.

First, I run the regression of cognitive involvement and socio-emotional involvement on child- and household-level factors. For these dependent variables, I run separate regressions for mother, father, other, and any adult involvement. Second, for the intensity of involvement measures, I carry out OLS estimations. I run the regression of the involvement count index on

child- and household-level factors. For these dependent variables, I run separate regressions for mother, father, other, and any adult involvement.

In equation 1.1, $\boldsymbol{Child}$ is a set of child characteristics which includes child's age and sex, as well as whether a child has ever attended an ECCE institution. Although ECCE attendance can also be viewed as an outcome of parental involvement, in this case it is important to control for ECCE attendance because parental involvement may reduce if the sample child spends several hours outside of the home. The coefficient of interest, α_1 represents the association between child characteristics and the dependent variable of involvement, keeping other factors constant.

Additionally, $\boldsymbol{Household}$ in equation 1.1, includes household wealth, location (urban or rural status), mothers' education, number of adult females (aged 15-49), adult males (aged 15-49), older children (aged 5-17), and younger children (aged below 5) living in the household. Additionally, I control for primary caregiver's age, whether the primary caregiver is the child's biological mother, and whether the child's father stays at home or not. The coefficient of interest, α_2 represents the association between household characteristics and the dependent variable of involvement, keeping other factors constant. Finally, *u* in the regression equation is the error term.

In addition to the Linear Probability Model for this regression estimation, as a robustness check, I also ran the results using Logit estimations. The result tables for the Logit estimations can be found in the Appendix.

3.4.4.3. Research question 3: What is the association between parental and adult involvement and children's early developmental outcomes?

To study research question 3, I use the following multiple regression model for each of the three countries.

$$\boldsymbol{Y} = \alpha_0 + \boldsymbol{INV}\ \alpha_1 + \ \varepsilon \qquad (1.2)$$

For research question 3, I run separate regressions with each of the five UNICEF developmental domains (literacy and numeracy, physical, and socio-emotional development, executive functioning, and overall development) as dependent variables. These are run as LPMs because the dependent variables are binary (0 = No, 1 = Yes). In addition to these developmental domains, I further measure development through a composite count index called "ECD score" which is the total number of developmental tasks (ranging 0 -10 tasks) the sample child is able to do accurately. I use OLS estimation for this regression.

Equation 1.2 shows the estimation of early childhood outcomes on adult involvement, where $\boldsymbol{Y}$ is the child outcome and $\boldsymbol{INV}$ is a measure of involvement, and $\boldsymbol{\varepsilon}$ is the error term. α_1 is the coefficient of interest that presents the association between $\boldsymbol{INV}$ and the child's development outcome, $\boldsymbol{Y}$, and ε represents the error term.

In the equation below I present the regression models with added controls:

$$\boldsymbol{Y} = \alpha_0 + \boldsymbol{INV}\ \alpha_1 + \boldsymbol{ECCE}\ \alpha_2 + \boldsymbol{Child}\ \alpha_3 + \boldsymbol{Household}\ \alpha_4 + \ \varepsilon \qquad (1.3)$$

In equation 1.3, the added $\boldsymbol{ECCE}$ control is the child's attendance at an ECCE institution. The coefficient of interest in this case is α_2 that highlights the association between child's attendance at an ECCE institution and $\boldsymbol{Y}$, the child outcome. $\boldsymbol{Child}$ represents the set of child-level controls, child age and child gender, and α_3 presents the relationship between the child

controls and child outcome of interest. $\boldsymbol{Household}$ represents the set of household-level controls, household wealth, location (urban or rural status), and the mother's education level. α_4 in equation 1.3 shows the relationship between household controls and the child outcome of interest. Since I am using neither predicted values of parental and adult involvement nor a two-step estimation approach, in the separate regressions with adult involvement and then development domains as dependent variables, I still need to control for a similar set of background child- and household-level characteristics that are likely to influence both the involvement and child development measures. In equation 1.3, the error term is represented by ε.

All five of the UNICEF developmental domains are in the form of binary variables. Thus, in addition to using the Linear Probability Model for the regression analyses, as a robustness check, I also ran regressions of these binary dependent variables using Logit estimations. The result tables for the Logit estimations can be found in the Appendix.

For research question 2 and 3, the involvement measure, $\boldsymbol{INV}$, gets added in two different ways. One set of regression models have cognitive involvement and socio-emotional involvement variables as the dependent variables for mothers, fathers, other adults, and any adult. The second set of regressions have the involvement index for the mother, father, other adult, and any adult. For research question 2, with different measures of involvement as the key dependent variable, I run 12 regressions for each country. For research question 3, with each of the six measures of development domains as the dependent variable, I run regressions that have cognitive and socio-emotional involvement as the two key independent variables. Similarly, I run separate regressions with the involvement index as the key independent variable. Thus, for research question 3, I run 48 regressions for each country. Table 3.25 in the Appendix presents the total number of regressions estimated as part of the analyses.

3.5. Results

Parental and adult involvement in early childhood is crucial to children acquiring cognitive, socio-emotional, physical, and learning abilities. To contribute towards the evidence-base on low- and middle-income countries, I address three research questions in my analysis using data from Ghana, The Gambia, and Zimbabwe: 1) How does parental and adult involvement vary across and within the three countries? 2) To what extent do child- and household-level factors explain parental and adult involvement? 3) What is the association between parental and adult involvement and children's early developmental outcomes?

3.5.1. Summary statistics

In this section I present the child and household characteristics of the sample. I also discuss the child development status of the country samples.

3.5.1.1. Sample characteristics

Table 3.2 presents characteristics of the full sample consisting of 10,408 children. Children on average are 3.5 years old, with close to 50% of them being female. Exposure to ECCE programs varies substantially across the countries. Close to 75% children in Ghana and less than 30% children in the Gambia and Zimbabwe have attended some type of an ECCE program.

Primary caregiver[4] characteristics from all three country samples show that close to a 100% of primary caregivers are females. Of these caregivers, 85% in Ghana, 87% in Gambia,

[4] MICS does not provide a definition for "primary caretaker" and that is self-reported by the respondent of the MICS questionnaire for children under five.

and 79% in Zimbabwe are the child's biological mothers[5]. Education levels of mothers[6] in the sample differs by country. Most mothers in the Ghana sample (55%) have primary education, most mothers in The Gambia (57%) sample have pre-primary or no education, and most mothers in the Zimbabwe sample (62%) have secondary or higher education.

In terms of urbanicity, 61% of households in the Gambia sample, 43% in the Ghana sample, and 29% in the Zimbabwe sample are urban households. Given the importance of parents and other family members in caring for the child, household demographics are a key element of this study. The Gambia has the largest household size (14 members), followed by Ghana (7 members), and Zimbabwe (5 members). The demographic profile in each country sample is as follows: on average, Ghana has 1 adult female, 1 adult male, 2 children aged below five, and 2 children aged 5-17 in a household. The Gambia has 3 adult females, 1 adult male, 3 children aged below five, and 5 children aged 5-17 in a household. Finally, Zimbabwe has 1 adult females, 1 adult male, 2 children aged below five, and 2 children aged 5-17 in a household.

[5] The MICS household questionnaire refers to biological mother as 'natural' mother. However, to avoid any confusion, I use the term 'biological' mother in this paper.
[6] Given large amounts of missing data in education levels completed by primary caregivers who are not the child's biological mother, I report only mothers' education levels.

Table 3.2: Sample summary statistics

	Ghana (N = 3682)	The Gambia (N = 4211)	Zimbabwe (N = 2515)
Child characteristics			
Age of child (in years)	3.48	3.50	3.51
Child is female	0.52	0.48	0.50
Child had attended an ECCE program	0.72	0.25	0.29
Primary caregiver characteristics			
Primary caregiver is female	0.97	0.99	0.99
Primary caregiver is child's biological mother	0.85	0.87	0.79
Primary caregiver's age	35.8	33.2	35.1
Mothers' education: Pre-primary or none	0.32	0.57	0.03
Mothers' education: Primary	0.55	0.15	0.35
Mothers' education: Secondary or higher	0.13	0.28	0.62
Household characteristics			
Household location is urban	0.43	0.61	0.29
Number of household members	6.71	14.45	5.5
Number of females 15 - 49 years	1.4	3.3	1.2
Number of males 15 - 49 years	0.5	1.2	0.5
Number of children under age 5	1.8	3.1	1.5
Number of children age 5-17	2.3	5.2	1.7
Proportion of households that have 1 child below five years	0.43	0.22	0.60
Proportion of households that have 2 - 3 children below five years	0.52	0.49	0.38
Proportion of households that have more than 3 children below five years	0.05	0.29	0.01
Proportion of households that have no child aged 5-17	0.16	0.06	0.23
Proportion of households that have 1-3 children aged 5-17	0.62	0.39	0.66
Proportion of households that have more than 3 children aged 5-17	0.22	0.55	0.11

3.5.1.2. Development domains

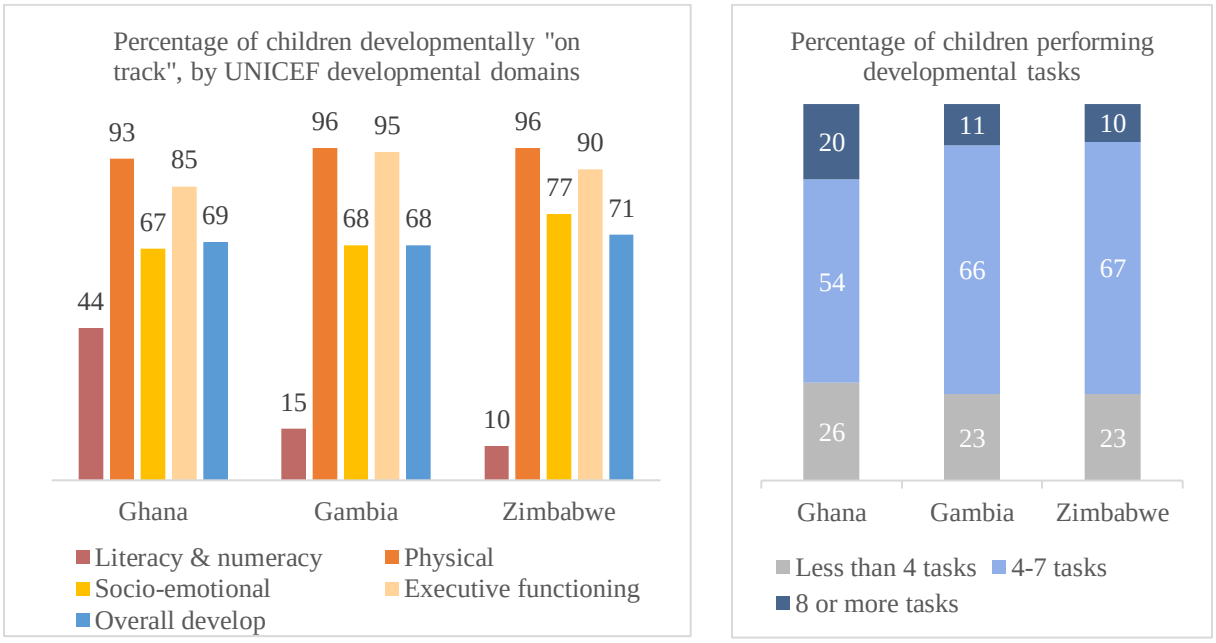
MICS measures five domains of development (literacy and numeracy, physical, socio-emotional development, executive functioning, and overall development), and goes on to measure whether children are "on-track" or not for each of these development domains. In addition to these domains, I further measure development through a count index termed "ECD

score" which is the number of developmental tasks (0 – 10) the sample child is able to do accurately. Figure 3.1 below presents the percentage of children considered "on-track" for each UNICEF developmental domain in the left panel. Based on the ECD score, the right panel in the figure presents the percentage of children who complete different number of developmental tasks accurately.

In Figure 3.1, the left panel shows that based on UNICEF's measure, 71% children in Zimbabwe, 69% in Ghana, and 68% in The Gambia are considered to be developmentally on-track. Disaggregating on the basis of developmental domains, in Ghana, 44% children are on track with regard to literacy and numeracy development, whereas 67-93% of children are on track with respect to socio-emotional, physical development, and executive functioning. In The Gambia, 15% children are on track with regard to literacy and numeracy development, whereas 68-96% of children are on track with respect to socio-emotional, physical development, and executive functioning. In Zimbabwe, 10% children are on track with regard to literacy and numeracy development, whereas 77- 96% of children are on track with respect to socio-emotional, physical development, and executive functioning.

Where the three countries are placed similarly in terms of physical development and executive functioning, Ghana leads substantially on literacy and numeracy development, and Zimbabwe leads significantly on socio-emotional development. The right panel of Figure 3.1 shows that 20% of children in Ghana, 11% in The Gambia, and 10% in Zimbabwe are able to do 8 or more tasks accurately from a total of 10 developmental tasks.

Figure 3.1: Developmental domains and index by country



The total study sample of approximately 10,500 children aged an average of 3.5 years shows vastly different proportions of children who have attended ECCE institutions, the highest in Ghana (72%), followed by Zimbabwe and Ghana at approximately 30%. Country sample from The Gambia on average has relatively large household sizes of 14 members, Ghana on average has 7 members, and Zimbabwe has 5 members. From the total sample, most mothers (57%) in The Gambia have pre-primary or no education, most mothers in Ghana (55%) have primary education, and most mothers in Zimbabwe (62%) have secondary or higher education. A little over two-thirds of children from each country are considered to be “on-track” with their overall development as conceptualized by UNICEF. The three countries are placed similarly in terms of physical development and executive functioning, whereas, Ghana leads substantially on literacy and numeracy development, and Zimbabwe leads significantly on socio-emotional development.

3.5.2. How does parental and adult involvement vary across and within the countries?

In this section I answer my first research question through descriptive statistics. I discuss variations in parental and adult involvement within and across the three sample countries. As mentioned in the methodology section, data on six involvement activities that the mother, father, other, and any adults in the household do with the sample child allow different types of involvement measures. For each country, I analyze the type of involvement by focusing on the six individual activities, as well as, categorizing the activities as cognitive and socio-emotional involvement. I also measure the intensity of involvement by constructing indices of total number of involvement activities done by each adult and by any adult.

3.5.2.1. Type of involvement (cognitive and socio-emotional)

Table 3.3 describes the proportion of mothers, fathers, others, and any adult member who engage in the six activities reported by the UNICEF MICS data. Please note that fathers' and others' involvement is reported by the primary caregiver who is the respondent of the children's questionnaire, which in most cases is the child's mother. Thus, while comparing the different types of involvement, we need to be mindful that fathers' and others' involvement is reported on someone's behalf, whereas mothers' involvement in most cases is reported by the mother.

In Ghana, about 12% of mothers in the sample read books to their child, 14% of mothers tell stories, and 13% of mothers name/count/draw with their child. Compared to these activities, a higher proportion of mothers engage with their child in other activities in Ghana – singing songs (28%), taking child outside (33%), and playing with child (30%). In The Gambia, these proportions are: read books to their child (5% of mothers), tell stories (12%), name/count/draw with their child (5%), sing songs (20%), take child outside (26%), and play with child (20%). Whereas, in Zimbabwe, 13% of mothers read books to their child, 27% of mothers tell stories,

and 23% of mothers name/count/draw with their child. In terms of mothers engaging with other activities – sing songs (37%), take child outside (44%), and play with child (36%).

In terms of fathers' involvement, in Ghana, 6% of fathers are reported to read books to their child, 6% tell stories, 5% name/count/draw with their child, 7% sing songs, 13% take child outside, and 13% play with the child. In The Gambia these proportions are, read books to their child (1% of fathers), tell stories (3%), name/count/draw with their child (2%), sing songs (3%), take child outside (6%), and play with child (8%). In Zimbabwe, 4% of fathers read books to their child, 11% tell stories, and 6% name/count/draw with their child. In terms of fathers engaging with other activities in Zimbabwe – sing songs (8%), take child outside (15%), and play with child (15%). We see that mothers' own reporting of these activities is generally far greater than their reporting of these activities done by the father of the child.

When it comes to others' involvement with the child in Ghana, 18% read books, 17% tell stores and 23% name/count/draw with the sample child. Additionally, 26% sing songs, 25% take child outside and 51% play with child. In The Gambia, these proportions are: read books to their child (7% of other household members), tell stories (14%), name/count/draw with their child (11%), sing songs (19%), take child outside (24%), and play with child (34%). In Zimbabwe, these proportions of other household members are: read books to their child (10%), tell stories (19%), name/count/draw with their child (14%), sing songs (21%), take child outside (21%), and play with child (30%). For most activities except telling stories, proportion of children who receive stimulation from other family members is largest in Ghana. It is in Zimbabwe that 19% children are told stories by other members in the household.

The last section in Table 3.3 describes proportion of any adult members (mother, father, or others) in the household who engage with the sample child. By definition, this engagement is

higher than by any particular adult because it is the proportion of children who receive at least some adult (parent or otherwise) engagement. Of all the six activities, playing with the child, taking the child outside, and singing songs to the child are popular activities in all three countries. Maximum proportion of adults sing songs to the child (55%) and take the child outside (66%) in Zimbabwe, whereas maximum proportion of adults play with the child (72%) in Ghana. Proportion of adults who read books, tell stories, and name/count with child varies substantially across the three countries. Maximum proportion of adults tell stories (46%) and name/count with child (38%) in Zimbabwe. This proportion is the lowest in The Gambia where 26% adults tell stories and 15% of adults name/count/draw with the child. Maximum proportion of adults read to the child (32%) in Ghana. This proportion is the lowest in The Gambia where 12% of adults read to the child.

Some involvement patterns are similar across all three countries. Compared to other activities, mothers more often take the child outside, whereas fathers and other household members more often play with the child. Moreover, other adults are more engaged in activities such as, playing with the child, even more than mothers and fathers. Further analysis of each individual activity shows that greater proportion of adults sing with the child, take the child outside, and play with the child, as compared to doing the other three activities – reading books to the child, telling stories, and naming/counting/drawing.

With regard to country differences, overall, other household members are more engaged in almost all activities in Ghana than Zimbabwe and The Gambia. Greater proportion of mothers and fathers do each activity in Zimbabwe than Ghana and The Gambia. In general, mothers, fathers, and other adults in The Gambia are less engaged with the sample child compared to that in Ghana and Zimbabwe.

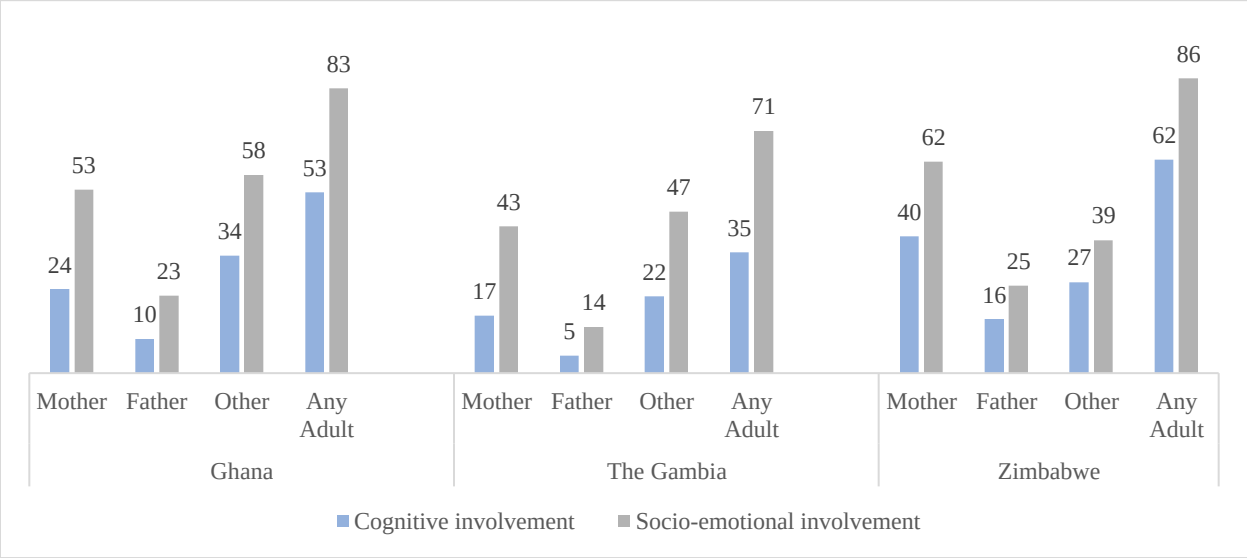
Table 3.3: Adult involvement in individual activities by country

	Ghana	The Gambia	Zimbabwe
	(N = 3679)	(N = 4221)	(N = 2510)
Mothers' involvement			
Reads books	0.12	0.05	0.13
Tells stories	0.14	0.12	0.27
Names/counts with child	0.13	0.05	0.23
Sings songs	0.28	0.20	0.37
Takes outside	0.33	0.26	0.44
Plays with child	0.30	0.20	0.36
Fathers' involvement			
Reads books	0.06	0.01	0.04
Tells stories	0.06	0.03	0.11
Names/counts with child	0.05	0.02	0.06
Sings songs	0.07	0.03	0.08
Takes outside	0.13	0.06	0.15
Plays with child	0.13	0.08	0.15
Others' involvement			
Reads books	0.18	0.07	0.10
Tells stories	0.17	0.14	0.19
Names/counts with child	0.23	0.11	0.14
Sings songs	0.26	0.19	0.21
Takes outside	0.26	0.24	0.22
Plays with child	0.51	0.34	0.30
Any adult involvement			
Reads books	0.32	0.12	0.23
Tells stories	0.32	0.26	0.46
Names/counts with child	0.37	0.15	0.38
Sings songs	0.51	0.36	0.55
Takes outside	0.55	0.45	0.66
Plays with child	0.72	0.49	0.63

Following the existing literature (Bornstein & Putnick, 2012; Sun et al., 2016), I categorize the activities of reading books, telling stories, and naming/counting/drawing with child as cognitive involvement. I categorize singing songs, taking child outside, and playing with child as socio-emotional involvement. Figure 3.2 shows that a greater proportion of mothers engage in socio-emotional activities (62 per cent in Zimbabwe, 53 per cent in Ghana, and 43 per

cent in The Gambia) as compared to cognitive activities (40 per cent in Zimbabwe, 24 per cent in Ghana, and 17 per cent in The Gambia). This pattern of engaging more in socio-emotional relative to cognitive activities is the same for mothers, fathers, others, and any adult across the three countries.

Figure 3.2: Cognitive and socio-emotional involvement, by country



3.5.2.2. Intensity of involvement

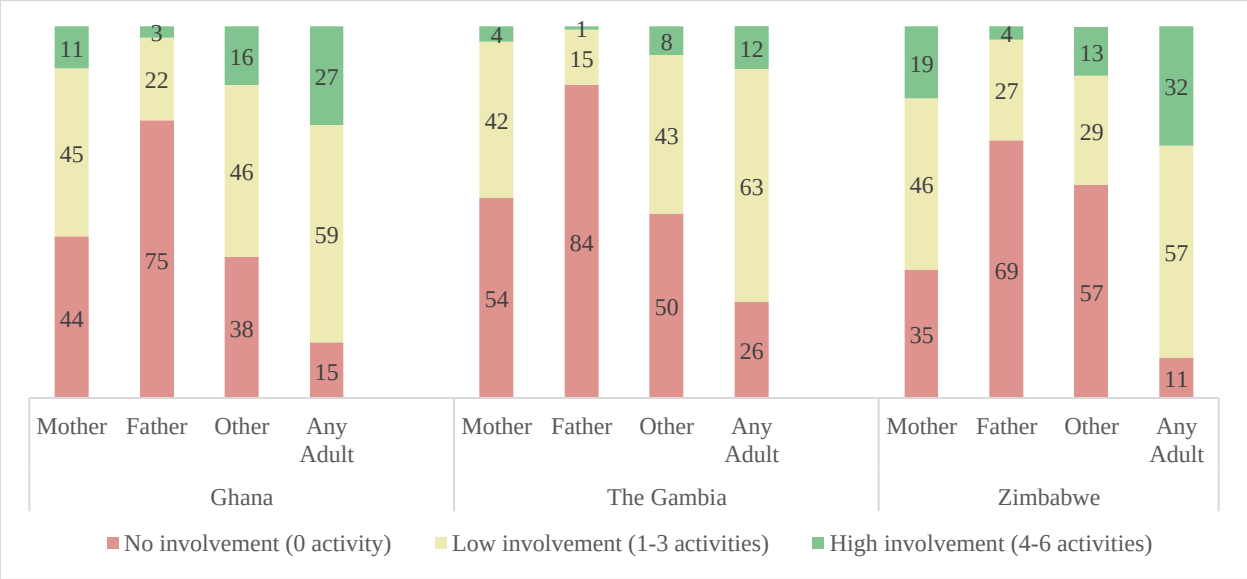
Table 3.4 below presents the intensity of involvement measured by a count index of the total number of activities (ranging from 0 to 6 activities) done by each adult and at least one adult in each country. Mothers and fathers in Zimbabwe on average do 1.8 and 1.5 activity with the sample child. These figures are lower for mothers and fathers in Ghana and The Gambia. Other household members on average do 1.6 activity in Ghana, greater than that done by others in Zimbabwe and The Gambia. With regard to engagement by any adult, 2.7 involvement activities are happening in Zimbabwe, 2.5 in Ghana, and 1.7 in The Gambia.

Table 3.4: Intensity of involvement (count index), number of activities by adult and by country

	Ghana	**The Gambia**	**Zimbabwe**
	(N = 3679)	(N = 4221)	(N = 2510)
Mother	1.3	0.9	1.8
Father	0.5	0.2	0.6
Other	1.6	1.1	1.2
Any adult	2.5	1.7	2.7

Figure 3.3 below presents the intensity of involvement categorized into no involvement (no activity), low (1-3 activities), and high (4-6 activities) involvement. Almost half the mothers in each country conduct 1-3 activities with their child. That said, there is wide variation across the countries in terms of mothers who do no activity and those who do 4-6 activities. The intensity of fathers' and others' involvement varies across the three countries. Overall, in 32% of Zimbabwean households at least one adult is doing 4-6 activities, however this statistic is 27% households in Ghana and 12% households in Gambia.

Figure 3.3: Intensity of involvement, categorized into no, low, high involvement by country



3.5.2.3. Subgroup analysis of involvement measures

In this section, I disaggregate cognitive and socio-emotional involvement by household location, household wealth, mothers' education levels, and if the child has ever attended an ECCE institution.

Table 3.5 presents the subgroup analysis for Ghana. Mothers who are involved in cognitive activities with the sample child live in urban, rich households. A greater proportion of these mothers have primary education as compared to other education levels. Mothers who are involved in socio-emotional activities with the sample child live in rural, poorest households. A greater proportion of these mothers have primary education. Mothers who engage in cognitive tasks are more likely to have secondary or higher education compared to mothers who engage in socio-emotional tasks. These patterns are exactly the same for fathers' involvement in the Ghana sample. Mothers and fathers engage with the sample child more often if the child had attended an ECCE institution. In Ghana, we see inequities based on location and wealth not only for overall parental involvement, but also the type of parental involvement that happens. Parents in urban, richest households with high levels of maternal education are more likely to engage in cognitive than socio-emotional activities.

The last two panels of Table 3.5 show that other household members who are involved in cognitive activities live in rural, rich households where mothers have a primary level education. However, other members involved in socio-emotional activities live in rural, poorest households where mothers have a primary level education. Moreover, greater proportion of others engage with children who have attended an ECCE institution, than children who have not attended an ECCE institution. The final two columns in Table 3.5 show that any adult engaging in cognitive activities and socio-emotional activities are equally likely to belong to rural or urban households.

Adults engaging in cognitive tasks mostly come from richest households. Whereas adults engaging in socio-emotional activities are likely to belong to rural, poorest households. In Ghana, inequities in others' involvement and overall adult involvement are based more around wealth than location of households. Moreover, adults are involved most in households where mothers have primary education and the sample child had attended an ECCE institution.

Table 3.5: Proportion of parental and adult involvement by background characteristics in Ghana

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Rural	0.39	0.54	0.38	0.56	0.53	0.56	0.50	0.55
Urban	0.61	0.46	0.62	0.44	0.47	0.44	0.50	0.45
Poorest	0.11	0.23	0.10	0.24	0.15	0.23	0.14	0.22
Richest	0.33	0.21	0.37	0.23	0.23	0.18	0.26	0.19
Mothers' education: Pre-primary or none	0.14	0.27	0.18	0.30	0.26	0.33	0.22	0.30
Mothers' education: Primary	0.55	0.56	0.53	0.53	0.59	0.54	0.58	0.56
Mothers' education: Secondary or higher	0.31	0.17	0.30	0.17	0.15	0.13	0.20	0.15
Child has not attended ECCE institution	0.16	0.27	0.14	0.25	0.20	0.27	0.19	0.27
Child attended ECCE institution	0.84	0.73	0.86	0.75	0.80	0.73	0.81	0.73

Note: Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE *is Early Childhood Care and Education*

Table 3.6 presents subgroup analysis for The Gambia. Mothers and fathers who are involved in cognitive activities with the sample child live in urban, rich households. Mothers and fathers who are involved in socio-emotional activities live in urban, poorest households where mothers have no or pre-primary level education. More mothers and fathers engage with children who have not attended an ECCE institution, than children who have attended an ECCE institution. Additionally, more maternal involvement happens in households where the mothers have pre-primary or no education, whereas more paternal involvement happens in households where the mothers have secondary or higher education. Thus, in The Gambia maximum parental

involvement happens in urban areas, and wealth inequities dictate whether parents participate more in cognitive or socio-emotional involvement.

The last two panels of Table 3.6 show that other household members and any adult who are involved in cognitive activities in The Gambia live in urban, richest households where mothers have a pre-primary level or no education. Moreover, greater proportion of others and any adult in The Gambia engage with children who have not attended an ECCE institution, than children who have attended an ECCE institution. Others and any adult are more likely to engage in socio-emotional activities if they belong to urban, poorest households with low levels of maternal education, and interact with children who have not attended an ECCE institution. Similar to parental involvement, others in The Gambia are involved with the sample child in urban households where the mothers have pre-primary or no education and the child has not attended an ECCE institution. In The Gambia, inequities in the type of others' involvement are based on wealth.

Table 3.6: Proportion of parental and adult involvement by background characteristics in The Gambia

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Rural	0.30	0.36	0.27	0.35	0.34	0.37	0.33	0.37
Urban	0.70	0.64	0.73	0.65	0.66	0.63	0.67	0.63
Poorest	0.18	0.20	0.17	0.24	0.20	0.22	0.20	0.22
Richest	0.26	0.18	0.33	0.19	0.22	0.16	0.23	0.16
Mothers' education: Pre-primary or none	0.43	0.49	0.38	0.49	0.47	0.52	0.47	0.53
Mothers' education: Primary	0.15	0.20	0.15	0.16	0.17	0.16	0.16	0.16
Mothers' education: Secondary or higher	0.42	0.32	0.47	0.34	0.36	0.32	0.36	0.31
Child has not attended ECCE institution	0.65	0.70	0.63	0.72	0.62	0.71	0.65	0.72
Child attended ECCE institution	0.35	0.30	0.37	0.28	0.38	0.29	0.35	0.28

Note: Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE is Early Childhood Care and Education

Table 3.7 presents subgroup analysis for Zimbabwe. Mothers and fathers who are involved in cognitive activities live in rural, rich households with high levels of maternal education (secondary or higher). Mothers and fathers who are involved in socio-emotional activities live in rural, poorest households where mothers have secondary or higher level of education. More mothers and fathers engage with children who have not attended an ECCE institution, than children who have attended an ECCE institution. In Zimbabwe, parents are more engaged with the sample child in rural households where mothers are highly educated and the sample child has not attended an ECCE institution. Inequities on the type of parental involvement are based on wealth, with richer parents engaging more in cognitive than socio-emotional activities with the child.

The last two panels of Table 3.7 show that other household members and any adult who are involved in cognitive activities in Zimbabwe live in urban, richest households where mothers have secondary or higher level of education. Moreover, greater proportion of others and any adult in Zimbabwe engage with children who have not attended an ECCE institution, than children who have attended an ECCE institution. Others and any adult are more likely to engage in socio-emotional activities if they belong to urban, poorest households with high levels of maternal education, and interact with children who have not attended an ECCE institution. Following different patterns than parental involvement, others in Zimbabwe are involved with the sample child in urban households where the mothers have secondary education and the child has not attended an ECCE institution. In Zimbabwe, inequities in the type of others' and adult involvement are based on wealth.

Table 3.7: Proportion of parental and adult involvement by background characteristics in Zimbabwe

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Rural	0.61	0.65	0.64	0.63	0.69	0.70	0.67	0.69
Urban	0.39	0.35	0.36	0.37	0.31	0.30	0.33	0.31
Poorest	0.19	0.22	0.20	0.22	0.18	0.20	0.20	0.22
Richest	0.25	0.21	0.26	0.25	0.23	0.21	0.22	0.19
Mothers' education: Pre-primary or none	0.01	0.01	0.01	0.01	0.03	0.04	0.01	0.02
Mothers' education: Primary	0.21	0.28	0.23	0.26	0.35	0.36	0.29	0.32
Mothers' education: Secondary or higher	0.78	0.71	0.76	0.73	0.62	0.60	0.70	0.66
Child has not attended ECCE institution	0.61	0.68	0.58	0.68	0.67	0.68	0.64	0.69
Child attended ECCE institution	0.39	0.32	0.42	0.32	0.33	0.32	0.36	0.31

Note: Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE is Early Childhood Care and Education

Across the three countries, mothers more often take the child outside, fathers and other household members more often play with the child. In general, adults are more involved in socio-emotional as compared to cognitive activities with the sample child. In terms of number of activities done, parents are more involved in Zimbabwe, whereas other household members are more involved in Ghana and The Gambia. The subgroup analysis is informative in showing who are the adults engaging in cognitive versus socio-emotional activities. Mothers, fathers, other household members, and at least one adult who are cognitively involved live in urban, richest households in Ghana and The Gambia, whereas they live in rural, richest households in Zimbabwe. Mothers, fathers, other household members, and any adult who are socio-emotionally involved live in rural, poorest households in Ghana and Zimbabwe, and they live in urban, poorest households in The Gambia. Adults are more involved when the mother in the house has pre-primary or no education in The Gambia, however in Ghana adults are more involved when mothers have primary education, and in Zimbabwe adults are more involved when mothers have

secondary or higher education. Thus, location, wealth, and mothers' education are revealing of adult involvement in each country.

3.5.3. To what extent do child- and household-level factors explain parental and adult involvement?

To study factors associated with parental and adult involvement, I consider three measures of involvement as the dependent variables for Ghana, The Gambia, and Zimbabwe. The first two dependent variables are cognitive and socio-emotional involvement. The analysis includes regressions of these two binary variables (0 = No, 1 = Yes) for mothers, fathers, other adults, and any adult in the household. The remaining dependent variable is a count index of total number of activities done by the mother, father, other adult, and any adult in the household. Count indices range 0-6 for mother, father, other, and any adult involvement. Country-wise tables, Table 3.8 - Table 3.10 present results for the regression estimations of cognitive and socio-emotional involvement measures. Country-wise tables, Table 3.11 - Table 3.13 present results for the regression estimations of count index of the involvement measures.

3.5.3.1. Type of involvement (cognitive and socio-emotional)

The first vertical panel from the left in Table 3.8 for Ghana shows that mothers are more likely to engage in cognitive activities with the sample child in urban, richer households, with greater maternal education, and if they as the primary caregiver are the child's biological mother. Mothers are more likely to engage in socio-emotional activities with the sample child if they have higher levels of education, and if they as the primary caregiver are the child's biological mother. Mothers' cognitive and socio-emotional involvement is negatively associated with the number of adult females in the household.

The second vertical panel in Table 3.8 shows that fathers' cognitive involvement in Ghana is positively associated with greater household wealth and maternal education. Moreover, fathers are more likely to engage in cognitive and socio-emotional activities if they live in the same household as the sample child, and if the child had attended an ECCE institution. Fathers' cognitive and socio-emotional involvement is negatively related with the number of adult females in the house.

The third vertical panel in Table 3.8 shows that others' cognitive involvement is positively associated with all wealth quintiles, number of children aged 5-17, and sample child's age. Others' cognitive involvement shows negative associations with greater number of children aged below five. Others' socio-emotional involvement is positively associated with the number of adult females and children aged 5-17 in the house, as well as with the primary caregiver's age.

The fourth panel in Table 3.8 shows that an adult engages in cognitive tasks in richer households, where mothers are highly educated, where the child's primary caregiver is older, where the sample child is older, and where the sample child had attended an ECCE institution. An adult's cognitive involvement is negatively related to the number of children aged below five in the household. Whereas an adult's socio-emotional involvement is positively related to maternal education. An adult in the household engages in cognitive and socio-emotional activities in richer households that have greater maternal education, older primary caregivers and sample children, as well as where the sample child had attended an ECCE institution.

Analyzing these associations in the Gambia, in Table 3.9 the first panel shows that like in Ghana, mothers' cognitive and socio-emotional involvement is positively related to household wealth, maternal education, and if they as the primary caregiver are the child's biological mother. Additionally, mothers are more likely to engage in socio-emotional activities if they are

older and if the child had attended an ECCE institution. Mothers are less likely to engage in cognitive activities with greater number of older children (aged 5-17) in the household, and less likely to engage in socio-emotional activities with greater number of young children in the household.

The next panel in the Gambia, in Table 3.9 presents that fathers' cognitive involvement in The Gambia is positively associated with household wealth, maternal education. Moreover, fathers living in the same house as the sample child increases the likelihood of the father engaging in cognitive and socio-emotional activities. Fathers are less likely to engage in cognitive activities with greater number of young children present in the household. Whereas fathers are less likely to engage in socio-emotional activities with older children in the household.

According to the third panel in Table 3.9, other household members in the Gambia engage in cognitive and socio-emotional activities with the child in households with more educated, older mothers, and when the child had attended an ECCE institution. Additionally, others engage in socio-emotional tasks in households with greater number of adult females and older children (aged 5-17). Others' cognitive and socio-emotional involvement is negatively associated with the father living in the same house as the sample child. The final panel in Table 3.9 shows that an adult in The Gambia is more likely to engage in cognitive tasks in richest households where mothers are highly educated, sample child had attended an ECCE institution, and there are fewer number of younger and older children in the household.

Table 3.10 presents these associations for Zimbabwe. Mothers' cognitive and socio-emotional is positively associated with maternal education, if they as the primary caregiver are the child's biological mother, and if the child had attended an ECCE institution. Mothers'

cognitive and socio-emotional involvement is negatively related to the number of adult females in the household. Additionally, mothers' socio-emotional involvement is negatively related to the number of older children in the household. Fathers' cognitive involvement is positively associated fathers living in the same household as the sample child, and if the child had attended an ECCE institution. Fathers' cognitive involvement is negatively associated with urbanicity and primary caregiver's age. Fathers' socio-emotional involvement is negatively associated with number of older children and if the child is female.

According to the third panel in Table 3.10, other household members in Zimbabwe, similar to the Gambian sample, engage in cognitive tasks with the child in wealthier households with highly educated mothers. Others engage in cognitive and socio-emotional tasks in households with older mothers and older sample children, greater number of adult males, females, and one to three older children in the household. The last panel of Table 3.10 shows that an adult in Zimbabwe is involved in cognitive tasks in the richest households with highly educated mothers, greater number of adult males, and if the child had attended an ECCE institution. An adult in Zimbabwe is less likely to engage in socio-emotional tasks if there is more than one older child (aged 5-17) in the household.

To check the robustness of the linear probability estimation that used cognitive and socio-emotional involvement variables as binary dependent variables, I also estimated logit regressions for these variables. Regression results presented in Table 3.30 - Table 3.32 (in the Appendix) show that overall, logit results are extremely similar to the linear probability regression results. Mostly the differences were based on the magnitude of the marginal effects in the logit estimations and the regression coefficients in the linear probability estimations. Differences in significance level between the two types of estimations were rare.

In summary, in Ghana and The Gambia, mothers' involvement is positively related to urbanicity, household wealth, maternal education, and primary caregiver's status as biological mother. Fathers' involvement is positively related to household wealth, maternal education, father staying in the same household as the sample child, and child's ECCE attendance. These patterns differ slightly for Zimbabwe. Mothers' involvement is positively related to mothers' education level, primary caregiver's status as biological mother, and if the child had attended an early educational institution. Fathers' involvement in Zimbabwe is positively related to him living in the same household as the sample child and if the child had attended an ECCE institution. Overall, it is expected that the presence of wealthier, more educated parents increases their involvement with their young children. However, others' involvement across the three countries reveals more unexpected and interesting patterns. In Ghana, other members complement rather than compensate for mothers' cognitive involvement in richer households. In The Gambia too, in households with high maternal education, other household adults are assisting mothers in doing cognitive and socio-emotional activities with the sample child. Whereas, in Zimbabwe, we see other members compensating for parents' cognitive involvement in richer households.

Table 3.8: Regression of involvement on child- and household-level factors, by type of involvement and by adult in Ghana

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Household location is urban	0.05*	0.03	0.03*	0.01	-0.04	0.03	-0.02	0.03
Second	0.01	-0.08*	0.02	-0.05	0.09*	-0.03	0.10*	-0.00
Middle	0.06*	-0.04	-0.01	-0.05	0.08*	-0.04	0.14***	-0.01
Fourth	0.12***	-0.01	0.07**	-0.00	0.19***	0.01	0.29***	0.02
Richest	0.17***	0.01	0.08**	-0.01	0.20***	0.02	0.30***	0.05
Mothers' education: Primary	0.06***	0.06*	0.03	0.03	0.05	-0.01	0.10**	0.04
Mothers' education: Secondary or higher	0.30***	0.15***	0.09**	0.07	0.05	-0.01	0.25***	0.08*
Number of adult females	-0.03*	-0.03*	-0.02***	-0.03**	0.03	0.04**	-0.01	0.00
Number of adult males	-0.01	0.00	0.02	0.03	0.01	0.00	-0.00	0.00
2-3 children below 5 years	0.00	-0.01	-0.01	-0.00	-0.08***	-0.01	-0.05*	-0.03
3+ children below 5 years	0.09	0.06	0.05	0.07	-0.14**	-0.02	0.02	0.05
1-3 children aged 5-17	-0.03	0.01	-0.02	-0.02	0.15***	0.15***	0.06*	0.03
3+ children aged 5-17	-0.06	-0.04	-0.02	-0.04	0.11**	0.20***	-0.00	0.00
Primary caregiver's age	-0.00	-0.00	-0.00	-0.00	0.01***	0.00**	0.00**	-0.00
Primary caregiver is child's biological mother'	0.17***	0.39***	-0.03	-0.04	0.01	-0.05	0.07	0.01
Child's father lives at home	-0.02	-0.04	0.14***	0.31***	-0.03	-0.03	0.02	0.02
Age of child (in years)	0.02	-0.03	-0.02	-0.02	0.07***	0.03	0.07***	0.01
Child is female	0.02	0.03	-0.01	-0.01	-0.02	-0.02	-0.03	0.02
Child attended ECCE institution	0.03	-0.02	0.03*	0.05*	0.05	0.02	0.08**	0.01
Constant	-0.04	0.44***	0.08	0.21*	-0.39***	0.21	-0.21*	0.71***
Observations	3558	3559	3558	3559	3558	3559	3558	3559
R-squared	0.163	0.123	0.114	0.149	0.098	0.046	0.156	0.022

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE is Early Childhood Care and Education*

Table 3.9: Regression of involvement on child- and household-level factors, by type of involvement and by adult in The Gambia

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Household location is urban	-0.02	-0.02	-0.01	-0.01	0.00	-0.02	-0.02	-0.02
Second	-0.01	-0.01	-0.00	-0.01	-0.02	-0.06	-0.02	-0.04
Middle	-0.03	0.02	0.01	-0.00	0.00	0.02	-0.01	0.01
Fourth	0.06	0.09*	0.01	-0.01	0.00	0.02	0.07	0.04
Richest	0.14***	0.11**	0.07**	0.04	0.09	0.04	0.20***	0.06
Mothers' education: Primary	0.02	0.13***	0.01	0.01	0.07*	0.09***	0.06	0.08**
Mothers' education: Secondary or higher	0.07**	0.02	0.03*	0.04	0.07**	0.10***	0.08**	0.08*
Number of adult females	0.00	0.01	-0.00	-0.00	0.01	0.02*	0.01	0.01
Number of adult males	0.01	0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00
2-3 children below 5 years	-0.01	-0.06*	-0.03*	-0.02	-0.02	-0.02	-0.05	-0.07**
3+ children below 5 years	-0.01	-0.10**	-0.02	-0.03	-0.05	-0.07	-0.09*	-0.11**
1-3 children aged 5-17	-0.12**	-0.09	-0.04	-0.10*	0.06	0.12*	-0.10*	0.00
3+ children aged 5-17	-0.13**	-0.09	-0.04	-0.13**	0.08	0.14**	-0.09	-0.02
Primary caregiver's age	0.00	-0.00	-0.00	-0.00	0.00*	0.00*	0.00	0.00
Primary caregiver is child's biological mother'	0.15***	0.37***	-0.01	-0.01	-0.02	-0.06	0.04	0.09**
Child's father lives at home	-0.02	-0.00	0.07***	0.19***	-0.05*	-0.09***	-0.03	-0.03
Age of child (in years)	0.01	-0.06**	-0.01	0.02	-0.00	-0.01	-0.00	-0.03
Child is female	-0.01	-0.02	0.01	-0.00	0.01	-0.02	0.01	-0.03
Child attended ECCE institution	0.05*	0.09***	0.02	0.01	0.12***	0.06*	0.14***	0.08***
Constant	0.06	0.40***	0.09	0.14	0.07	0.32***	0.33**	0.72***
Observations	4091	4091	4091	4091	4091	4091	4091	4091
R-squared	0.067	0.104	0.056	0.097	0.052	0.050	0.073	0.040

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE is Early Childhood Care and Education*

Table 3.10: Regression of involvement on child- and household-level factors, by type of involvement and by adult in Zimbabwe

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Household location is urban	0.05	0.07	-0.07*	-0.05	-0.03	-0.00	-0.08*	-0.01
Second	-0.03	0.01	0.01	0.02	-0.00	0.00	-0.03	0.04
Middle	-0.01	-0.01	0.00	-0.03	0.08*	0.05	0.03	0.03
Fourth	-0.00	-0.04	0.01	0.01	0.04	0.04	0.05	0.02
Richest	0.03	-0.04	0.08	0.09	0.14**	0.09	0.15**	0.05
Mothers' education: Primary	0.05	0.05	-0.01	0.01	0.15*	0.03	0.22***	0.09
Mothers' education: Secondary or higher	0.18***	0.11*	0.04	0.05	0.18**	0.06	0.34***	0.15**
Number of adult females	-0.04*	-0.04**	-0.02	-0.02	0.12***	0.17***	0.02	0.00
Number of adult males	0.02	0.01	0.01	0.02	0.05***	0.06***	0.04***	0.03**
2-3 children below 5 years	0.00	-0.02	-0.03	0.02	-0.01	0.01	-0.01	-0.02
3+ children below 5 years	-0.00	0.02	-0.06	-0.01	0.01	-0.17	0.05	0.02
1-3 children aged 5-17	-0.02	-0.07**	-0.04	-0.06*	0.09***	0.08**	-0.00	-0.06***
3+ children aged 5-17	-0.02	-0.10**	-0.02	-0.10***	0.05	0.09*	-0.04	-0.10**
Primary caregiver's age	-0.00	-0.00	-0.00**	-0.00	0.00***	0.01***	0.00	0.00*
Primary caregiver is child's biological mother'	0.41***	0.64***	-0.05	-0.04	-0.31***	-0.36***	-0.02	0.07*
Child's father lives at home	-0.06*	-0.01	0.25***	0.40***	-0.03	-0.04	-0.00	0.02
Age of child (in years)	0.01	-0.02	0.01	-0.02	0.03	0.02	0.04	-0.02
Child is female	-0.00	0.02	-0.01	-0.07***	0.01	-0.00	0.02	-0.01
Child attended ECE institution	0.16***	0.07**	0.09***	0.03	-0.00	-0.01	0.15***	0.05*
Constant	-0.04	0.18	0.11	0.26*	-0.14	-0.02	0.10	0.66***
Observations	2336	2336	2336	2336	2336	2336	2336	2336
R-squared	0.180	0.305	0.152	0.251	0.178	0.232	0.079	0.041

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE is Early Childhood Care and Education*

3.5.3.2. Intensity of involvement

Table 3.11 – Table 3.13 summarize child and household factors that relate to the intensity of parental and adult involvement in the three countries. For Ghana, the first vertical panel from the left in Table 3.11 shows that mothers' involvement is positively associated with wealth and mothers' education, and if as the primary caregiver they are the biological mother of the sample child. Additionally, mothers' involvement is negatively associated with number of adult females and more than three children aged 5-17 in the household. The next vertical panel in Table 3.11 shows that fathers' involvement index is positively associated with wealth, the mother having secondary or higher education, number of adult males in the household, the father staying at home, and the sample child having attended an ECCE institution.

Table 3.11 also shows that other household members in Ghana are likely to engage in more involvement tasks in richer households that have older mothers, older sample children who have previously attended an ECCE institution, with a greater number of adult females, and older children (aged 5-17) in the household. On the other hand, others' involvement decreases with more young children (aged below five) around. The final column of Table 3.11 shows that an adult's involvement in Ghana is positively related to wealth, maternal education, primary caregiver's age, and if the child attends an early education institution. Additionally, an adult's involvement is negatively related to 2-3 young children in the household.

Table 3.11: Regression of involvement on child- and household-level factors, by intensity of involvement and by adult in Ghana

	Mother	**Father**	**Other**	**Any Adult**
	Count Index	Count Index	Count Index	Count Index
Household location is urban	0.11	0.10	-0.08	-0.06
Second	-0.12	-0.04	0.13	0.11
Middle	0.01	-0.07	0.07	0.17
Fourth	0.21	0.17*	0.37**	0.60***
Richest	0.51***	0.19*	0.43**	0.84***
Mothers' education: Primary	0.32***	0.10	-0.06	0.21*
Mothers' education: Secondary or higher	1.07***	0.31**	0.09	0.84***
Number of adult females	-0.13***	-0.08***	0.17**	-0.01
Number of adult males	0.03	0.09*	-0.01	-0.03
2-3 children below 5 years	-0.06	0.01	-0.22**	-0.19*
3+ children below 5 years	0.22	0.21	-0.42*	-0.08
1-3 children aged 5-17	-0.20	-0.09	0.55***	0.06
3+ children aged 5-17	-0.30*	-0.12	0.63***	-0.01
Primary caregiver's age	-0.00	-0.00	0.03***	0.01**
Primary caregiver is child's biological mother'	1.07***	-0.14*	-0.14	0.20
Child's father lives at home	-0.21**	0.69***	-0.18	-0.07
Age of child (in years)	-0.07	-0.09*	0.22**	0.10
Child is female	0.07	-0.04	-0.06	-0.02
Child attended ECCE institution	0.10	0.16***	0.22**	0.35***
Constant	0.71*	0.50*	-0.69	0.80*
Observations	3559	3559	3559	3559
R-squared	0.188	0.157	0.093	0.118

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; ECCE is Early Childhood Care and Education*

The first three panels of Table 3.12 show that in The Gambia, mothers, father, and others are more likely to be involved when the primary caregiver is the child's biological mother, mothers are more educated, and in richer households where the child has previously attended an ECCE institution. Additionally, mothers are more likely to be involved when they are the child's biological mother. Fathers and other household members are likely to be involved when the father lives in the same household as the sample child. Moreover, other household members

engage more with the sample child when there are greater number of female adults and older children, and older primary caregivers. Thus, in The Gambia, an adult is more likely to be involved in richer households with greater maternal education, where the child attends an ECCE institution, the father does not stay in the household and there no other children aged below five.

Mothers', as well as fathers' involvement in The Gambia decreases when there are a greater number of younger (aged below five) and older (aged 5-17) children in the house. In addition, mothers' involvement decreases in urban households, and fathers' involvement decreases with a greater number of female adults in the household. Other household members engage less when there are a greater number of young children around. The final column of Table 3.12 shows that in a Gambian household, the adult involvement is positively related to wealth, higher levels of mothers' education, number of adult females, and if the child had attended an ECCE institution. Adult involvement is negatively related to the number of young children in the household and if the sample child's father lives at home.

Table 3.12: Regression of involvement on child- and household-level factors, by intensity of involvement and by adult in The Gambia

	Mother	**Father**	**Other**	**Any Adult**
	Count Index	Count Index	Count Index	Count Index
Household location is urban	-0.13*	-0.01	-0.09	-0.17
Second	-0.01	-0.02	-0.09	-0.04
Middle	0.05	0.02	0.07	0.10
Fourth	0.28**	-0.00	0.11	0.33*
Richest	0.47***	0.21**	0.39*	0.64***
Mothers' education: Primary	0.20**	0.01	0.27**	0.24**
Mothers' education: Secondary or higher	0.17*	0.10*	0.22**	0.28***
Number of adult females	0.02	-0.01*	0.07**	0.05*
Number of adult males	0.00	-0.01	-0.02	0.00
2-3 children below 5 years	-0.14	-0.12*	-0.09	-0.27**
3+ children below 5 years	-0.19*	-0.08	-0.27*	-0.43***
1-3 children aged 5-17	-0.34**	-0.21	0.31*	-0.07
3+ children aged 5-17	-0.39**	-0.28*	0.32*	-0.16
Primary caregiver's age	-0.00	-0.00*	0.01**	0.00
Primary caregiver is child's biological mother'	0.75***	-0.06	-0.17	0.21
Child's father lives at home	-0.08	0.36***	-0.23***	-0.19**
Age of child (in years)	-0.09	0.03	-0.01	-0.05
Child is female	-0.08	0.00	0.03	-0.03
Child attended ECCE institution	0.21***	0.07	0.34***	0.43***
Constant	0.90***	0.37*	0.51	1.55***
Observations	4091	4091	4091	4091
R-squared	0.102	0.112	0.070	0.087

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; ECCE is Early Childhood Care and Education*

Table 3.13 shows that in Zimbabwe, mothers' involvement increases when they have secondary or higher education, when they are the child's biological mother, and when the sample child had attended an ECCE institution. Fathers involvement increases in richest households, with a greater number of adult males, when the father stays in the same household as the child, and when the sample child had attended an ECCE institution. Mothers' involvement decreases when there are more adult females and older children around and when the father stays in the

same household as the sample child. Fathers' involvement decreases when there are more adult females and older children around, when the primary caregiver is older or the child's biological mother, and when the child is female.

Others' involvement in Zimbabwe increases more in richer households that have older, more educated mothers, with more adult females, males, and older children (aged 5-17) in the household. On the other hand, other household members are likely to engage in less involvement tasks in households the sample child's primary caregiver is the biological mother. The final column of Table 3.13 shows that adult involvement in Zimbabwe is positively related to the richest wealth quintile, higher levels of mothers' education, number of adult males, and if the child had attended an ECCE institution. This involvement measure is negatively related to more than one older child in the household.

Table 3.13: Regression of involvement on child- and household-level factors, by intensity of involvement and by adult in Zimbabwe

	Mother	**Father**	**Other**	**Any Adult**
	Count Index	Count Index	Count Index	Count Index
Household location is urban	0.25	-0.16	0.06	-0.08
Second	-0.05	0.05	-0.03	0.02
Middle	-0.02	-0.01	0.24*	0.17
Fourth	0.08	0.08	0.11	0.28
Richest	0.28	0.32*	0.39*	0.59**
Mothers' education: Primary	0.18	-0.00	0.32	0.54*
Mothers' education: Secondary or higher	0.59***	0.12	0.52*	1.06***
Number of adult females	-0.17**	-0.08*	0.52***	0.08
Number of adult males	0.09	0.09*	0.25***	0.22***
2-3 children below 5 years	-0.10	0.01	-0.01	-0.12
3+ children below 5 years	-0.01	-0.04	-0.22	0.15
1-3 children aged 5-17	-0.28*	-0.24***	0.32***	-0.24*
3+ children aged 5-17	-0.32*	-0.27***	0.25	-0.33*
Primary caregiver's age	0.00	-0.01*	0.02***	0.01*
Primary caregiver is child's biological mother'	2.01***	-0.16*	-1.45***	0.01
Child's father lives at home	-0.31**	0.94***	-0.19*	-0.21*
Age of child (in years)	-0.03	-0.03	0.14	0.05
Child is female	0.02	-0.16***	0.03	-0.00
Child attended ECCE institution	0.51***	0.24***	-0.09	0.45***
Constant	0.12	0.66**	-0.31	1.12*
Observations	2336	2336	2336	2336
R-squared	0.261	0.243	0.246	0.101

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; ECCE is Early Childhood Care and Education*

Mothers in Ghana and The Gambia are more involved in richer households with higher levels of maternal education, primary caregiver's status as biological mother. In Gambia, child's ECCE attendance is an added factor influencing maternal involvement. In Zimbabwe, all of these factors except household wealth explain mothers' involvement. In all three countries fathers are more involved in richer households with higher levels of maternal education, if they stay in the same household, child's ECCE attendance, and greater number of adult males. Moreover, across

the sample countries, others are more involved in richer households that have older mothers, older sample children, child's ECCE attendance, greater number of adult females and older children (aged 5-17) in the household.

An interesting picture emerges where other household members in Ghana and The Gambia are complementing and assisting parents in interacting with the sample child, but in Zimbabwe, others are compensating in the absence of parental involvement. In Ghana and The Gambia, others' involvement increases with greater number of female adults and older children in the household indicating that these might be the 'other' household members who engage with the sample child apart from the mothers. Whereas in Zimbabwe, it is other female and male adults who compensate for parental involvement. In Zimbabwe, these patterns may be explained by extended family members providing care to orphans or vulnerable children of AIDS-afflicted parents. I discuss this pattern more in the discussion section of the paper. Thus, in exploring child- and household factors that relate to the type and intensity of involvement, we see that expected socio-economic characteristics drive parental involvement. The intensity of involvement measure as the dependent variable gives us an overall perspective on these associations, whereas, in considering the type of involvement, we see greater nuances. For instance, household wealth and urbanicity drive cognitive involvement more than socio-emotional involvement.

3.5.4. What is the association between parental and adult involvement and children's early developmental outcomes?

For the final research question, Table 3.14 presents regression results of development domains on type of involvement and Table 3.15 presents regression results of development domains outcomes on intensity of involvement. Control variables for these regressions include

the sample child's age and sex, attendance at an ECCE institution, household wealth, location (urban or rural status), and the mother's education level.

3.5.4.1. Type of involvement (cognitive and socio-emotional)

Going across the vertical panels from left to right in Table 3.14, in Ghana, mothers' and fathers' cognitive involvement is positively related to the ECD score. Keeping other factors constant, mothers', and fathers' cognitive involvement (engaging in at least one of the three cognitive activities) with the sample child is associated with the child accurately doing 0.3 developmental tasks. Mothers' cognitive involvement is also positively related to literacy and numeracy development. With regard to socio-emotional involvement, mothers' and fathers' involvement is related to different developmental domains. Mothers' socio-emotional involvement is positively related to the ECD score and executive functioning of the sample child. Whereas fathers' socio-emotional involvement is positively related to the child's physical development.

The third vertical panel in Table 3.14 shows that others' cognitive involvement in Ghana is positively related to literacy and numeracy development. Others' socio-emotional involvement is surprisingly negatively related to the child's socio-emotional development. The final panel in Table 3.14 shows that in Ghana, an adult's cognitive involvement is associated with increased ECD score, literacy and numeracy, and overall development. For instance, an adult doing cognitive activities is associated with a 5% chance of the sample child being developmentally "on track" as measured by UNICEF. An adult's socio-emotional involvement is positively related to the child's executive functioning.

The second horizontal panel in Table 3.14 presents these associations for The Gambia. Mothers' cognitive involvement is positively related to the sample child's literacy and numeracy,

socio-emotional development, executive functioning, and overall development. Similar to Ghana, mothers' socio-emotional involvement is positively related to the child's physical development, and negatively related to the child's socio-emotional development. The second vertical panel of Table 3.14 for Ghana shows that the fathers' socio-emotional involvement is positively related to the sample child's ECD score, literacy and numeracy, physical development, as well as the child's executive functioning. Thus, in the Gambia sample, fathers doing socio-emotional activities with the child is associated with the child not performing accurately on 0.2 activity.

The third vertical panel of Table 3.14 for The Gambia shows that others' cognitive involvement is positively associated with the child's ECD score, literacy and numeracy, executive functioning, and overall development. Others' socio-emotional involvement is positively associated with the child's physical development, and negatively related to socio-emotional development. The final vertical panel in Table 3.14 for The Gambia shows that an adult's cognitive involvement is positively correlated with the child's ECD score, literacy and numeracy, socio-emotional development, executive functioning, and overall development. Thus, an adult in the Gambian sample household doing cognitive activities with the child is associated with a 7% chance of the sample child being developmentally "on track" as measured by UNICEF. An adult's socio-emotional involvement is positively correlated with the child's ECD score and physical development.

The third horizontal panel in Table 3.14 shows that in Zimbabwe, mothers' cognitive involvement is positively related to the sample child's ECD score, as well as literacy and numeracy development. Mothers' socio-emotional involvement in Zimbabwe is negatively related to child's ECD score. Fathers' cognitive involvement is positively associated with the

ECD score. According to the third vertical panel of Table 3.14 for Zimbabwe, others' cognitive involvement is positively associated with literacy and numeracy development. In Zimbabwe, an adult's cognitive involvement sees an increase in the sample child's ECD score and chances of being "on-track" with respect to literacy and numeracy development. An adult's socio-emotional involvement shares weak, but negative associations with the child's socio-emotional development.

To check the robustness of the linear probability estimation that used the five UNICEF developmental domain variables as binary dependent variables, I also estimated logit regressions for these variables. Regression results presented Table 3.30 – Table 3.32 (in the Appendix) show that overall, logit results are extremely similar to the linear probability regression results. Mostly the differences were based on the magnitude of the marginal effects in the logit estimations and the regression coefficients in the linear probability estimations. Differences in significance level between the two types of estimations were rare.

Across the three countries, mothers' cognitive involvement is correlated with the sample child's literacy and numeracy development, with this association being the strongest in Ghana. Fathers' cognitive involvement is related to the ECD score in Ghana and Zimbabwe, whereas in The Gambia, fathers' socio-emotional involvement is positively related to the ECD score, literacy and numeracy development, physical development, and executive functioning. Others' cognitive involvement is positively related to the child's literacy and numeracy development in all three countries, whereas in The Gambia it is also related the child's ECD score, executive functioning, and overall development.

Table 3.14: Regression of development domain on involvement, by type of involvement and by adult in each country

	Mother						**Father**					
	ECD	LN	PH	SE	EF	DVP	ECD	LN	PH	SE	EF	DVP
GHA												
Cog Inv	0.34***	0.08**	0.01	-0.03	-0.00	0.04	0.32*	0.02	-0.01	0.06	0.04	0.02
Soc Inv	0.21**	0.04	0.01	0.01	0.04*	0.05*	-0.06	-0.05	0.04**	-0.02	0.01	0.01
GAM												
Cog Inv	0.11	0.05*	-0.02	0.07**	0.03***	0.10***	0.21	0.04	-0.01	0.08	-0.01	0.05
Soc Inv	0.05	0.02	0.03**	-0.08***	0.02	-0.04*	0.17*	0.07**	0.03**	-0.04	0.03**	0.01
ZIM												
Cog Inv	0.17*	0.05**	0.01	-0.01	-0.00	0.01	0.25*	0.03	0.02	0.04	0.01	0.05
Soc Inv	-0.22**	-0.02	0.00	-0.01	-0.00	-0.00	0.05	-0.00	0.00	-0.00	0.01	0.01
	Other						**Any Adult**					
	ECD	LN	PH	SE	EF	DVP	ECD	LN	PH	SE	EF	DVP
GHA												
Cog Inv	0.21	0.09**	-0.01	0.00	-0.00	0.04	0.35***	0.10***	-0.01	0.00	0.01	0.05*
Soc Inv	-0.04	0.03	0.01	-0.07**	-0.01	-0.05	0.16	0.03	0.03	-0.06	0.06*	0.02
GAM												
Cog Inv	0.28***	0.09***	-0.01	0.04	0.03***	0.08***	0.25***	0.08***	-0.01	0.04	0.02**	0.07***
Soc Inv	-0.02	-0.03*	0.02*	-0.00	-0.02	-0.02	0.20**	-0.00	0.03**	0.01	0.01	0.02
ZIM												
Cog Inv	0.17	0.05**	-0.00	0.02	0.02	0.04	0.26***	0.05***	0.01	0.02	0.02	0.04
Soc Inv	-0.05	-0.01	0.00	-0.04	-0.00	-0.03	-0.21*	-0.02	0.02	-0.04	0.00	-0.02

*Note: * p<0.05, ** p<0.01, *** p<0.001; GHA is Ghana, GAM is The Gambia, ZIM is Zimbabwe; Cog Inv and Soc Inv are key independent variables in the same regression estimation; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECD is the Early Childhood Development Score, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development. Controls variables: Household location, Household wealth, Mothers' education, Child's age, Child's sex, Child attended an ECCE institution.*

3.5.4.2. Intensity of involvement

This section discusses the associations between the intensity of involvement, measured by the involvement count indices for mothers, fathers, other adults, and any adult and the sample child's development domains. Table 3.15 summarizes the regression results.

The first horizontal panel of Table 3.15 indicates that in Ghana mothers' involvement is positively related to the sample child's ECD score, literacy and numeracy, physical development, executive functioning, and overall development. Fathers' involvement is only related to the child's physical development. Others' involvement in Ghana is positively associated with the child's literacy and numeracy development, and negatively associated with socio-emotional development. The final vertical column of Table 3.15 for Ghana shows that an additional involvement activity done by any adult in Ghana sees the child's ECD score increase by 0.10 points.

The second horizontal panel of Table 3.15 shows these associations for The Gambia. Mothers' involvement is positively related to the sample child's ECD score, literacy and numeracy, physical development, and executive functioning. Fathers' involvement is positively related to the sample child's ECD score, literacy and numeracy, and physical development with coefficients. Others' involvement index in The Gambia is positively associated with the ECD score, literacy and numeracy, and overall development. As per Table 3.15, an adult's involvement in The Gambia is positively related to all six measures of development.

According to the third horizontal panel in Table 3.15, in Zimbabwe, mothers' involvement is positively related to literacy and numeracy, and physical development, and fathers' involvement is positively related to the child's ECD score. Others' involvement is

positively associated with literacy and numeracy development. The last vertical panel in Table 3.15 for Zimbabwe shows that an adult's involvement in Zimbabwe is positively related to the ECD score, literacy and numeracy, and physical development, as well as executive functioning.

In terms of intensity of involvement, mothers' involvement is strongly related with the child's literacy and numeracy, and physical development in all three countries. Fathers' involvement is related to the ECD score in all countries. Similar to mothers' involvement, others' involvement is related to child's literacy and numeracy across countries. Adult involvement is related to the ECD score, and literacy and numeracy development in Ghana and Zimbabwe. Moreover, adult involvement is sensitive to all domains of child development in The Gambia.

Table 3.15: Regression of development domains on involvement, by intensity of involvement and by adult in each country

	Mother						**Father**					
	ECD	LN	PH	SE	EF	DVP	ECD	LN	PH	SE	EF	DVP
GHA												
Count Index	0.16***	0.03***	0.01**	0.01	0.01**	0.03***	0.07	-0.01	0.01***	0.01	0.01	0.01
GAM												
Count Index	0.06*	0.02***	0.01*	-0.01	0.01***	0.01	0.13**	0.04**	0.01***	-0.01	0.01	0.01
ZIM												
Count Index	0.03	0.01**	0.01**	-0.00	0.00	0.01	0.09**	0.01	0.00	0.00	0.01	0.01
	Other						**Any Adult**					
	ECD	LN	PH	SE	EF	DVP	ECD	LN	PH	SE	EF	DVP
GHA												
Count Index	0.01	0.02***	0.00	-0.02**	-0.01	-0.01	0.10***	0.03***	0.01	-0.01	0.01	0.01*
GAM												
Count Index	0.07**	0.02**	0.00	0.01	0.00	0.01*	0.12***	0.03***	0.01*	0.01*	0.01***	0.02***
ZIM												
Count Index	0.02	0.01*	0.00	-0.01	0.01	0.00	0.06**	0.01***	0.01*	-0.00	0.01*	0.01

*Note: * p<0.05, ** p<0.01, *** p<0.001; GHA is Ghana, GAM is The Gambia, ZIM is Zimbabwe; Count Index is the count index for intensity of involvement; ECD is the Early Childhood Development Score, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development. Controls variables: Household location, Household wealth, Mothers' education, Child's age, Child's sex, Child attended an ECCE institution.*

3.5.5. Principal component analysis results

As described in the methodology section, I analyzed involvement activities for each adult per country using Principal Component Analysis strategy. The analysis demonstrated that there was a different combination of involvement activity variables that best explained the involvement of each adult in each country. Given how the principal components load onto specific original involvement activity variables, the overall involvement construct can be termed differently. Table 3.16 - Table 3.18 also present these updated names.

3.5.5.1. Principal components and factor loadings

In Ghana, for mothers, fathers, and other adults one principal component best explained their involvement. For mothers, the first rotated component loaded heavily with more "cognitive" activities of reading books, telling stories, singing songs, and naming/counting with the sample child with factor loadings of 0.44, 0.43, 0.45, and 0.43 respectively via varimax rotation (Table 3.16). For fathers the varimax rotated component loaded on reading books, telling stories, and singing songs with loadings of 0.45, 0.43, and 0.47, respectively. As presented in Table 3.16 the factor loadings using varimax rotation of the first component for others were 0.42, 0.43, and 0.42 for telling stories, singing songs, and naming/counting respectively. In general, any adults' involvement was best explained by two components. The first rotated component loaded heavily on reading books (factor loading of 0.61), telling stories (factor loading of 0.50), and naming/counting with child (factor loading of 0.53). The second rotated component loaded on taking the child outside (factor loading of 0.69) and playing with the child (factor loading of 0.64). Based on the first principal component, I term mothers', fathers', and others' involvement 'Books, stories, and songs'. Any adult involvement has two main components, the first component I term 'Books & stories', and the second component I term 'Physical play'.

In The Gambia, for mothers and fathers, Table 3.17 shows that two principal components best explained their involvement. For mothers, the first rotated component loaded on to reading books (factor loading of 0.63) and naming/counting with the child (factor loading of 0.57). The second component for mothers loaded substantially on taking the child outside (factor loading of 0.63) and playing with child (factor loading of 0.59). For fathers, the first component loaded on telling stories (factor loading of 0.48) and singing songs to the child (factor loading of 0.46). For fathers, the second component was similar to mothers' second component with factor loading of 0.59 for taking the child outside and factor loading of 0.59 for playing with the child. In The Gambia, others' involvement was best explained by only one factor, which was highly related to telling stories (factor loading of 0.45) and singing songs (factor loading of 0.46). Any adults' involvement in The Gambia was best explained by one principal component, which loaded heavily on telling stories (factor loading of 0.46) and singing songs (factor loading of 0.47). I term the first principal component of mothers' involvement, 'Reading & counting', whereas the second principal component is called, 'Physical play'. For fathers' involvement, the first principal component is called, 'Stories & songs', whereas the second component is called 'Physical play'. The first principal component of others' and any adults' involvement is termed 'Stories & songs'.

Table 3.18 shows that in Zimbabwe, mothers', fathers', and others' involvement is best explained by one principal component. For mothers, this rotated component loads heavily on telling stories (factor loading of 0.44) and singing songs (factor loading of 0.44). Whereas for fathers and others, the rotated component loads onto singing songs and playing with the sample child with similar factor loadings. Any adults' involvement in Zimbabwe loads on telling stories (factor loading of 0.44), singing songs (factor loading of 0.43), and naming/counting with child

(factor loading of 0.43). Based on the factor loadings, I term the principal component of mothers' involvement in Zimbabwe, 'Stories & songs'. The principal component of fathers' and others' involvement is termed 'Songs & play'. Finally, the first principal component of any adults' involvement is called 'Books, stories & songs'.

The Principal Components Analysis is revealing of how different involvement activities may be practiced more depending on the country being considered. Only in Ghana as compared to other countries, the principal component loads heavily on reading and naming/counting with child. Whereas, in The Gambia, all the other four activities (telling stories, singing songs, taking child outside, playing with child) are highly correlated with the principal component(s). This is the case with mothers in Zimbabwe too, however for fathers and other adults, principal components usually loaded onto an even more limited set of two activities (singing songs and playing with the child).

Table 3.16: Principal component loadings and rotated factor loadings of adult involvement activities in Ghana by adult

	Mother		**Father**		**Other**		**Any Adult**			
	Comp 1	Rotated Comp	Comp 1	Rotated Comp	Comp 1	Rotated Comp	Comp 1	Comp 2	Rotated Comp 1	Rotated Comp 2
Reads books	0.435	0.435	0.450	0.450	0.409	0.409	0.427	-0.449	0.608	-0.120
Tells stories	0.425	0.425	0.430	0.430	0.423	0.423	0.429	-0.251	0.495	0.044
Sings songs	0.445	0.445	0.436	0.436	0.425	0.425	0.438	0.072	0.316	0.311
Takes outside	0.328	0.328	0.339	0.339	0.379	0.379	0.346	0.599	-0.064	0.688
Plays with child	0.376	0.376	0.362	0.362	0.389	0.389	0.370	0.525	-0.001	0.643
Names/counts with child	0.428	0.428	0.420	0.420	0.422	0.422	0.430	-0.310	0.530	-0.004
Updated names	Books, stories & songs		Books, stories & songs		Books, stories & songs		Books & stories	Physical play		

Note: Comp is Component; Rotated Comp is Rotated Component; Factors have been rotated using varimax rotation technique

Table 3.17: Principal component loadings and rotated factor loadings of adult involvement activities in The Gambia by adult

	Mother				**Father**				**Other**		**Any Adult**	
	Comp 1	Comp 2	Rotated Comp 1	Rotated Comp 2	Comp 1	Comp 2	Rotated Comp 1	Rotated Comp 2	Comp 1	Rotated Comp	Comp 1	Rotated Comp
Reads books	0.365	0.522	0.626	-0.116	0.361	-0.333	0.483	-0.089	0.363	0.363	0.389	0.389
Tells stories	0.478	0.114	0.421	0.254	0.483	-0.322	0.580	-0.015	0.447	0.447	0.459	0.459
Sings songs	0.501	-0.096	0.290	0.419	0.456	-0.272	0.531	0.014	0.461	0.461	0.472	0.472
Takes outside	0.337	-0.553	-0.147	0.631	0.366	0.592	-0.007	0.696	0.393	0.393	0.337	0.337
Plays with child	0.388	-0.439	-0.030	0.585	0.370	0.594	-0.004	0.699	0.380	0.380	0.370	0.370
Names/counts with child	0.351	0.455	0.569	-0.079	0.397	-0.092	0.385	0.134	0.397	0.397	0.407	0.407
Updated names			Reading & counting	Physical play	Stories & songs	Physical play			Stories & songs		Stories & songs	

Note: Comp is Component; Rotated Comp is Rotated Component; Factors have been rotated using varimax rotation technique

Table 3.18: Principal component loadings and rotated factor loadings of adult involvement activities in Zimbabwe by adult

	Mother		**Father**		**Other**		**Any Adult**	
	Comp 1	Rotated Comp	Comp 1	Rotated Comp	Comp 1	Rotated Comp	Comp 1	Rotated Comp 1
Reads books	0.345	0.345	0.347	0.347	0.348	0.348	0.380	0.380
Tells stories	0.437	0.437	0.398	0.398	0.411	0.411	0.436	0.436
Sings songs	0.436	0.436	0.431	0.431	0.431	0.431	0.428	0.428
Takes outside	0.393	0.393	0.406	0.406	0.414	0.414	0.351	0.351
Plays with child	0.418	0.418	0.454	0.454	0.428	0.428	0.418	0.418
Names/counts with child	0.413	0.413	0.404	0.404	0.413	0.413	0.430	0.430
Updated names	Stories & songs		Songs & play		Songs & play		Books, stories & songs	

Note: Comp is Component; Rotated Comp is Rotated Component; Factors have been rotated using varimax rotation technique

3.5.5.2. Regression analysis of principal components of involvement on household and child factors

In Ghana, the principal component of mothers' involvement, 'Books, stories & songs', is highly positively correlated with each level of the mother's education, the richest wealth quintile, and primary caregiver's status of being the child's biological mother. Additionally, mothers are less likely to read, sing songs, or tell stories to the child if there are a number of other adult women in the household. The regression of principal component of fathers' involvement in Ghana, 'Books, stories & songs' shows that fathers are more likely to read, sing songs, or tell stories to the child in the richest quintile households where the mothers are highly educated, if they stay in the same household as their child, and if the sample child had attended an ECCE institution. Fathers are less likely to engage with the sample child with greater number of adult women in the household. In terms of other's involvement, the principal component of 'Books, stories & songs' is strongly correlated with greater wealth, greater mothers' education, sample child having attended an ECCE institution, primary caregiver's age, and more than one older child in the household. This points to the possibility that the older children do several activities with their younger siblings. Thus, the first principal components of adult involvement, 'Books & stories' in Ghana is strongly positively related to all but the poorest wealth quintiles, and high maternal education, older primary caregivers, and sample child having attended an ECCE institution. The second primary component of 'Physical play' is positively related to high maternal education.

In The Gambia, the first component of mothers' involvement, 'Reading & Counting' is positively related to high household wealth, mothers' secondary education, if the primary caregiver is the child's biological mother, and if the child had attended an ECCE institution. The

second component of mothers' involvement, 'Physical play' is positively related to household wealth, mothers' primary education, and if the mother is the child's biological mother. Whereas, mothers' 'Physical play' involvement is negatively related to urban areas, more than one older child in the household, and the sample child's age. Fathers are more likely to engage in 'Stories & songs' in the richest households, if they stay in the same house as the sample child, and if the child had attended an ECCE institution. Whereas fathers are more likely to engage in 'Physical play' in households where the mother has a secondary education and if the fathers stay in the same house as the sample child. Fathers are less likely to engage in 'Physical play' in households where there is more than one older child.

In The Gambia, other household members are likely to engage in 'Stories and songs' if the sample child had attended an ECCE institution, households belong to the richest wealth quintile, households where the mothers are more educated, and the primary caregiver is older. Other's involvement in 'Stories & songs' is also more likely to increase with more than one older child in the household. Finally, the sample child's father living at home decreases the likelihood of others' involvement. In terms of overall adult involvement, adults are more likely to get involved in 'Stories & songs' with the sample child in the richest households and households where mothers have a secondary education, and the sample child had attended an ECCE institution. Other household factors that increase the chances of adult 'Stories & songs' involvement are fourth wealth quintile, number of adult women in the household, mothers having primary education, and if the primary caregiver is the child's biological mother. Adult involvement is likely to decrease if there is more than one young child in the house.

In Zimbabwe, the principal component of mothers' involvement, 'Stories & songs', is highly positively correlated with mothers' secondary education, primary caregiver's status of

being the child's biological mother, and sample child's attendance at an ECCE institution. Mothers' 'Stories & songs' involvement is likely to decrease in households with greater number of adult women and older children, and if the father lives in the same household. The principal component of fathers' involvement in Zimbabwe, 'Songs & play' is positively related to the richest wealth quintile, number of men in the household, if the father stays in the same household as their child, and if the sample child had attended an ECCE institution. Fathers' involvement in 'Songs & play' is likely to decrease with greater number of adult women and older children in the household, primary caregiver's age, and female sample children.

The principal component of others' involvement in Zimbabwe, 'Songs & play' is positively related to the middle wealth quintile, mothers' secondary education, number of adult women, men, and older children in the household, and primary caregiver's age. Others' 'Songs & play' involvement is negatively related to primary caregiver's status of being the child's biological mother and if the father stays in the same household as the sample child. The principal component of adult involvement, 'Books, stories & songs' in Zimbabwe is likely to increase in the fourth and richest wealth quintile, mothers' secondary education, number of adult men in the household, primary caregiver's age, and if the sample child had attended an ECCE institution.

Table 3.19: Regression of principal components of involvement on child- and household-level factors, by adult in Ghana

	Mother	**Father**	**Other**	**Any Adult**	
Principal components	Books, stories & songs	Books, stories & songs	Books, stories & songs	Books & stories	Physical play
Household location is urban	0.12	0.17	-0.09	-0.10	0.05
Second	-0.09	-0.02	0.15	0.25*	-0.21*
Middle	0.04	-0.09	0.10	0.32**	-0.16
Fourth	0.27*	0.35*	0.39**	0.88***	-0.04
Richest	0.60***	0.38**	0.47**	1.07***	0.04
Mothers' education: Primary	0.32***	0.15	-0.04	0.22**	0.07
Mothers' education: Secondary or higher	1.16***	0.48**	0.10	0.82***	0.33**
Number of adult females	-0.13***	-0.13***	0.16**	-0.01	-0.02
Number of adult males	0.02	0.15*	-0.00	-0.02	-0.01
2-3 children below 5 years	-0.04	0.01	-0.22**	-0.11	-0.13*
3+ children below 5 years	0.26	0.35*	-0.44*	-0.04	0.13
1-3 children aged 5-17	-0.21	-0.14	0.52***	0.09	0.08
3+ children aged 5-17	-0.32*	-0.19	0.59***	-0.00	0.05
Primary caregiver's age	-0.00	-0.01	0.03***	0.01***	0.00
Primary caregiver is child's biological mother'	1.00***	-0.20	-0.14	0.18	0.24*
Child's father lives at home	-0.19*	0.98***	-0.17	0.01	0.02
Age of child (in years)	-0.04	-0.16*	0.21**	0.14*	-0.01
Child is female	0.07	-0.05	-0.05	-0.04	-0.01
Child attended ECCE institution	0.12	0.25***	0.21**	0.30***	0.17*
Constant	-0.76*	0.03	-2.22***	-1.91***	-0.38
Observations	3555	3555	3555	3555	3555
R-squared	0.200	0.149	0.096	0.184	0.033

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Header row presents principal components of mothers', fathers', others', and any adult's involvement*

Table 3.20: Regression of principal components of involvement on child- and household-level factors, by adult in The Gambia

	Mother		**Father**		**Other**	**Any Adult**
	Reading & counting	Physical play	Stories & songs	Physical play	Stories & songs	Stories & songs
Household location is urban	-0.09	-0.14*	-0.04	-0.00	-0.07	-0.13
Second	-0.02	0.00	-0.00	-0.05	-0.10	-0.04
Middle	-0.05	0.10	0.11	-0.04	0.04	0.09
Fourth	0.26*	0.24*	0.12	-0.08	0.11	0.35*
Richest	0.61***	0.31**	0.59***	0.12	0.45*	0.82***
Mothers' education: Primary	0.04	0.25***	0.00	0.03	0.30**	0.24*
Mothers' education: Secondary or higher	0.39***	-0.00	0.12	0.19**	0.25**	0.33***
Number of adult females	0.01	0.02	-0.03*	-0.01	0.08**	0.05*
Number of adult males	0.01	0.00	-0.01	-0.01	-0.03	-0.01
2-3 children below 5 years	-0.02	-0.17*	-0.28*	-0.11	-0.09	-0.23**
3+ children below 5 years	-0.06	-0.22*	-0.14	-0.12	-0.29*	-0.42***
1-3 children aged 5-17	-0.46**	-0.19	-0.35	-0.34*	0.33*	-0.13
3+ children aged 5-17	-0.54***	-0.21	-0.38	-0.49**	0.35*	-0.20
Primary caregiver's age	0.00	-0.00	-0.00	-0.01*	0.01**	0.01
Primary caregiver is child's biological mother'	0.47***	0.75***	-0.07	-0.11	-0.21	0.27*
Child's father lives at home	-0.09	-0.05	0.51***	0.60***	-0.25***	-0.11
Age of child (in years)	0.04	-0.15**	-0.00	0.08	-0.01	-0.03
Child is female	-0.09	-0.06	0.09	-0.07	0.04	-0.01
Child attended ECCE institution	0.27***	0.12*	0.22**	0.05	0.46***	0.59***
Constant	-0.33	0.18	0.34	0.17	-0.64*	-0.32
Observations	4084	4084	4084	4084	4084	4084
R-squared	0.100	0.071	0.069	0.094	0.075	0.113

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Header row presents principal components of mothers', fathers', others', and any adult's involvement*

Table 3.21: Regression of principal components of involvement on child- and household-level factors, by adult in Zimbabwe

	Mother	**Father**	**Other**	**Any Adult**
	Stories & songs	Songs & play	Songs & play	Books, stories & songs
Household location is urban	0.22	-0.24	0.06	-0.19
Second	-0.04	0.06	-0.03	-0.02
Middle	-0.01	-0.00	0.25*	0.13
Fourth	0.09	0.15	0.11	0.28*
Richest	0.28	0.49*	0.40	0.62***
Mothers' education: Primary	0.16	-0.01	0.35	0.44*
Mothers' education: Secondary or higher	0.56***	0.15	0.56*	0.93***
Number of adult females	-0.15**	-0.11*	0.54***	0.10
Number of adult males	0.09	0.13*	0.26***	0.20***
2-3 children below 5 years	-0.08	0.03	-0.02	-0.12
3+ children below 5 years	-0.02	-0.06	-0.21	0.00
1-3 children aged 5-17	-0.25*	-0.32***	0.34***	-0.17
3+ children aged 5-17	-0.29*	-0.36**	0.26	-0.25
Primary caregiver's age	0.00	-0.01*	0.02***	0.01*
Primary caregiver is child's biological mother'	1.84***	-0.24*	-1.50***	0.10
Child's father lives at home	-0.29**	1.31***	-0.19*	0.00
Age of child (in years)	-0.02	-0.04	0.14	0.06
Child is female	0.01	-0.21***	0.04	-0.01
Child attended ECCE institution	0.51***	0.37***	-0.09	0.45***
Constant	-1.50***	0.15	-1.57***	-1.60***
Observations	2335	2335	2335	2335
R-squared	0.257	0.234	0.243	0.114

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Header row presents principal components of mothers', fathers', others', and any adult's involvement*

3.5.5.3. Regression analysis of early childhood development on principal components of involvement

In Ghana, mothers' 'Books, stories & songs' involvement is related strongly and positively with the sample child's ECD score, literacy and numeracy development, and overall development. Whereas mothers' involvement is weakly related to the sample child's physical development and executive functioning. In comparison, fathers' 'Books, stories & songs' involvement is positively related to the child's ECD score and child's physical development. There is a mixed relationship between others' involvement and various developmental domains. On the one hand, increased others' involvement with 'Books, stories & songs' is associated with increased literacy and numeracy development. On the other hand, increases in others' involvement are related to decreases in socio-emotional development. Finally, overall adult 'Books & stories' involvement shows a strong, positive relationship with the child's ECD score and literacy and numeracy development. This component of adult involvement is also positively related with the child's overall development. The 'Physical play' component of adult involvement shows a weak, positive relationship with the child's ECD score, literacy and numeracy development, and physical development. In fact, others' 'Physical play' involvement is negatively related to the child's socio-emotional development.

In The Gambia, mothers' 'Reading & counting' involvement is positively related to all domains of development except physical development. Mothers' 'Physical play' involvement is positively related to literacy and numeracy development, physical development, and executive functioning. Mothers' 'Physical play' involvement is negatively related to socio-emotional development. Fathers' 'Stories & songs' involvement is positively related to only the child's ECD score and literacy and numeracy development. Whereas fathers' 'Physical play'

involvement is positively related to multiple domains, such as, the ECD score, literacy and numeracy development, physical development, and executive functioning. Others' 'Stories & songs' involvement is positively related to the ECD score, literacy and numeracy development, socio-emotional development, executive functioning, and overall development. Finally, adults' 'Stories & songs' involvement is positively related to all domains except physical development in The Gambia.

In Zimbabwe, as compared to Ghana and The Gambia, the regression coefficients of involvement are relatively smaller, with limited significant associations with developmental domains. Mothers' 'Stories & songs' involvement is positively related to literacy and numeracy development and physical development. Fathers' 'Songs & play' involvement is positively related to the ECD score and literacy and numeracy development. Others' 'Songs & play' involvement is positively related to only literacy and numeracy development. Overall adult 'Books, stories & songs' involvement is positively related to the ECD score, literacy and numeracy development, and executive functioning.

Table 3.22: Regression of development domain on principal components of involvement, by adult in Ghana

Principal component of involvement		ECD	LN	PH	SE	EF	DVP
Mother							
	Books, stories & songs	0.16***	0.03***	0.01**	0.01	0.01**	0.03***
Father							
	Books, stories & songs	0.05*	-0.00	0.01**	0.01	0.01	0.01
Other							
	Books, stories & songs	0.02	0.03***	0.00	-0.02**	-0.01	-0.01
Any Adult							
	Books & stories	0.14***	0.04***	0.00	-0.01	0.00	0.02**
	Physical play	0.08*	0.02**	0.01*	-0.03**	0.01	0.01

*Note: * p<0.05, ** p<0.01, *** p<0.001; ECD is the Early Childhood Development Score, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development. Controls variables: Household location, Household wealth, Mothers' education, Child's age, Child's sex, Child attended an ECCE institution*

Table 3.23: Regression of development domain on principal components of involvement, by adult in The Gambia

Principal component of involvement	ECD	LN	PH	SE	EF	DVP
Mother						
Reading & counting	0.06*	0.02***	-0.00	0.02*	0.01***	0.02***
Physical play	0.04	0.01*	0.01***	-0.02*	0.01***	-0.00
Father						
Stories & songs	0.06**	0.02**	0.00	0.01	0.00	0.01
Physical play	0.06*	0.02**	0.01***	-0.01	0.01**	0.00
Other						
Stories & songs	0.07**	0.02***	0.00	0.01*	0.00	0.02**
Any Adult						
Stories & songs	0.14***	0.03***	0.00	0.02**	0.01***	0.03***

*Note: * p<0.05, ** p<0.01, *** p<0.001; ECD is the Early Childhood Development Score, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development. Controls variables: Household location, Household wealth, Mothers' education, Child's age, Child's sex, Child attended an ECCE institution*

Table 3.24: Regression of development domain on principal components of involvement, by adult in Zimbabwe

Principal component of involvement	ECD	LN	PH	SE	EF	DVP
Mother						
Stories & songs	0.03	0.02**	0.01**	-0.00	0.00	0.01
Father						
Songs & play	0.07**	0.01*	0.00	0.00	0.00	0.01
Other						
Songs & play	0.02	0.01**	0.00	-0.01	0.01	0.00
Any Adult						
Books, stories & songs	0.08**	0.02***	0.01	0.00	0.01*	0.01

*Note: * p<0.05, ** p<0.01, *** p<0.001; ECD is the Early Childhood Development Score, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development. Controls variables: Household location, Household wealth, Mothers' education, Child's age, Child's sex, Child attended an ECCE institution*

3.6. Discussion and conclusion

Caregiver involvement in early childhood is crucial for children's basic cognitive, socio-emotional, physical, and learning abilities. In many low- and middle-income countries, adult caregivers (such as grandparents, aunts, and older siblings) besides parents spend large amounts of time with young children providing them nourishing, responsive care. Despite these varied caregiving patterns, the evidence base does not capture interactions between non-parental adults and young children, and the implication of this care on child development. To address these research gaps, I utilize UNICEF's MICS data for Ghana, The Gambia, and Zimbabwe to study variations in parental and adult involvement, child and household factors associated with involvement, as well as associations between involvement and child development outcomes. This study finds some expected factors and associations explaining parental involvement; however, the measure of others' involvement reveals striking results for the three countries.

This paper makes compelling contributions to the comparative education and ECCE literature. I address the gap in the involvement and caregiving literature within ECCE by quantitatively measuring parental and adult involvement. I analyze both the type and intensity of parental and adult involvement that offers a nuanced analysis of involvement in relation to child development. Moreover, using a focused sub-set of three African countries, I explain the study findings in the background of relevant context-specific factors of caregiving.

3.6.1. Limitations

This study has several limitations that should be discussed. First, parental and adult involvement measures were self-reported by the sample child's mother or primary caretakers on behalf of the other household members which introduces potential sources of bias. For instance,

self-reporting may have led educated and richer parents/caregivers to over report their cognitive involvement. Second, due to limitations of the MICS data, this study creates parental and adult involvement measures based only on six activities that an adult does with the sample child, information asked in the MICS questionnaires. The study did not examine other details of involvement such as quality and frequency of the interactions, which limit the depth of analyses. Moreover, the study did not control for parental employment given that the MICS does not capture this information.

Third, this study used a common measure of adult involvement across different country contexts and could not include countries' cultural practices and societal characteristics in the analyses. Although the six typical activities had all been identified as being important for children's development regardless of their cultural background (Bornstein & Putnick, 2012), the value of these activities for adults from different countries and cultures could differ. Fourth, there is no further information in the MICS data on who are the other adults who engage with the sample child and what their background characteristics may be. This information would have facilitated a deeper analysis of the 'others' involvement' measure.

Some of these limitations have been discussed in great detail in Chapter 2 while reviewing scales and datasets that allow a measurement of caregiver and adult involvement. Although the UNICEF MICS survey has these limitations, yet, it is one of the most comprehensive datasets available that allows researchers to study broad patterns of adult involvement, correlate them to environmental contexts, such as the parents' and child's home characteristics, and compare population level statistics across multiple LMICs.

3.6.2. Summary of results

Overall, results from Ghana show greater involvement of mothers, fathers, and others in socio-emotional activities, as compared to cognitive activities. For mothers' and fathers' involvement, urban location, greater wealth, and maternal education are associated with increased cognitive involvement. For others' involvement, rural location and greater wealth are associated with increased cognitive involvement. Greater household wealth and number of older children (aged 5-17), along with older sample children increase the chances of others engaging in cognitive activities. In addition to these factors, presence of adult females in the house increase the chances of others engaging in socio-emotional activities. While mothers' and fathers' involvement is beneficial to the child, others' involvement also has important implications in terms of literacy and numeracy.

Summary results for the Gambia suggest that parental and others' involvement happens mostly in urban households where the mothers have pre-primary or no education. Moreover, wealth inequities dictate whether parents and other adults participate more in cognitive or socio-emotional involvement. In The Gambia, adult females and older siblings assist the mother in taking care of the child, thus substituting for fathers' involvement. This is supported by the fact that others' involvement increases when the father does not stay in the same household as the sample child. As indicated by the significance levels, any adult involvement is positively and strongly related to all domains of child development.

In Zimbabwe, despite high levels of others' involvement, parents are more involved than they are in Ghana or The Gambia. Moreover, results highlight that this parental involvement mostly takes place in rural, richest households where mothers are highly educated, especially in the case of cognitive involvement. In Zimbabwe, we see other members compensating for

parents' cognitive involvement in richer households. These involvement patterns can be explained by the demographic and family structure related changes taking place in Zimbabwe versus Ghana and The Gambia. With family fragmentation (Mugweni, 2017) such traditional child-rearing customs are changing towards greater involvement of just parents in Zimbabwe away from multiple caregivers interacting with children. Yet, other or extended family members step in Zimbabwe for performing caregiving responsibilities in the absence of parents.

3.6.3. Variations in parental and adult involvement

Socio-emotional involvement is more common than cognitive involvement across all three countries: Adults across all three countries undertake socio-emotional activities more than cognitive activities. From the socio-emotional activities reported, taking the sample child outside is the most popular activity done by mothers, whereas fathers and other household members more often play with the child. This preference of doing socio-emotional rather than cognitive activities is most stark in The Gambia with very low proportions of adults engaging children in cognitive activities. Moreover, across the three countries, adults who live in the richest households engage most in cognitive activities, however those living in poorest households engage most in socio-emotional activities. As explained by Cuartas, Jeong, et al. (2020) a potential mechanism to explain disparities in adult involvement is that in resource-constrained households, low levels of education among family members, greater number of children to take care of, and poverty may be contextual factors that compromise parents capacity to engage in stimulating activities.

Other household members play an important role in children's lives: Large proportions of other household members beside parents engage in activities with the child in all three countries. This pattern is seen playing out across wealth quintiles and maternal education levels.

This result aligns with recent ECCE literature from other LMICs which highlights the active role played by extended family members like grandparents, older siblings, and other caregivers (Cuartas, Jeong, et al., 2020; Ong'ayi et al., 2020; Ruiz-Casares, Nazif-Muñoz, Iwo, & Oulhote, 2018). Customs such as kinship caregiving that are still quite prevalent in Ghana, The Gambia, and Zimbabwe (Cotton, 2021) explain wide prevalence of others engaging in involvement activities.

Type and intensity measures of involvement offer different nuances: Where the count index offers an overall perspective on involvement, categorizing the measure as cognitive and socio-emotional highlights nuances in the analyses. For instance, focusing on cognitive versus socio-emotional involvement, involvement being higher in Ghana and Zimbabwe can be explained by the research done by Bornstein & Putnick (2012). They find that a country's Human Development Index (HDI), schooling, and GDP is significantly correlated with cognitive involvement. Cognitive involvement in the Gambian sample being lower than that in the Ghanaian and Zimbabwean sample can be due to The Gambia faring lower on the HDI, schooling, and GDP level. Gambia ranks 174 out of 189 countries on the HDI rankings and it was categorized as one of the 10 poorest countries in the world in 2015 (World Bank, 2015). High multidimensional poverty in country has had adverse consequences for all levels of education. In 2013, the Demographic and Health Surveys estimated that only 27 per cent of adults in The Gambia living in rural areas were literate, and about half of the adults in these areas had never attended school (The Gambia Bureau of Statistics and ICF International, 2014). This background country context may explain the low levels of cognitive adult involvement in The Gambia.

3.6.4. Factors associated with parental and adult involvement

Wealth and maternal education are key drivers of cognitive involvement for all three countries: Supported by other literature (Bornstein et al., 2015b; Sun et al., 2016), this study finds that wealth and maternal education are primary drivers in adults being cognitively or highly involved. For instance, in richest households with more educated mothers, mothers and fathers separately do more naming/counting/drawing with the child. Additionally, with greater proportion of highly educated mothers in Zimbabwe, mothers, fathers, and others are more likely to do cognitive than other activities with the child. Where wealth and urbanicity is correlated with adults' cognitive involvement (for example in Ghana), maternal education is more crucial for adults' socio-emotional involvement. According to Jeong, McCoy, & Fink (2017) who explain the pathways between parental education and caregiver involvement in 44 LMICs, each parent's education directly predicts his or her own involvement, but is also associated with higher levels of activities performed by the other parent. This is seen in the current study as well, households with mothers having higher levels of education see greater involvement by the father as well as other household members.

Depending on the context, others' involvement can be complimentary or compensating: Overall, it is expected that the presence of wealthier, more educated parents increases their involvement with their young children. However, others' involvement across the three countries reveals more unexpected and interesting patterns. In Ghana, other members complement rather than compensate for mothers' cognitive involvement in richer households. In The Gambia too, in households with high maternal education, other household adults are assisting mothers in doing cognitive and socio-emotional activities with the sample child. Whereas, in Zimbabwe, we see other members compensating for parents' cognitive involvement in richer households. While

extended family networks have always existed, in the wake of HIV AIDS and the economic meltdown experienced in the early 2000s in Zimbabwe, care of orphan or otherwise vulnerable children by extended families became visibly evident in the country (Mushunje, 2014). In the current study, compensation of parental involvement by other household members in the Zimbabwean sample could be explained by extended family members stepping in to provide caregiving to children in the absence of the parents.

Presence of adult females and older children influence others' involvement: The current study findings show that fathers are less likely to be involved in the sample child's caregiving when there are other household members present. This is the case especially in Ghana and The Gambia. Existing literature based on African countries discusses the traditional practices of older women and older siblings (especially older sisters) taking on a bulk share of child-rearing and supporting mothers (Hosny, Danquah, Berry, & Wan, 2020; Jakiela, Ozier, Fernald, & Knauer, 2020; Kuyini et al., 2009). Additionally, socio-emotional involvement of parents decreases as the number of young children in the household increase. With greater number of younger children, adult involvement, in particular socio-emotional involvement with the sample child decreases. This could be because the parents and even other household members have to divide their time amongst a greater number of young children.

3.6.5. Parental and adult involvement and developmental domains

Overall, any adult engagement increases child development: Any adult involvement with the child in doing any of the six activities is associated with the child successfully completing 0.35 tasks in Ghana, 0.25 tasks in The Gambia, and 0.26 tasks in Zimbabwe. In fact, in The Gambia, adult involvement shares a positive and significant association with all six domains of child development, along with the ECD score. With regard to whose involvement matters more,

we see that mothers' involvement count index compared to fathers' and others' involvement index shares a significant association with a greater number of developmental domains for Ghana, The Gambia, and Zimbabwe.

Mothers' and others' involvement relate strongly with the child's literacy and numeracy development: This is especially the case when these adults engage in cognitive activities with the child. These associations are strongest in Ghana and The Gambia, whereas involvement measures do not explain much of the variation in child development in Zimbabwe. In both Ghana and The Gambia, others' cognitive involvement increases the chances of the child being on-track with literacy and numeracy development by 9%, even higher than mothers' cognitive involvement (8% and 5% respectively). In Zimbabwe, mothers' and others' cognitive involvement equally (5%) increase the chances of the child being on-track with literacy and numeracy development. Existing literature (Crittenden & Marlowe, 2008) shows that because mothers are still the primary caregivers of children in a number of African cultural communities, they would have substantial interactions with children engaging in verbal and social exchanges as is the case in Kenya (Ong'ayi et al., 2020). Large proportions of mothers in Zimbabwe are involved in cognitive tasks with the child which could explain the lack of variation in the association between involvement and child development measures.

No link between adult involvement and child's socio-emotional development: Overall, MICS data for Ghana, The Gambia, and Zimbabwe does not show any associations between adult involvement measures and UNICEF's measure of socio-emotional development. In fact, in Ghana, others' socio-emotional involvement and others' involvement index shows negative associations with children's socio-emotional development. Analyzing the indicators measuring socio-emotional development 'child gets along well with other children', 'child does not kick,

bite or hit other children or adults', 'child gets distracted easily' are not behaviors that are addressed well through the involvement activity measures.

3.6.6. Policy implications

Parenting intervention programs are a key strategy for improving development outcomes. Systematic evidence reviews (such as, Jeong, Franchett, Ramos de Oliveira, Rehmani, & Yousafzai, 2021; Rao, Sun, Chen, & Ip, 2017) indicate that parenting interventions have significantly greater effects in LMICs compared to high-income countries. This study's findings support the case to design policy intervention programs for parents and other adult members in Ghana, The Gambia, and Zimbabwe. Findings of the current study imply that parenting intervention programs in diverse family contexts will be remiss if beyond mothers they do not target fathers, as well as non-parental caregivers in the households. Results highlight the need to disaggregate data by other adult members in the household to better understand how each adult independently and jointly influences young children's development. Thus, an increased understanding of parental and adult involvement patterns will facilitate better-informed policy programs, addressing social inequalities between children and households in the long run.

3.6.7. Conclusion

This study used descriptive and multi-variate regressions to study caregiver involvement and its associations with early childhood outcomes for Ghana, The Gambia, and Zimbabwe. Study findings suggest that parental involvement, especially mothers' involvement is crucial for multiple domains of child development beyond literacy and numeracy development. However, the relationship between other household members' involvement and children's literacy and numeracy development is more interesting and is currently under-researched.

The level of others' involvement differs, with Ghana seeing the maximum and Zimbabwe seeing the least. However, others' cognitive involvement increases the chances of children being on-track with literacy and numeracy development by 9%, 9%, and 5% in Ghana, The Gambia, and Zimbabwe. These involvement patterns of other members are even higher than mothers' involvement in some cases. Early childhood care and education and parenting intervention programs designed for Ghana, The Gambia, and Zimbabwe should account for these diverse patterns of adult involvement.

The current study connects to Chapter 2 of this dissertation in highlighting a nuance that contributes to the conceptualization of caregiver involvement which is the significant, positive associations between other household members' involvement and child development. Adult involvement frameworks based on LMICs would be better informed if they recognize the diverse family structures in countries, specifically LMICs. Moreover, the current study also supports the gaps recognized in Chapter 2 with regard to limited data that collects detailed information about other household members who are closely involvement with children's lives. Thus, richer data on who these other household members can facilitate a deeper analysis of adult involvement, beyond the parents.

APPENDICES

APPENDIX A Summary of regressions conducted

Table 3.25: Summary of total regression estimations

Dependent Variable	Key Independent Variable	Type Of Adult: Mother, Father, Other, Any Adult	Country: GHA, GAM, ZIM	No. Of Regressions
RQ2: Type of involvement				
Cognitive involvement	N/A	4	3	12
Socio-emotional involvement	N/A	4	3	12
RQ2: Intensity of involvement				
Involvement count index	N/A	4	3	12
Total for RQ2				**36**
RQ3: Developmental domain				
Literacy and numeracy development	Cognitive, Socio-emotional involvement	4	3	12
Physical development		4	3	12
Socio-emotional development		4	3	12
Executive functioning		4	3	12
Overall development		4	3	12
ECD score		4	3	12
RQ3: Developmental domain				
Literacy and numeracy development	Involvement index	4	3	12
Physical development		4	3	12
Socio-emotional development		4	3	12
Executive functioning		4	3	12
Overall development		4	3	12
ECD score		4	3	12
Total for RQ3				**144**
Total number of regressions				**180**

APPENDIX B Summary of regression results

Table 3.26: Summary of results of regression of involvement on child- and household-level factors, by type and intensity of involvement and by adult in Ghana

	Mother			**Father**			**Other**			**Any Adult**		
	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index
Household location is urban	+	NS	NS	+	NS	NS	NS	NS	NS	NS	NS	NS
Second	NS	–	NS	NS	NS	NS	+	NS	NS	+	NS	NS
Middle	+	NS	NS	NS	NS	NS	+	NS	NS	+	NS	NS
Fourth	+	NS	NS	+	NS	+	+	NS	+	+	NS	+
Richest	+	NS	+	+	NS	+	+	NS	+	+	NS	+
Mothers' education: Primary	+	+	+	NS	NS	NS	NS	NS	NS	+	NS	+
Mothers' education: Secondary or higher	+	+	+	+	NS	+	NS	NS	NS	+	+	+
Number of adult females	–	–	–	–	–	–	NS	+	+	NS	NS	NS
Number of adult males	NS	NS	NS	NS	NS	+	NS	NS	NS	NS	NS	NS
2-3 children below 5 years	NS	NS	NS	NS	NS	NS	–	NS	–	–	NS	–
3+ children below 5 years	NS	NS	NS	NS	NS	NS	–	NS	–	NS	NS	NS
1-3 children aged 5-17	NS	NS	NS	NS	NS	NS	+	+	+	+	NS	NS
3+ children aged 5-17	NS	NS	–	NS	NS	NS	+	+	+	NS	NS	NS
Primary caregiver's age	NS	NS	NS	NS	NS	NS	+	+	+	+	NS	+
Primary caregiver is child's biological mother	+	+	+	NS	NS	–	NS	NS	NS	NS	NS	NS
Child's father lives at home	NS	NS	–	+	+	+	NS	NS	NS	NS	NS	NS
Age of child (in years)	NS	NS	NS	NS	NS	–	+	NS	+	+	NS	NS
Child is female	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Child attended ECCE institution	NS	NS	NS	+	+	+	NS	NS	+	+	NS	+

Note: Each vertical panel from left to right represents mothers', fathers', other's, and any adult's involvement. Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional Involvement, and Count Index is the count index for intensity of involvement. Adult males and females are aged 15-49; ECCE is Early childhood care and education.

Table 3.27: Summary of results of regression of involvement on child- and household-level factors, by type and intensity of involvement and by adult in The Gambia

	Mother			**Father**			**Other**			**Any Adult**		
	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index
Household location is urban	NS	NS	–	NS	NS	NS	NS	NS	NS	NS	NS	NS
Second	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Middle	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fourth	NS	+	+	NS	NS	NS	NS	NS	NS	NS	NS	+
Richest	+	+	+	+	NS	+	NS	NS	+	+	NS	+
Mothers' education: Primary	NS	+	+	NS	NS	+	+	+	+	NS	+	+
Mothers' education: Secondary or higher	+	NS	+	+	NS	+	+	+	+	+	+	+
Number of adult females	NS	NS	NS	NS	NS	–	NS	+	+	NS	NS	+
Number of adult males	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2-3 children below 5 years	NS	–	NS	–	NS	–	NS	NS	NS	NS	–	–
3+ children below 5 years	NS	–	–	NS	NS	NS	NS	NS	–	–	–	–
1-3 children aged 5-17	–	NS	–	NS	–	NS	NS	+	+	–	NS	NS
3+ children aged 5-17	–	NS	–	NS	–	–	NS	+	+	NS	NS	NS
Primary caregiver's age	NS	NS	NS	NS	NS	–	+	+	+	NS	NS	NS
Primary caregiver is child's biological mother	+	+	+	NS	NS	NS	NS	NS	NS	NS	+	NS
Child's father lives at home	NS	NS	NS	+	+	+	–	–	–	NS	NS	–
Age of child (in years)	NS	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Child is female	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Child attended ECCE institution	+	+	+	NS	NS	NS	+	+	+	+	+	+

Note: Each vertical panel from left to right represents mothers', fathers', other's, and any adult's involvement. Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional Involvement, and Count Index is the count index for intensity of involvement. Adult males and females are aged 15-49; ECCE is Early childhood care and education.

Table 3.28: Summary of results of regression of involvement on child- and household-level factors, by type and intensity of involvement and by adult in Zimbabwe

	Mother			**Father**			**Other**			**Any Adult**		
	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index	Cog Inv	Soc Inv	Count Index
Household location is urban	NS	NS	NS	–	NS	NS	NS	NS	NS	–	NS	NS
Second	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Middle	NS	NS	NS	NS	NS	NS	+	NS	+	NS	NS	NS
Fourth	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Richest	NS	NS	NS	NS	NS	+	+	NS	+	+	NS	+
Mothers' education: Primary	NS	NS	NS	NS	NS	NS	+	NS	NS	+	NS	+
Mothers' education: Secondary or higher	+	+	+	NS	NS	NS	+	NS	+	+	+	+
Number of adult females	–	–	–	NS	NS	–	+	+	+	NS	NS	NS
Number of adult males	NS	NS	NS	NS	NS	+	+	+	+	+	+	+
2-3 children below 5 years	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
3+ children below 5 years	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1-3 children aged 5-17	NS	–	–	NS	–	–	+	+	+	NS	–	–
3+ children aged 5-17	NS	–	–	NS	–	–	NS	+	NS	NS	–	–
Primary caregiver's age	NS	NS	NS	–	NS	–	+	+	+	NS	+	+
Primary caregiver is child's biological mother	+	+	+	NS	NS	–	–	–	–	NS	+	NS
Child's father lives at home	–	NS	–	+	+	+	NS	NS	–	NS	NS	–
Age of child (in years)	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Child is female	NS	NS	NS	NS	–	–	NS	NS	NS	NS	NS	NS
Child attended ECCE institution	+	+	+	+	NS	+	NS	NS	NS	+	+	+

Note: Each vertical panel from left to right represents mothers', fathers', others', and any adult's involvement. Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional Involvement, and Count Index is the count index for intensity of involvement. Adult males and females are aged 15-49; ECCE is Early childhood care and education.

Table 3.29: Summary of results of regression of development domains on involvement, by type and intensity of involvement and by adult in each country

	Mother						Father						Other						Any Adult					
	ECD	LN	PH	SE	EF	DVP	ECD	LN	PH	SE	EF	DVP	ECD	LN	PH	SE	EF	DVP	ECD	LN	PH	SE	EF	DVP
GHA																								
Cog Inv	+	+	NS	NS	NS	NS	+	NS	NS	NS	NS	NS	NS	+	NS	NS	NS	NS	+	+	NS	NS	NS	+
Soc Inv	+	NS	NS	NS	+	+	NS	NS	+	NS	NS	NS	NS	NS	NS	–	NS	NS	NS	NS	NS	NS	+	NS
Count Index	+	+	+	NS	+	+	NS	NS	+	NS	NS	NS	NS	+	NS	–	NS	NS	+	+	NS	NS	NS	+
GAM																								
Cog Inv	NS	+	NS	+	+	+	NS	NS	NS	NS	NS	NS	+	+	NS	NS	+	+	+	+	NS	NS	+	+
Soc Inv	NS	NS	+	–	NS	–	+	+	+	NS	+	NS	NS	NS	+	NS	NS	NS	+	NS	+	NS	NS	NS
Count Index	+	+	+	NS	+	NS	+	+	+	NS	NS	NS	+	+	NS	NS	NS	+	+	+	+	+	+	+
ZIM																								
Cog Inv	+	+	NS	NS	NS	NS	+	NS	NS	NS	NS	NS	NS	+	NS	NS	NS	NS	+	+	NS	NS	NS	NS
Soc Inv	–	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Count Index	NS	+	+	NS	NS	NS	+	NS	NS	NS	NS	NS	NS	+	NS	NS	NS	NS	+	+	+	NS	+	NS

Note: GHA is Ghana, GAM is The Gambia, ZIM is Zimbabwe; Each vertical panel from left to right represents mothers', fathers', others', and any adult's involvement. Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional Involvement, and Count Index is the count index for intensity of involvement. Adult males and females are aged 15-49; ECCE is Early childhood care and education. ECD is the Early Childhood Development Score, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development.

APPENDIX C Logit regression results

Table 3.30: Logit regression of involvement on child- and household-level factors, by type of involvement and by adult in Ghana

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Household location is urban	0.05*	0.03	0.03	0.01	-0.03	0.03	-0.01	0.03
Second	0.01	-0.08*	0.02	-0.05	0.09*	-0.03	0.10*	-0.00
Middle	0.07*	-0.04	0.01	-0.04	0.08*	-0.04	0.14**	-0.01
Fourth	0.12***	-0.01	0.08**	-0.00	0.19***	0.01	0.29***	0.02
Richest	0.16***	0.01	0.07**	-0.02	0.20***	0.02	0.31***	0.06
Mothers' education: Primary	0.08***	0.06*	0.02	0.02	0.05	-0.01	0.10**	0.04
Mothers' education: Secondary or higher	0.27***	0.16***	0.07**	0.06	0.05	-0.01	0.27***	0.08*
Number of adult females	-0.03*	-0.03*	-0.03**	-0.03*	0.03	0.04**	-0.01	0.00
Number of adult males	-0.01	0.00	0.01	0.02	0.01	0.00	-0.00	0.00
2-3 children below 5 years	-0.00	-0.01	-0.01	-0.01	-0.08***	-0.01	-0.05*	-0.03
3+ children below 5 years	0.10	0.06	0.06	0.07	-0.14**	-0.02	0.02	0.04
1-3 children aged 5-17	-0.02	0.01	-0.01	-0.02	0.15***	0.15***	0.07*	0.03
3+ children aged 5-17	-0.07	-0.04	-0.01	-0.04	0.11**	0.19***	0.00	0.01
Primary caregiver's age	-0.00	-0.00	-0.00	-0.00	0.01***	0.00**	0.00**	-0.00
Primary caregiver is child's biological mother'	0.16***	0.40***	-0.02	-0.05	0.02	-0.06	0.07*	0.01
Child's father lives at home	-0.02	-0.04	0.19***	0.41***	-0.03	-0.03	0.02	0.02
Age of child (in years)	0.02	-0.03	-0.02	-0.02	0.07***	0.03	0.07***	0.01
Child is female	0.02	0.03	-0.01	-0.01	-0.02	-0.02	-0.03	0.02
Child attended ECCE institution	0.04	-0.02	0.04	0.04	0.05*	0.02	0.08**	0.01
Observations	3558	3559	3558	3559	3558	3559	3558	3559

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE is Early Childhood Care and Education*

Table 3.31: Logit regression of involvement on child- and household-level factors, by type of involvement and by adult in The Gambia

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Household location is urban	-0.02	-0.02	-0.01	-0.00	-0.00	-0.02	-0.02	-0.02
Second	-0.01	-0.01	-0.00	-0.01	-0.02	-0.06	-0.02	-0.03
Middle	-0.02	0.03	0.01	-0.00	0.01	0.02	-0.01	0.01
Fourth	0.06	0.09*	0.02	-0.02	0.00	0.02	0.07	0.04
Richest	0.13**	0.11*	0.07**	0.03	0.08	0.04	0.20***	0.07
Mothers' education: Primary	0.02	0.12***	0.01	0.01	0.07*	0.09***	0.06	0.07**
Mothers' education: Secondary or higher	0.06**	0.02	0.03*	0.05*	0.07**	0.10***	0.08**	0.08**
Number of adult females	0.00	0.01	-0.01	-0.01	0.01	0.02*	0.01	0.01
Number of adult males	0.00	0.00	-0.00	-0.00	-0.01	-0.00	0.00	0.00
2-3 children below 5 years	-0.02	-0.07**	-0.03*	-0.03	-0.02	-0.02	-0.05	-0.07**
3+ children below 5 years	-0.01	-0.11**	-0.01	-0.04	-0.05	-0.07	-0.09*	-0.11***
1-3 children aged 5-17	-0.11*	-0.09	-0.01	-0.07*	0.06	0.12*	-0.10	0.01
3+ children aged 5-17	-0.12**	-0.09	-0.02	-0.09*	0.07*	0.14**	-0.09	-0.02
Primary caregiver's age	0.00	-0.00	-0.00	-0.00*	0.00*	0.00*	0.00	0.00
Primary caregiver is child's biological mother'	0.14***	0.38***	0.01	0.02	-0.02	-0.06	0.04	0.10**
Child's father lives at home	-0.01	-0.00	0.11***	0.31***	-0.05*	-0.09***	-0.03	-0.04
Age of child (in years)	0.01	-0.06**	-0.01	0.02	-0.00	-0.01	-0.00	-0.03
Child is female	-0.01	-0.02	0.01	-0.00	0.01	-0.02	0.01	-0.03
Child attended ECCE institution	0.04*	0.10***	0.02*	0.01	0.11***	0.06*	0.13***	0.09***
Observations	4091	4091	4091	4091	4091	4091	4091	4091

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE is Early Childhood Care and Education*

Table 3.32: Logit regression of involvement on child- and household-level factors, by type of involvement and by adult in Zimbabwe

	Mother		**Father**		**Other**		**Any Adult**	
	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv	Cog Inv	Soc Inv
Household location is urban	0.04	0.06	-0.06*	-0.04	-0.02	0.00	-0.09*	-0.02
Second	-0.03	0.00	0.01	0.03	0.01	0.00	-0.03	0.04
Middle	-0.01	-0.01	0.00	-0.03	0.08*	0.05	0.03	0.02
Fourth	-0.01	-0.03	-0.00	0.01	0.04	0.04	0.05	0.03
Richest	0.02	-0.04	0.05	0.07	0.14**	0.09	0.16**	0.06
Mothers' education: Primary	0.13	0.08	0.02	0.06	0.10*	0.03	0.22***	0.07
Mothers' education: Secondary or higher	0.27**	0.14	0.06	0.10	0.13**	0.06	0.34***	0.14*
Number of adult females	-0.03	-0.04**	-0.02	-0.02	0.09***	0.15***	0.02	0.00
Number of adult males	0.02	0.01	0.01	0.02	0.05***	0.06***	0.05**	0.03**
2-3 children below 5 years	-0.00	-0.02	-0.03	0.02	-0.01	0.01	-0.01	-0.02
3+ children below 5 years	-0.02	0.01	0.00	-0.17*	0.01	-0.13	0.05	0.01
1-3 children aged 5-17	-0.02	-0.07**	-0.02	-0.05	0.10***	0.08**	0.00	-0.06***
3+ children aged 5-17	-0.01	-0.10*	0.01	-0.11**	0.07	0.09*	-0.04	-0.10**
Primary caregiver's age	-0.00	-0.00	-0.00**	-0.00	0.00***	0.01***	0.00	0.00**
Primary caregiver is child's biological mother'	0.40***	0.64***	-0.04	-0.01	-0.29***	-0.35***	-0.02	0.07*
Child's father lives at home	-0.05*	-0.01	0.36***	0.47***	-0.03	-0.04	0.00	0.02
Age of child (in years)	0.01	-0.02	0.01	-0.02	0.03	0.02	0.04	-0.02
Child is female	0.00	0.02	-0.01	-0.06***	0.01	-0.00	0.02	-0.01
Child attended ECCE institution	0.15***	0.07**	0.09***	0.03	-0.01	-0.01	0.15***	0.05*
Observations	2336	2336	2300	2336	2336	2336	2336	2336

*Note: * p<0.05, ** p<0.01, *** p<0.001; Adult males and females are aged 15-49; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, ECCE is Early Childhood Care and Education*

Table 3.33: Logit regression of development domain on involvement, by type of involvement and by adult in Ghana

Type of involvement		LN	PH	SE	EF	DVP
Mother						
	Cog Inv	0.07**	0.01	-0.02	-0.00	0.04
	Soc Inv	0.04	0.02	0.00	0.04*	0.05*
Father						
	Cog Inv	0.02	-0.01	0.07*	0.04	0.03
	Soc Inv	-0.05	0.04**	-0.02	0.01	0.01
Other						
	Cog Inv	0.09**	-0.01	0.00	0.00	0.04
	Soc Inv	0.03	0.01	-0.07**	-0.01	-0.04
Any Adult						
	Cog Inv	0.10***	-0.01	0.00	0.01	0.05*
	Soc Inv	0.03	0.03	-0.06	0.06*	0.02

*Note: * p<0.05, ** p<0.01, *** p<0.001; Cog Inv and Soc Inv are key independent variables in the same regression estimation; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development. All these dependent variables are binary variables, and since ECD, the Early Childhood Development Score is a categorical variable it is not included in this table, Controls variables: Household location, Household wealth, Mothers' education, Child's age, Child's sex, Child attended an ECCE institution.*

Table 3.34: Logit regression of development domain on involvement, by type of involvement and by adult in The Gambia

Type of involvement		LN	PH	SE	EF	DVP
Mother						
	Cog Inv	0.07**	-0.02	0.08**	0.03***	0.10***
	Soc Inv	0.01	0.03**	-0.08***	0.02	-0.05*
Father						
	Cog Inv	0.05	-0.01	0.08	-0.01	0.06
	Soc Inv	0.07**	0.03**	-0.04	0.03**	0.01
Other						
	Cog Inv	0.10***	-0.01	0.04	0.03***	0.08***
	Soc Inv	-0.04*	0.02*	-0.00	-0.02	-0.02
Any Adult						
	Cog Inv	0.09***	-0.01	0.04*	0.02**	0.08***
	Soc Inv	-0.01	0.03**	0.01	0.01	0.02

*Note: * p<0.05, ** p<0.01, *** p<0.001; Cog Inv and Soc Inv are key independent variables in the same regression estimation; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development. All these dependent variables are binary variables, and since ECD, the Early Childhood Development Score is a categorical variable it is not included in this table, Controls variables: Household location, Household wealth, Mothers' education, Child's age, Child's sex, Child attended an ECCE institution.*

Table 3.35: Logit regression of development domain on involvement, by type of involvement and by adult in Zimbabwe

Type of involvement		LN	PH	SE	EF	DVP
Mother						
	Cog Inv	0.05**	0.01	-0.01	-0.00	0.01
	Soc Inv	-0.02	0.00	-0.01	-0.00	-0.00
Father						
	Cog Inv	0.03	0.02	0.04	0.01	0.05
	Soc Inv	-0.00	0.00	-0.00	0.01	0.01
Other						
	Cog Inv	0.06**	-0.00	0.02	0.02	0.04
	Soc Inv	-0.01	0.00	-0.04	-0.00	-0.03
Any Adult						
	Cog Inv	0.05***	0.00	0.02	0.02	0.04
	Soc Inv	-0.02	0.03	-0.04	0.00	-0.02

*Note: * p<0.05, ** p<0.01, *** p<0.001; Cog Inv and Soc Inv are key independent variables in the same regression estimation; Cog Inv is Cognitive Involvement, Soc Inv is Socio-emotional involvement, LN is Literacy and Numeracy Development, PH is Physical Development, SE is Socio-emotional Development, EF is Executive Functioning, and DVP is the overall development. All these dependent variables are binary variables, and since ECD, the Early Childhood Development Score is a categorical variable it is not included in this table, Controls variables: Household location, Household wealth, Mothers' education, Child's age, Child's sex, Child attended an ECCE institution.*

Chapter 4. Parental perceptions of early childhood education in a low-income urban settlement in Delhi, India

4.1. Introduction

Through international commitments, such as the Millennium Development Goals (2000-2015), Education for All (EFA) goals (1990-2015), The Dakar Framework for Action (2000), Moscow Framework for Action (2010), and finally the Sustainable Development Goals (2015-2030), there is a global vision in place to strengthen early childhood education (ECE) systems worldwide. This vision has nudged governments to invest more in a child's early years. Countries have developed their own national visions, policies, and programs for ECE. Despite ongoing debates and competing visions on delivering effective ECE, international and national discourses and players acknowledge the important role played by children's primary caregivers and parents. In this paper, I refer to early childhood education or ECE as focusing only on the early or preschool education of a child.

Parents and primary caregivers are key stakeholders in children's early education; they decide which early education institution their child attends. Despite international recognition of the need for responsive parental involvement in children's early education, are the needs and expectations of all types of parents reflected in global and national visions, and consequently by ECE institutions? It is difficult to answer this question given the lack of diversity in the research on parental beliefs about, their expectations of, and their involvement in early childhood education (Wolf, 2020; won Kim, 2017). Evidence on parental experiences and perceptions of ECE mostly comes from Western countries, with limited literature documenting the experiences of parents in Low- and Middle-Income Countries (LMICs). These research gaps are even bigger when we consider low-income parents in LMICs.

As discussed in Chapter 2 of this dissertation, qualitative methods are well-suited to delve deeper into the hard-to-quantify measure of parental perceptions. While reviewing literature on the conceptualization and measurement of parental involvement, in Chapter 2 I find only a handful of studies that have used qualitative methods to understand the nuances of parental involvement in LMICs. Using data from Delhi, India, the current study contributes to the international ECE literature and policy discourse in several ways. First, by researching parental perceptions including their beliefs, expectations, and practices related to children's ECE, the current paper extends the limited literature on this topic in the LMIC context. Second, this paper includes views and perceptions of populations living in low-income urban settlements who are rarely mentioned even in the international ECE research. Third, this paper extends a policy perspective for international education policy makers and implementers. It explores whether global visions of ECE match the lived realities and needs of parents who are key stakeholders in a child's early years.

This study takes place in the Indian context; India has placed a national emphasis on providing for young children in its public policies and programs in the past decades. India has developed a policy context for ensuring equitable and high-quality early childhood education (Kaul et al., 2017). Low-income urban settlements commonly referred to as "slum settlements" are home to migrant, poor, and otherwise marginalized populations. It is a geography in LMICs that gets little attention in policy development and implementation. Currently 1.8 million people reside in such urban settlements in Delhi, the national capital of India (Census of India, 2011). Urban poverty is complex in that it involves deprivations on multiple fronts, such as inadequate access to land and housing, physical infrastructure and services, economic and livelihood sources, health and education, social security networks, and even general empowerment (Mathur,

2014). To ensure that ECE institutions meet the needs of all families with young children living in slum settlements, it is crucial to first understand ECE related beliefs, perceptions, and practices of these parents.

The rest of the study is divided into five sections. The next section summarizes the relevant and current research on parental perceptions about ECE, including a section presenting ECE in the Indian context. The third section provides a description of the study's research methodology, data generation, and data analysis procedures. The fourth section discusses the study's findings categorized as four key themes: parental preference for cognitively focused ECE; parental preference for non-governmental preschools; limited parental involvement at the school-level; and juxtaposition of the local, national, and international visions of ECE. Finally, in the discussion and conclusion section, I discuss the study findings in the context of the current literature on the topic.

4.2. Literature review

This review of the literature focuses on capturing broad visions of ECE envisioned by the global community followed by a discussion of the literature on parental perceptions of ECE in low- and middle-income countries. To provide context to the study findings, this review also sheds light on the ECE system in India, and the situation of ECE in low-income urban settlements. The final section summarizes the gaps in the literature and presents research questions that this study answers.

4.2.1. Global visions for early childhood education

Notable international events in the 1990s, like the signing of the Convention on the Rights of the Child, the World Conference on Education for All held in Jomtien, Thailand,

adoption of the Education For All Goal for Early Childhood Care and Education began a new phase in advancing ECE services. However, despite a rise in international awareness and commitment towards strengthening early childhood education systems, progress in ECE access masks large inequalities. Progress since the 2000s has been uneven across and even within countries (UNICEF, 2019). The goal of expanding ECE access includes debates and diverse views about what type of experiences, pedagogies and educational philosophies complement children's needs (Kabay et al., 2017). To increase access, countries need not only national policies but also a common vision and effective ECE pedagogy and curriculum (Janssen & Vandenbroeck, 2018).

Early childhood education is geared towards developing a wide range of skills before a child starts formal school. According to Spier, Leenknecht, Carson, Bichay, & Faria (2019) these skills include academic preparation, foundational literacy and numeracy, motor development, social and emotional learning, and executive functions. Thus, ECE is actually synonymous with 'school readiness', which complements the learning of alphabets and numbers with "play based activities and interactions that help children develop a conceptual language and psychosocial foundation for later learning" (Kaul et al., 2017, p.97). It is useful to view these skills as sitting in two different types of approaches adopted for ECE worldwide.

Bennett's (2005) model initially conceptualized for OECD countries, can be extended for LMIC contexts too. Bennett (2005) categorizes two broad approaches for ECE: first, the 'social pedagogy tradition' which is a child-centered approach emphasizing play-based learning and developmentally appropriate practices; and second, the 'preprimary school tradition' which emphasizes teacher-driven, highly-structured, and academically-focused practices. In reality, countries tend to adopt features from both types of approaches, by focusing on the child-centered

approach when the child is very young, and gradually moving towards more academic preparation or school-readiness nearing the child's entry into formal school.

The 'social pedagogy tradition' in ECE is "a broad preparation for life in which children's 'here and now' is equally important as supporting their future educational performance" (Janssen & Vandenbroeck, 2018, p. 814). This approach involves "modernist" play-based, child-centered approaches to early education that promote socio-emotional skills and are cognizant of unique needs of young children (Wolf et al., 2018). There is decades' worth of research pushing for the importance of play in early education (Whitebread, Basilio, Kuvalja, & Verma, 2012), arguing that teacher-driven approaches may in fact be less effective for children's learning. Researchers, educators, and international organizations have all supported adoption of developmentally-appropriate and play-based preprimary education.

The 'social pedagogy tradition' approach also has some valid critiques. Critics point out that the Western notion of play-based learning is often implemented in LMIC preschools without adapting to local cultural contexts. For instance, Amita Gupta's (2018) review of ECE policies in five Asian countries: India, Singapore, China, Sri Lanka, and the Maldives, finds that neoliberal ideas and the rise of consumerism have altered ECE practices in these countries. Gupta argues that early education is being sold like a commodity by an abundance of fee-charging private preschools. Moreover, preschools in these Asian countries are quick to adapt to global influences by changing educational philosophies and pedagogies such as the new dominance of 'play-based' preschools. In the African context, Pence & Nsamenang (2008, p. 35) critique 'developmentally appropriate practices' because such approaches adopted predominantly by Western countries assume that children learn in a universal way. More recent research, such as

McCoy (2022) proposes an integrated model of "developmental universality with specificity" that can be used to inform science and policy.

The second approach Bennett (2005) proposes is the 'preprimary school tradition' which "is predominantly concerned with the acquisition of (cognitive) knowledge and skills that are important in children's further schooling" (Janssen & Vandenbroeck, 2018, p. 814). This practice of emphasizing children's academic skills at the preschool level itself is seen quite often in ECE institutions of Global South countries. Such institutions follow a curriculum to enhance school-readiness skills in young children, with the aim of facilitating a smooth transition to primary school (Hayden & Wai, 2013). LMICs as diverse as India (Alcott, Banerji, Bhattacharjea, Nanda, & Ramanujan, 2018; Kaul et al., 2017) and Ghana (Kabay et al., 2017) follow the widely prevalent philosophical approach of the preprimary school tradition for ECE.

There are strong critiques of the 'preprimary school tradition' approach as well. This approach can lead to the common misconception and fear that in promoting school readiness skills, ECE may become a downward extension of primary education (World Bank, 2004) or lead to 'schoolification' of early education (Choi, 2006). For instance, Naveed (2020) argues that "under normative models of international development, structural inequalities could be perpetuated as a result of the downward extension of the stratified, competitive and commercialized formal schooling to early years" (p.17).

Reviewing the limited literature based on low- and middle-income countries shows a gap between the two international and local visions. To strengthen and scale up quality ECE systems especially in large, diverse low- and middle-income countries, we need the support and buy-in of local communities and parents. This is difficult to achieve when there is not enough research

documenting parental perceptions, especially of low-income parents whose voices may be marginalized.

The debate about what type of ECE should be provided involves not only researchers and practitioners, but also parents and local program implementers and educators. To develop effective ECE systems, there needs to be a common vision amongst stakeholders. Overall, community involvement in preschools, and specifically parental involvement in ECE can increase local ownership and accountability of preschools, thus making education uptake more equitable. Research highlights that parents, especially those from lower socio-economic backgrounds, may face barriers in involving themselves in their child's early education. As a result, the perceptions, beliefs, and expectations of such parents from their child's early education may not feature widely in research from LMICs. It is thus crucial to study perspectives of such marginalized populations. The next section explains this gap in the evidence base – that there is limited literature that captures perspectives of parents: what they understand, believe, and expect from ECE for their child.

4.2.2. Parental perceptions of early childhood education

As low- and middle-income countries take on the challenge of increasing early childhood education access, parental involvement in early childhood education remains understudied. Widespread research shows that warm and responsive parental relationships, positive learning experiences, and caring environments, all contribute positively towards child development and learning (Yousafzai et al., 2014). The global Education For All Goal One, Article 31 states: *"Governments, through relevant ministries, have the primary responsibility of formulating early childhood care and education policies within the context of national EFA plans, mobilizing political and popular support, and promoting flexible, adaptable programs for*

young children that are appropriate to their age and not mere downward extensions of formal school systems. The education of parents and other caregivers in better child care, building on traditional practices, and the systematic use of early childhood indicators, are important elements in achieving this goal" (UNESCO, 2000). Thus, there is international recognition of the need for parental involvement in children's development and education.

For the scope of the current study, I primarily reviewed qualitative studies from LMIC contexts that investigate parental perceptions, beliefs, and expectations of ECE. Although there is an overall lack of literature from low- and middle-income countries on this topic, contexts of existing studies range from African countries such as Ghana (Donkor, 2010; Kabay et al., 2017), The Gambia (Colley, 2014), Nigeria (Fagbeminiyi, 2011), Madagascar (Loomis & Akkari, 2012), and Asian countries like Indonesia (Yulianti et al., 2019) and India (Alcott et al., 2018; Singh & Gupta, 2011). These qualitative studies are able to analyze hard to quantify constructs such as, parental beliefs and expectations about education, parental aspirations for their children and schooling, and also parental ability in providing support with school work and participating in school activities.

Literature from different cultures in the Asian and African region highlights that parents mostly believe that young children should attend some kind of ECE institution before primary school (Alcott et al., 2018; Dighe & Seiden, 2020; Kabay et al., 2017). In LMICs, education was immensely valued by parents for survival and success in a competitive world. Ule and colleagues (2015) explain it succinctly when they say, "their [parental] aspirations are closely related to their expectations about their children's future lives and are a significant element in parental involvement in children's education." (p.335). However, parental perceptions about the type of early education their children should receive varies.

Aligned with the preprimary school tradition approach of ECE, a study by Alcott and colleagues (2018) shows that 180 parents in rural areas across three Indian states (Assam, Rajasthan, and Telangana) viewed ECE institutions as downward extensions of primary school where the child should begin their academic learning, and get oriented for formal schooling (Alcott et al., 2018). Alternatively, 33 caregivers from two urban communities in Ghana (Donkor, 2010), and 30 parents from the Greater Accra region of Ghana (Kabay et al, 2017) had views similar to the social pedagogy tradition where many believed that ECE promotes "behavioral socialization" (Kabay et al, 2017, p. 48). A component of this socialization was learning life skills (related to hygiene, safety, and communication skills) and moral values that parents believed to be important in facilitating formal schooling (Dighe & Seiden, 2020; Donkor, 2010). However, parents from Ghana (Kabay et al., 2017) also appreciated homework that their children received from their preschool. Parents were thankful for this homework that added some structure and discipline to their children's lives.

Most of the studies reviewed included discussions on barriers that deterred parents from getting involved in their child's early education. One of the primary barriers was a lack of economic resources. For example, a study about parental involvement in primary education in Indonesia (Yulianti et al., 2019) found that parents from lower socio-economic backgrounds often spoke about the economic struggle that prevented them from getting involved in their children's school activities. Such parents have less time and flexibility of work schedules, low educational resources, and limited early education-related information to help their child (Dighe & Seiden, 2020). Another related barrier for parents was low levels of education that further linked to low self-esteem and perceptions of limited educational capabilities amongst parents.

Parents often depended on other family or community members to assist with their child's education (Donkor, 2010; won Kim, 2017; Yulianti et al., 2019).

My study shares some similarities with Kabay and colleagues' (2017) research in Ghana in which caregivers of young children were interviewed in two urban communities. Both studies examine parental perceptions of ECE juxtaposed with challenges of urbanization faced by parents living in low-income urban areas. However, the two studies differ in terms of their study contexts. Kabay et al's (2017) study is situated in Accra, Ghana, whereas, this study is based in Delhi, India. With different country-contexts, ECE systems and policies, the findings of my research are different from Kabay et al's study. Where Kabay et al only focus on parental perceptions, I also explore how parents living in these urban settlements involve themselves in their young child's life and what type of practices they adopt.

While the literature shows a whole range of parental views and involvement in ECE, overall, the research remains limited. Existing literature argues that future research should use qualitative methods of inquiry to delve deeper into how parental perspectives of ECE vary based on local contexts (Bornstein & Putnick, 2012; Mccoy et al., 2018). Parents in LMICs, especially those from lower socio-economic households, often face unique and multiple challenges in advocating for their children and supporting young children's stimulation. Currently, the research does not adequately discuss the perspectives of these parent populations: their beliefs about ECE, and their expectations of their child's early education. Having summarized the literature on parental perceptions and involvement, the next few sections provide a geographical context to ECE in India, specifically in low-income urban settlements.

4.2.3. Early childhood education in India

As compared to other countries in the South Asia region, India has placed a strong emphasis on provisions for young children in its public policies and national programs (Kaul & Sankar, 2009). These policy efforts have become even more focused after the international community's increased advocacy of investment in this early stage of education. Historically, the National Policy on Education (1986) considered the early phase of a child's life from an economic theory perspective, in that early childhood education was seen to be an important input in human capital formation. Recently India passed the National Early Childhood Care and Education (ECCE) policy in 2013. It is the first policy aimed exclusively at children below 6 years of age and envisions a holistic perspective for ECCE services including both care and education of young children. This landmark policy was accompanied by a National Curriculum Framework that set standards for states in the access of ECCE services. Despite serious policy efforts, because of differences in state governance capacities and will, the National ECCE policy has been implemented unevenly across the country (Kaul et al., 2017).

India houses "the world's largest community-based program to promote health, growth and development" of children below 6 years of age (Rao & Kaul, 2018, p.31). The Integrated Child Development Scheme (ICDS) is a universalized program sponsored by the central government since 1975 that includes 1.3 million ECCE centers known as "*Anganwadis*" across the country. These crèches provide health and education services, nutritional support, community mobilization, and non-formal preschool education. Research evaluating the scheme highlights that the ICDS tends to focus more on nutrition supplementation and immunization of children, rather than the preschool component (Alcott et al., 2018; Ghosh & Dey, 2020). That said, policy attention towards preschool education has recently increased. Under an integrated scheme

implemented in 2018 for all levels of education (preprimary, primary, and secondary), Indian government schools have been directed to include a preschool class within their school premises (Subramanian, 2019).

Although in reality there are numerous early education providers in India, there is no comprehensive data recording the different types of providers that current exist in the country. The past few decades have seen different types of low-fee private preschools mushrooming in urban and rural areas (Alcott et al., 2018; Singh & Mukherjee, 2018). These range from low-fee preschools catering to poorer sections of society, as well as, amply-resourced preschools with the latest educational equipment enrolling students from wealthier families (Singh & Mukherjee, 2018). The wide proliferation of preschools could be fostered by the lack of government regulation for registering and operating private preschools.

Some research questions the quality of such private preschools. Rao & Sun (2015) estimate that almost 90% of private preschools are likely to be prep schools that follow developmentally inappropriate instruction. The qualitative component of a longitudinal study in three Indian states describes some practices followed by early education providers. Based on interviews with school, teachers, principals, school owners, and other government officials, according to the authors, it appeared that due to the lack of either regulation of private schools or an understanding of developmentally appropriate curricula for children, such private preschools seemed to be catering to parental expectations of an emphasis on learning to read and write (Kaul et al, 2017). Further, Kaul and colleagues note that a key difference between government and private providers were that compared to teachers in government schools, teachers in private schools spent a greater amount of time teaching. Additionally, in both *anganwadis* and private schools, absence of teachers was not a challenge as it was in government schools.

Prabha et al's (2019) research on ECE using ethnographic methods examines local contexts, norms, and practices in two study sites spread across two states in India (Bihar and Tamil Nadu). Supporting Kaul et al's (2017) finding, Prabha and colleagues also find a proliferation of private ECE providers in the backdrop of inadequate quality of government preschool education. These private preschool providers were seen to be providing developmentally inappropriate curriculum through practices such as, rote memorization and completion of homework. Interestingly, Prabha et al's study finds that in the Indian state with stronger public institutions, functional *anganwadis* and government schools, parental demand for private ECE provisioning was lower, and the nature of parental expectations were different. Parental concerns revolved around the quality of the education that was being provided in the form of formal literacy.

An additional theme in the education literature was the practice of shadow education at the preprimary level in India. Research indicated uptake of tuition classes at the ECE level. Sharma and Hussain (2019) while examining school readiness skills of children aged 5-6 in Uttar Pradesh, India found that supplementary tuition classes play an important role in supporting children's regularity with schools work and assisting age-appropriate learning outcomes. Prabha et al (2019) too found an active market from tuitions in two states in India (Bihar and Tamil Nadu). The authors reported that since *anganwadis* were limited in their provision of educational services, parents made financial investments in their child's education through tuition classes.

Equipped with an overall view of the India's ECE system, the following section discusses the lack of literature studying the situation in low-income urban or "slum" settlements.

4.2.4. Early childhood education in low-income urban settlements

In LMICs, rapid urbanization and growing urban poverty leads to a deprivation of education in urban areas. Urban poverty is multidimensional; it involves limited livelihood opportunities, uncertain access to education and health care, and insecure economic and social protection. Additionally, there is insufficient and frequently unsafe housing (Baharoglu & Kessides, 2001). Such challenges are more stark in low-income urban settlements than rural areas due to congested living conditions, limited presence of social and community networks, employment insecurities of migrant worker populations, and inadequate basic public services combined with social ills such as, crime and violence (Sridhar, 2015).

Given the minimal political clout the urban poor have, they are rarely assured basic services such as those of sanitation, protection, livelihood, education and health (Wratten, 1995 as cited in Tsujita, 2013). Living in these urban settlements, one of the most severely affected populations is children. Children face deprivations of several kinds, whether it is the lack of educational and learning opportunities, healthcare, or access to other public services. In the education literature, there is relatively more research on primary and secondary education of children living in low-income urban settlements as compared to the early education level. The limited education literature on children living in urban settlements focuses on school-based surveys or case studies of such children from a small number of settlement areas (Tsujita, 2013). Little is known about the ECE-related challenges, issues and needs of children, or of their parents and their families.

It is useful to consider access of early childhood education through two types of approaches, through a social pedagogy tradition which is a child-centered approach or through a preprimary school tradition which focuses on the acquisition of cognitive skills. Countries have

mostly adopted a mix of the two approaches. Effective national ECE systems require support from local communities and parents. With limited research on parental perceptions, it is challenging to comment on whether there exists a common vision for ECE shared by international, national, and local stakeholders. India offers a compelling context where low-income urban settlements are a geography that finds limited mention in policies. Moreover, there is little research studying perceptions of parents living in such settlements. This review of the literature points us to emerging gaps and the research questions this study answers.

4.3. Problem statement and research questions

Through the Millennium Development Goals (2000-2015), Education for All (EFA) goals (1990-2015), The Dakar Framework for Action (2000), Moscow Framework for Action (2010), and finally, the Sustainable Development Goals (2015-2030), the past two decades have seen a global movement towards strengthening ECE systems. Governments worldwide are committed to developing national policies and designing policy programs supported by parents and local communities. The ECE landscape has received policy attention internationally and nationally, yet local views of parents are not incorporated in these visions and discussions. Thus, although ECE literature from LMICs may have grown over the past two decades, however, the literature does not capture diverse perceptions of parents within these countries. In particular, urban low-income areas are not studied much, and when these areas are studied, research does not pay attention to the topic of ECE. More culturally-sensitive and contextually-relevant information is required to understand the views of parents who are the primary decision-makers for ECE.

To develop comprehensive systems, there needs to be an alignment between international, national, and local players about what early childhood education means. However,

with a lack of research highlighting local views on ECE, it is challenging to build an informed discourse. To address these research gaps, in this study I focus on a low-income urban settlement in Delhi, India to explore parental perceptions and parental involvement in ECE. More specifically, I study three research questions, i) What are the parents' perceptions about early childhood education? ii) How do parents involve themselves in their child's early education? iii) How do local visions of early education represented by parental perceptions relate to the international and national policy discourse on early childhood education?

4.4. Data and methods

This section describes the overall research methodology for the study, data generation and sampling procedures, interview protocol, and the data analysis strategy. Finally, the section presents my positionality statement.

4.4.1. Research methodology

With the goal of interpreting parental beliefs and attitudes towards ECE, qualitative research methods are well-suited to explore these overarching constructs. The present qualitative study is focused on "observing, describing, interpreting, and analyzing the way people experience, act on, or think about themselves and the world around them" (Bazeley, 2013, p. 4). The underlying philosophy behind the present analysis aligns with interpretive research. Qualitative interpretive analysis assumes that reality is "socially constructed, that is, there is no single, observable reality. Rather, there are multiple realities, or interpretations, of a single event." (Merriam, 2009, p. 8). Thus, in analyzing parental perceptions in the context of their lives spent in a low-income urban settlement in India, I interpret parents living complex lives of living paycheck-to-paycheck while making educational decisions for their young children and striving to provide the best quality of education they can afford for their children.

Additionally, to answer the third research question on examining international and national ECE visions, I analyzed reports published by international organizations and key players. Moreover, I also analyzed national-level texts and related documents, specifically, India's National ECCE Policy released by the national government in 2013, along with the National Curriculum Framework and Quality Standards document.

4.4.2. Data generation and sampling

The current study involved qualitative data generation in a low-income urban settlement in the southern part of Delhi, India from July through August 2019. In India, such low-income urban settlements are generally referred to as "slum areas". I chose the sample site for the study from a government list of "slum clusters" in Delhi, based on the large number of households it contained. This low-income urban settlement consisted of two small neighboring slum clusters. The method of data generation was face-to-face in-depth qualitative interviews (interview protocols are included in the Appendix). Sources of information for this study were 18 parents who had children aged 2.5 - 6 years of age attending some kind of early education institution.

Data generation took place using an in-depth qualitative interview protocol and field notes. Purposive sampling ensured diversity of the sample based on caste, religion, and type of guardian. Participants were recruited based on whether they had time to speak. Moreover, participants were chosen to ensure a mixed sample of perspectives on the basis of caste, religion, and gender of guardian. Interviews were conducted in the homes of the participants. Apart from the participants, sometimes there were other family members around who contributed to answering some of the questions. As the questions were not sensitive in nature, I did not ask other family members to leave. Sometimes the participant's children were around playing, sleeping, or engaging in other activities.

4.4.3. Interview protocol

A semi-structured interview protocol was used to explore aspects such as the family's socio-economic situation, key influencers in deciding the child's preschool, experiences with the child's preschool, and parental interactions with the teachers. The IRB process involved submission of the interview protocol and consent forms; the study received the IRB approval in May 2019. Interviews were conducted by me in the local language Hindi after taking verbal consent from the participant. I translated and transcribed the audio recordings of the interviews into English. Apart from the participants, sometimes there were other family members around who contributed to answering some of the questions, and since questions were not sensitive in nature, I did not ask other family members to leave. In cases where participants did not consent to an audio recording of the interview, extensive notes were taken in English. Table 4.2 in the study findings section presents key details about the parent participants, Table 4.3 presents information about the participants' children.

4.4.4. Data analysis

Analysis was an iterative process of continual sorting and resorting of the data, along with identifying interpretations of broad categories or codes. Moreover, data was reconceptualized in terms of emerging themes rather than the individuals who provided them, although each individual's context was considered.

The initial list of deductive themes for coding was guided by a review of the literature while creating the interview protocol, as well as through insights gained during data collection. These deductive buckets of themes included 'Urban slum setting', 'Social relationships in slum setting', 'Parents and early education', 'Factors affecting preschool choice', 'Pre-school related expenses'. I built on these deductive codes with inductive codes created while familiarizing

myself with the data by reading interview transcripts several times and open-coding a small sample of the transcripts. This process resulted in the first formal set of codes listed in the first panel of Table 4.1 below. Broadly the main codes included, 'Daily life in slums', 'Parents and early education', 'Preschool details', and 'Gender issues', along with sub-codes. After identifying this set of codes, I coded the 18 parent interviews on the qualitative analysis software, NVivo, using the qualitative technique of thematic coding and analysis in which data is segmented, categorized, summarized, and reconstructed in a way that captures important concepts within the data (Given, 2008).

Subsequently I used Saldaña's (2016) "trinity" focusing strategy of identifying three overarching themes in the data to see how they related to one another. These three themes were: i) daily life in urban slums, ii) parental decision-making at the ECE level, iii) young children attending tuition classes. These key themes guided the second round of coding for which I disaggregated the 'Parents and early education' code further into several sub-codes. The second round of codes enabled me to delve deeper into parental perceptions of ECE including analyzing parental involvement patterns at home and in school.

Table 4.1: Coding scheme for qualitative data analysis

Round of coding	**Names of codes**
First round of coding	Daily life in slums
	Parents and early education
	Preschool details
	Gender issues
Second round of coding	Parental interaction with child
	Parental perceptions about early childhood education
	Parental aspirations for children
	Parental knowledge about child's preschool
	Parental satisfaction with child's school
	Parental involvement with school/teacher
	Tuition classes

4.4.5. Positionality statement

I was born and brought up in Delhi, India, with a home environment that encouraged education. I received financial support, social capital, and academic expertise at each education level that I wished to pursue. I acknowledge that my lived reality is extremely different from that of my study participants. I acknowledge that certain lived realities of parents in this slum may have been acutely impacted by the COVID-19, especially during the disastrous second wave of the pandemic that hit the country in May 2021. This study sheds light on the status of ECE in low-income slum settlements before the pandemic.

In living inside an urban slum area, most of the study participants have faced multiple barriers in accessing basic necessities of living a healthy and productive life. For my research, this may imply that I am unable to capture all the aspects of parents supporting young children in resource-constrained environments. There was also a power imbalance between my study participants and me. This imbalance may have been covert at most times. However, such an imbalance became evident whenever my study participants asked me where in Delhi I lived or where I was studying. Thus, seeing me as an outsider to the research context, along with the power imbalance between us, my study participants may not have been comfortable sharing some details about their lives, children, and overall educational decisions. Certain aspects facilitated my interviews with parents. I was familiar with and used the local language, Hindi, to interact with most parents. I have lived in Delhi for multiple decades and was well acquainted with the geography, culture, and customs of most social segments residing in the city. Although, the community within an urban slum is tight-knit, in visiting inside the slum area multiple times, I was able to gain some level of local familiarity with the slum context.

My under-graduate and master's level training in Economics has lent me a post-positivist lens which has since constantly been challenged through my prior work experience and my current graduate program. Before joining a PhD program, I traveled extensively across diverse Indian states to inform my work analyzing public policies. Although, field work was an intellectual driver, it also helped me correlate the state of development-related indicators to the governance and institutional systems and challenges existing in the field. Moreover, being in an Education school for my PhD program now, I have been introduced to more constructivist and humanist approaches to research that I have tried to inculcate in my own research.

Findings from my previous research projects situated in low-income urban settlements helped me better understand the resource-constrained context. In October 2018, as a graduate research assistant, I worked on a research project that examined the decision-making process of parents selecting a primary school for their child while living in a low-income urban slum in Mumbai, India. In collaborating closely with a field researcher who was conducting the parental interviews in Mumbai, I was able to gain familiarity with the resource-constrained environments in slum contexts. For instance, there is wide variation in incomes within residents of an urban settlement. Incomes can range from 4000 Rupees (57 USD) to 20,000 Rupees (283 USD) per month. The earlier study found that in most instances both parents were working, with the father being the earning member, whereas the mother additionally handled child-care and house-work. In cases where both parents were working, the struggle of keeping up with childcare was clearly evident. Often grandparents or other family members helped out with childcare. Most residents of such urban settlements face severe financial pressures, and struggle to make ends meet through their limited income, while providing the best lives they can for their children.

I acknowledge that an hour-long interview data with eighteen study participants is far from their full story. In my analysis, I use more humanizing language, avoid generalizing statements, and use received feedback on study findings from peers so that my own views did not limit my ability to ask critical questions during analysis and writing. By involving others (to the extent possible) in my analysis, I have tried to reduce bias and increase the credibility of my study findings.

4.5. Study findings

This section begins with a description of contextual factors relevant for the study site and study participants. The rest of the findings for the study are categorized around four key themes: parental preference for cognitively-focused ECE, parental preference for non-governmental preschools, a complex relationship between parents, schools, and teachers, and finally, the juxtaposition of the local, national, and international visions of ECE.

4.5.1. Contextual factors

Low-income urban settlements reflect urban poverty in several ways. Populations living in such settlements are often deprived because of inadequate access to land and housing, physical infrastructure and services, economic and livelihood sources, health and education, social security networks, and even general empowerment (Mathur, 2014). This study was situated in a low-income urban settlement in Delhi, India, commonly referred to as a "slum-area". For this paper, I start with a description of the study site that I recorded in my field notes.

"The main road from where the slum starts has local vendors selling a variety of flowers, fruits, and vegetables on their individual carts. There are also bigger shops selling goods, such as timber, as also service vendors like internet cafés etc. From the main road starts long, narrow

winding paths going inside the slum area. These paths are lined with small housing quarters stacked one over the other, which means that often I cannot see the sky above. At points the open drain running along the middle of the path is littered with remnants of daily life, vegetable peels, plastic bags, and a lone slipper. There are some small kirana [grocery] shops inside the slum area selling basic sustenance needs. I see residents readying flowers for their daily evening temple ritual; the air is tinged with the fragrance of rajnigandha [Tuberoses]." – My field notes from an evening in July 2019

4.5.1.1. Life in a low-income urban settlement

An important caveat of this research is that with the COVID-19 pandemic some aspects of people's lives in this slum area may have remained unchanged. However, there is a high likelihood that being low-income vulnerable groups, COVID-19 has exacerbated problems related to income, employment, health, education, and other challenges for people living in these settlements. This is especially true for India, which was severely affected by COVID-19 in May 2021 when 400,000 people had contracted the virus accompanied by a large death toll. During the peak of the second wave of the pandemic, hospitals, burial grounds, and crematoriums in the big cities in the country were overwhelmed due to the humanitarian crisis. Since a substantial proportion of working residents in such slum settlements are often employed in the informal sector, multiple national lockdowns during the pandemic would possibly have disrupted income streams leading to financial distress among slum residents. Additionally, during this time India witnessed prolonged school closures having severe consequences for school-going children, particularly within low-income and vulnerable groups. Despite the way the COVID-19 pandemic may have changed people's lives, the following themes shed light on the status of ECE in low-

income slum settlements before the pandemic. Greater knowledge of this context can be used to inform future policy programs aimed at parents and children living in slum settlements.

Table 4.2 presents the details of the study participants. All 18 participants had at least one child aged 2.5 – 6 years in their household. Of the 18 participants, 12 were mothers, 3 were fathers, 2 were grandparents, and 1 was an uncle. Education, occupation, and family income details of the study participants are also included in Table 4.2. Residents of a slum, as compared to the rest of the populations in a metropolitan city, have drastically lower incomes. Even for the slum in this study as Table 4.2 highlights, the range of monthly income earned was 4000 Rupees (57 USD) to 20,000 Rupees (283 USD), a wide variation in itself.

Parental employment is closely related to parents' abilities to invest in their children, through financial, time, or value resources. While examining parental involvement in children's well-being, it is crucial to consider the nature of work parents are employed in. This is especially so in low-income settlements where a major proportion of the slum citizens are employed in the informal, unregulated sector characterized by low pay, long or inflexible hours, and unstable work.

The study sample consisted of several joint families, with children living together with their parents and/or grandparents, uncles, and aunts. In cases of a nuclear family setup, there were not too many instances of both parents working; it was usually the father who was the earning member, whereas the mother took care of the children and did the housework. In joint families, there were mostly one or two earners only. There were two parents in the sample who owned their own small enterprises (such as a sweet shop or a tailoring business), but most parents were working in the informal sector earning a daily wage on days they had work. At least

three participants brought up the issue of unstable income due to irregular daily wage work or the seasonality of work.

Participant 17: "My husband does tailoring work. See, everyone works for daily wages…when there is not enough work, they have to sit at home, this is the situation. When there is work monthly income can be around 10,000 rupees, when there is not enough work it can be around 6000 rupees, it really depends on the work." – Study participant (Mother, 29 years old, 5 year old son who attended kindergarten in private school)

Living with job insecurity and inflexible work environments, parents are likely to have financial worries. But there is also the question of what this type of parental employment means for parental involvement with the child's well-being and early education. Several participants who are mothers point out that their husband, or in one case the child's father mentions that they are unable to spend time or play with their children because of their long and inflexible work hours.

There is a more obvious effect of the lack of job security and income uncertainty in terms of financial struggles that study participants faced. A grandmother in the study spoke about taking care of her estranged son's children. The children's mother had passed away during child birth. This grandmother spoke about her financial constraints.

Participant 5: "Earlier they were not taking our grandson in the government school when he was 3 years old. Last year I was able to put him in the government school, which was good. Otherwise before that they were not taking him because he was too young. I don't have the financial capacity to pay Rs.400-500 monthly as fees for a private school. We are poor people; my husband is incapacitated because of his leg." – Study participant (Grandmother, 44 years old, 4 year old grandson who attended nursery in government school)

Table 4.2: Profile of interview participants

Participant	Sex	Age	Highest education level	Relationship to child	Child's age (in years)	Caste	Religion	Occupation	Monthly family income (in INR)	Monthly family income (in USD)
Participant 1	Male	45	Grade 10	Father	3	General	Hindu	Painter	Did not say	Did not say
Participant 2	Female	24	Grade 8	Mother	4	SC	Hindu	Housework	6,000 - 7,000	86 - 101
Participant 3	Female	26	Grade 7	Mother	5.5	General	Muslim	Housework	15,000	217
Participant 4	Female	28	Grade 12	Mother	3.5	OBC	Hindu	Housework	15,000 - 20,000	217 - 289
Participant 5	Female	44	No education	Grandmother	4	General	Muslim	Retired	7,000 - 8,000	101 - 116
Participant 6	Female	22	Grade 7	Mother	4	General	Hindu	Vegetable vendor	7,000 - 10,000	101 - 145
Participant 7	Female	34	Grade 10	Mother	6	General	Hindu	Tailor	70,000 - 80,000	1014 - 1160
Participant 8	Male	30	Grade 8	Uncle	3	General	Hindu	Did not say	Did not say	Did not say
Participant 9	Female	31	Grade 10	Mother	4	SC	Hindu	Housework	15,000	217
Participant 10	Female	28	Grade 10	Mother	3.5	SC	Hindu	Housework	10,000	145
Participant 11	Male	42	Grade 9	Father	5	General	Hindu	Driver	12,000	174
Participant 12	Female	29	Grade 10	Mother	4	SC	Hindu	Housework	12,000 - 13,000	174 - 188
Participant 13	Female	35	No education	Mother	3	Didn't know	Muslim	Housework	4,000 - 5,000	58 - 72
Participant 14	Female	30	Grade 12	Mother	4	SC	Hindu	Housework	12,000	174
Participant 15	Male	32	Grade 10	Father	3	Didn't know	Hindu	Electrician	15,000	217
Participant 16	Male	59	B.A	Grandfather	3.5	SC	Hindu	Retired	10,000	145
Participant 17	Female	29	Grade 7	Mother	5	General	Hindu	Housework	6,000 - 10,000	86 - 145
Participant 18	Female	26	Grade 7	Mother	2.5	SC	Hindu	Housework	12,000 - 13,000	174 - 188

Note: INR to USD conversion was based on the exchange rate during the period of data generation in July 2019.

The study findings are also grounded in the context participants brought up in the interviews, that living in a slum area often impeded the quality of life their children lead. In particular, the slum environment was seen to be affecting a child's daily play time and the parents' comfort level in sending their child outside to play. As noted by other studies (ASER, 2020), parental concerns about safety, especially around daughters of all ages and young sons, reduce children's access to play outdoors. Living conditions inside the slum were seen by the participants to have an adverse effect on the daily lives of both children and their parents. The slum environment's influence manifested itself in different ways in interviews with parents. Whether it was concerning the safety of their child, or the general sanitary constraints of living in a congested area, the parents brought up such concerns for their children and themselves. Several parents acknowledged the hardships of the environment they lived in and the fact that it was not conducive to sending their children outside; that it was "not safe" or "people use abusive language". Here are two versions of how parents reported the slum environment's effect on their everyday lives:

Participant 9: "The environment in these lanes outside is not safe for a child. There are young men living all around our house, so we never send our daughter outside. She plays inside the house. These lanes are narrow and congested. These lanes are not very clean. The playschool is also close by. I am from Tamil Nadu and I do not know much Hindi, so I am very hesitant to go out of the house. The playschool is 5 min away, and there is safety in that. I used to go and drop her to school, and it took me a short time to do that." – Study participant (Mother, 31 years old, 4 year old daughter who attended a church managed playschool)

Participant 1: "Earlier there was a lot of hooliganism. It's still there, but now people are more aware of it so they're able to save themselves and their kids from it. Earlier, so many

children and young adults used to do drugs, alcohol, etc. This is still a problem, so much of drugs, cannabis, alcohol is sold here. Gambling, smoking, everything happens here. I once complained online to the DCP (Deputy Commissioner of Police). These activities may have been hidden slightly for some time, but they still happen. Everything can be organized over the phone now. I complained to the higher authorities, but the problem persists. It doesn't look good, as there are growing children around." – Study participant (Father, 45 years old, 3 year old son who attended an anganwadi government crèche)

Underlying all the conversations with parents was a constant issue of the challenge of trying to provide for their children given the acute limitations of affordable opportunities of doing so. The environment in and around the slum made it a less than ideal learning sphere for young children, whether in relation to the dominating physical features like packed and narrow spaces, lack of health and sanitary conditions, or pressures parents faced in earning the family income, thus denying them adequate time for interacting with their children. In spite of the not so ideal physical infrastructure and environment, the next section highlights that families living in this slum settlement had access to several assorted preschool options.

4.5.1.2. Early childhood education and learning environment

Despite the adverse slum environment, families had access to several types of ECE institutions in close proximity inside the slum or at short distances outside of the slum area. This study found that there were several *anganwadis* situated inside the slum. As explained in the literature review section, to ensure access to ECE institutions, the central government in India sponsors the Integrated Child Development Scheme (ICDS) delivered through a country-wide network of 1.3 million ECCE centers known as '*anganwadis'*. These are similar to day-care crèches that provide health and education services.

Apart from these government sponsored crèches, there were multiple private ECE institutions around the slum area. In most cases these were private playschools that charged a subsidized fee. If families knew about the scheme and could complete the required paperwork, they could also avail of the Economically Weaker Section (EWS) category quota in bigger, elite private schools. Under the national Right to Education (RTE) Act of 2009, at least 25% of seats in entry-level classes nursery, kindergarten, and Class 1 have to be reserved in private schools as part of this Economically Weaker Section category quota. To avail of this quota, parents had to complete a detailed application form including information about their annual family income or their disadvantaged group status by the submission date. The final selection of names for the quota would then be based on a draw of lots.

Beyond private schools, parents also had access to playschools in and around the slum that were managed by Non-Governmental Organizations (NGOs) and religious organizations (like churches and Hindu religious segments). Finally, in the recent years government schools in Delhi have extended ECE options by attaching pre-school, nursery, and kindergarten classes to government primary schools.

In India, greater provision of ECE has gone hand-in-hand with a greater demand for the same. The current study notes participants' universal acknowledgement about the importance of ECE. Interviews indicated that parents were highly aware of the importance of sending their child to preschool, with all 18 participants supporting their child in going to an early education institution.

Children in this study started attending some type of ECE institution once they were toilet trained, around three years old. Table 4.3 shows that in terms of uptake of these ECE options the progression through the system was not very linear. Alcott et al. (2018)'s study reached a similar

finding based on mixed-methods data from families in three Indian states. The authors found that children entered the ECE at different ages mainly dependent on parental decisions. Moreover, children's progression through the system was non-linear. There were instances of grade repetition and switching of schools. Even in the current study, Table 4.3 shows that children changed preschools at least once.

Ten out of 18 participants' children first attended a government *anganwadi.* Close proximity of *anganwadis* made it the most convenient ECE option for families. After attending the *anganwadis* for a few months/years, some of these children then switched schools to government primary schools or private or NGO-managed playschools. These patterns were a result of parental decisions based on upgrading from child care that an *anganwadi* provided to an institution which offered better education services.

Caregivers spoke about their children attending pre-school, nursery, and kindergarten classes attached to government primary schools. Apart from government schools, 6 participants reported that their child had or was attending a privately managed school. While keeping the data anonymized, there were at least two different NGOs operating playschools within and just outside the slum area. Two parents did not know what type of management their child's playschool was under.

Besides formal early schooling, there was wide prevalence of shadow education at the early childhood level. About half the participants in the sample said that their children (or their young siblings) were attending tuition classes. In most cases these children were aged 4 and above. Caregivers reported these tuition centers to be located both inside and near the slum area.

Table 4.3: Profile of interview participants' children

Participant	Child's age (in years)	Child's sex	Past & current preschools of child	Sample child/young sibling attends tuition classes
Participant 1	3	Male	Anganwadi	No
Participant 2	4	Male	Anganwadi, Playschool (unknown management)	No
Participant 3	5.5	Male	Nursery in government school	No
Participant 4	3.5	Female	Anganwadi, Church managed playschool	No
Participant 5	4	Male	Private playschool, Nursery in government school	Yes (5 year old sibling)
Participant 6	4	Male	Anganwadi, NGO-managed Playschool	No
Participant 7	6	Male	Nursery in private school	Yes (6 year old sibling)
Participant 8	3	Male	Anganwadi, NGO-managed Playschool	No
Participant 9	4	Female	Private playschool, Nursery in Faith-based school	Yes
Participant 10	3.5	Female	Private playschool, Nursery in Faith-based school	Yes
Participant 11	5	Male	Anganwadi, Nursery in government school	Yes
Participant 12	4	Male	Anganwadi, Playschool (unknown management)	Yes
Participant 13	3	Male	Anganwadi	Yes
Participant 14	4	Female	Anganwadi	Yes
Participant 15	3	Male	Anganwadi	No
Participant 16	3.5	Female	Nursery in government school	No
Participant 17	5	Male	Kindergarten in private school	Yes
Participant 18	2.5	Male	Private playschool	No

In the rest of the paper, I explain the basis of this academic environment encouraged and created by parents who perceive preschool to be an opportunity to start formal education early. Despite limited direct involvement with their child's preschool and teachers, the parents had clear expectations of what their child should be learning at the preschool level. Parents sought a cognitively focused early childhood environment for their child reflected in their preference for non-governmental preschools. According to the parents private playschools and similar institutions were better at teaching foundational reading, numeracy, and writing skills than government preschools. The last theme analyzes the dissonance between local visions

represented by parental perceptions of ECE and what the national and international policy discourses encourage and envision for this education level.

4.5.2. Parental preference for cognitively focused early childhood education

In caregivers' universal acknowledgement of the importance of early education in teaching social behaviors, parents placed greater emphasis on their child learning cognitive skills. Although a few parents expected that preschools would combine some type of play into education for such young children, however, they believed the focus of the teachers should still be on teaching children how to read, write, and count. Moreover, on account of their perceived "limited" abilities and lack of assistance with school work, parents compensated by sending their child to tuition classes after school.

4.5.2.1. Parental expectations of early childhood education

While parent preference for ECE reflected both the social paradigm tradition and the preprimary education tradition, it appeared the cognitive or preprimary reasons were dominant. Parents believed that preschool would help their children develop useful habits and behaviors. Going to preschool, their child would develop a daily habit of spending some hours outside home and away from the parents. Surrounded by their peers, children would also learn how to be independent and to speak while learning how to interact with other children. Moreover, children would learn about cleanliness and food habits at preschool.

Participant 5: "Early childhood education is for their future. Children will learn and get ahead in life. They will be independent. Till when can we take care of them?" – Study participant (Grandmother, 44 years old, 4 year old grandson who attended nursery in government school)

Participant 17: "Yes, early childhood education is important. Children of 2-4 years of age should go to school. Children learn to sit, play and everything. A good school will teach the children how to sit and get up…the school will also give some knowledge to the children about food, about playing. Currently he plays at home or in the park." – Study participant (Mother, 29 years old, 5 year old son who attended kindergarten in private school)

There was some evidence of parents discussing play-based learning that happened in preschools. Three or four parents mentioned combining play and academic learning in preschools, for example using dance, movement, or even cartoons to teach children the alphabet, numbers, and poems.

Participant 18: "Right now these young children are very new to schooling. My son started school around April-May this year. To them, all this, 1,2,3…A,B,C,D, you can teach them all this while playing, only then will they be happy. Because you can't be tough with them, otherwise they will cry even more or start throwing tantrums. For young children, there are cartoons, so you can show them those in the middle. My son watches cartoons. In the playschool there are swings and tables for each child. Their teacher turns on the LED [television], and they dance with the children then. The teachers teach them poems by doing actions with their hands or through dance." – Study participant (Mother, 26 years old, 2.5 year old son who attended a private playschool)

Participant 9: "She learns how to be with other children, what life is like outside the house. When my daughter comes back from school she says, today ma'am taught this, today ma'am taught that. She also learns drawing and coloring. My daughter enjoys that. As you can see, some of these pictures are from her playschool time. In the other pictures her father makes an outline for different animals and other stuff for her, and then she fills color in them." – Study

participant (Mother, 31 years old, 4 year old daughter who attended a nursery in a faith-based school)

To the direct interview question of what a "good" preschool should look like, majority (8 out of 18 participants) of the caregivers mentioned play *and* study.

Participant 10: "They should play in preschool, but studies are also important. If she keeps playing, it will become a habit. All the children around here go to school, so we should also put our child in school. None of the children stay at home and play around here. All of them go to school and she used to get bored alone at home. Then she also started saying that she will go to school. My daughter does not really study there because she is in nursery but she plays there. They [the school] don't put too much pressure in nursery there. I wish for a good playschool for her." – Study participant (Mother, 28 years old, 3.5 year old daughter who attended a faith-based playschool)

However, in analyzing entire interviews of the 18 participants, emphasis seemed to be placed more on the academic training aspect of a preschool. Even if the older siblings of the study participants may not have attended any ECE institutions, it had become a community norm that young children should attend some type of preschool to 'get prepared' for formal school. According to parents, socialization behaviors developed at preschool would help young children prepare for formal school. Thus, although the social paradigm tradition was intertwined with the preprimary tradition, parents believed that only once children learnt to behave a certain way for school (intangible behaviors or a tangible certificate from preschool), the 'real' learning could start. Therefore, in a way preschool was also a 'signal' that parents were willing to provide to the formal system that comes next, that they [parents] had done everything they were supposed to, and that the teachers and schools could not place 'blame' with their child's home background.

Participant 2: "They [the school] also gave him books to study, and then they keep those there. They teach the child how to speak and to write. It's basically when we put the child in proper school then it won't be the case that we didn't send him anywhere [to school] before this." – Study participant (Mother, 24 years old, 4 year old son who attended a playschool)

Participant 2: "He has just started with the playschool; he goes around 9.30am and comes back around 11. Where he goes, if the child is not strong, they teach him how to exercise. The playschool gives a certificate saying the child has studied from there." – Study participant (Mother, 24 years old, 4 year old son who attended a playschool)

In caregivers' universal acknowledgement of the importance of early education, the larger, more dominant expectation from preschool was their child's academic preparation. Parents expected that their child learn the alphabet (A,B,C,D…), counting (1,2,3…), to read and write, draw, and color, to learn poems, animal names and parents' names. Parents held the overarching belief that through preschool education, and education in general, the child's knowledge would increase, and the child would be able to 'get ahead' in life.

4.5.2.2. Parental expectations from preschools

In line with this focus on early academic preparation, parents preferred and cultivated a cognitively focused environment for their young children. A majority of study participants emphasized that preschools should teach their children cognitive skills. While some parents discussed their expectations from preschools, some parents spoke of the current practices these ECE institutions adopted as part of teaching their children. Parents talked about the schools teaching their children, as young as 2 years old, the alphabet, numbers and even teaching the child how to write. The alphabet, counting, and writing were all tangible aspects of learning that were easy for parents to monitor, rather than the intangible benefits of play-based early learning.

Many parents showed me their child's notebooks and told me how much work from the school and tuition center the child was getting.

Participant 4: "A school is good when they take care of the child. Even if she is a small child, they will have to teach her. If she gets homework from school, we will make her do it. If we don't make her do it, it is our fault then. That is how we will get to know whether she is studying or not. It depends on whether the school gives homework or not. Yes, she gets homework from school, A,B,C,D, smaller-bigger, 1,2,3, this is the type of work she gets. She gets these exercises in her notebook. She also gets books from there. Children should play and study in school, and the teachers should take care of the children. If the children don't study well, they should tell the parents." – Study participant (Mother, 28 years old, 3.5 year old daughter who attended a church managed playschool)

Parents also considered homework to be a benchmark for preschool quality. Parents preferred that their child should receive homework from school and questioned the school's quality if this was not the case.

Participant 4: "Sometimes when she gets less homework, it must be that they concentrate on children less. So, I check and say that today she has gotten less homework. Sometimes they don't give work, but almost every day she gets homework. She gets homework on matching numbers or coloring. They make the children do it there and they also give homework." – Study participant (Mother, 28 years old, 3.5 year old daughter who attended a church managed playschool)

This notion of starting academic training early was tied with parental expectations of what teachers at "good" preschools should do. Parents believed that teachers played key roles because children of that age would learn anything their teacher taught them. Some parents

expected preschools to give children homework, and that's how the parents would know if their child was learning something at school.

Participant 9: "The school should teach children A,B,C,D, counting 1,2,3, poems, animal names and all that. It should be a place where knowledge is inculcated in children." – Study participant (Mother, 31 years old, 4 year old daughter who attended a nursery in a faith-based school)

4.5.2.3. Children's academically-focused lives at home

In line with these preferences for an academic early education, parents, thus, created academically-focused lives and home environments for their young children. Based on discussions with parents about their child's daily lives and formal and informal early education institutions these children were attending, it was evident that these young children were leading highly "academic" lives. Children in the study spent a considerable portion of their day studying, doing homework, or attending tuition classes. In the study sample, 9 children were not attending tuitions, a typical day for them started with attending preschool in the morning for three or four hours and resting when they were back. The children would then divide the rest of their day playing with their siblings, neighbors, parents, or other relatives, and putting in some hours studying independently or with their parents. Some parents said that they or other family members sat with the children to go over what they were learning at school or helped them complete the given homework for the day. The 9 children who attended tuition classes would do so for an hour or two and engage in other activities mentioned above for rest of the day.

4.5.2.4. Wide prevalence of preschool children attending tuition classes

Children's cognitively focused environment was also evident from the wide prevalence of tuition classes. Parents perceived tuition classes as supplementing schoolwork, and setting up their children to be academically focused. As described in the context section, about half the participants in the sample said that their children were attending tuition classes. In most cases these children were aged 4 and above. Tuition centers were located both inside and near the slum area. Parents of the younger children (aged 4-5) would go and drop them, whereas the older children (aged around 6) would go on their own. These tuition classes took the form of small class sizes (ranging from 5-20 children) to help young children with their school work. Tuition centers were often started by a slum-resident who had gone through several years of education themselves. Tutors charged a small fee (2 – 5 USD per month) for their classes. However, with expenses required on multiple fronts parents reported feeling financially pressured by this sum of money.

In these tuition classes, children completed their school homework, revised what they had done in school, including the alphabet, counting, multiplication tables, and writing. Sometimes the tuition classes prepared children for what was to come in the weeks ahead in school. Parents sent their child for tuition classes so that their child remained busy for that hour or two rather than doing nothing substantial at home; their child did not study at home so there was greater incentive to study with her peers. Tuition classes were viewed as an opportunity for children to revise and complete their school homework, and parents said that these classes also provided discipline to the children. One participant said that in the case of schools that do not teach much, tuitions were helpful for those children.

Participant 5: "He goes for tuition nearby. Whatever he does in school, they complete that in the tuition classes. They make the children do counting until 100, multiplication tables..." – Study participant (Grandmother, 44 years old, 4 year old grandson who attended nursery in a government school)

Participant 9: "My daughter attends tuition classes, one of our relatives holds these tuition classes. They are nearby. Since I do not know Hindi, I find it very difficult to help my daughter with her school work. I only know English and Tamil. Tuition classes are in the main languages. She goes also because we have to keep her busy, otherwise she will sit at home and watch television. The tuition classes keep her busy; she gets homework from there. They teach A,B,C,D, numbers, Hindi, etc." – Study participant (Mother, 31 years old, 4 year old daughter who attended a faith-based playschool)

4.5.2.5. Contextualizing parental preference of cognitively focused education

In their study, Alcott et al (2018) too found that parents viewed preschool as a downward extension of primary school. Parents in that study too mentioned academic objectives from preschool, such as 'to prepare for school' and 'to help with learning'. Alcott et al (2018) substantiated this pattern by referencing other global studies which had reached similar findings, that parents "especially those with lower education levels, prioritize academic and curricular preparation over more child-centered, informal learning" (p.12).

Parents' expectations from preschool in helping their children as young as three or four year old "get ahead" in their education or developing a strongly cognitive environment is surprising and may seem excessive. However, a possible explanation of these high academic expectations could be parents perceived inability to assist their children in their education.

Parents articulated some of these thoughts when asked why they sent their children for tuition classes.

Several parents mentioned that they had had limited educational opportunities and felt underconfident to help their children with school work. Some parents actually said that since they were "uneducated" or had studied in the village, they were unable to help their children with their school work and the growing demands of curricular requirements.

Participant 11: "Both my children go for tuitions. They will be able to study better through tuitions. Their knowledge will increase. Parents are not that educated that we are able to help them. They get homework from school. We are not able to understand it, but the tuition teacher understands it. That's why we have put them in tuitions. The maths these days, is not the maths it used to be, so we are not able to understand it. Tuition is very necessary for them." – Study participant (Father, 42 years old, 5 year old child who attended nursery in a government school)

Participant 7: "He has been taking tuitions right from the start. From the time he started going to school. Studies are hard, we won't be able to teach him. My husband still teaches him to some extent. I am busy with this house work."– Study participant (Mother, 34 years old, 6 year old son who attended nursery in a private school)

Participant 17: "We are not that educated that we can teach our children, we do not know so much. So, whatever we don't know, the tuition classes teach the children. Because neither my husband nor I are that educated."– Study participant (Mother, 29 years old, 5 year old son who attended kindergarten in private school)

Parents compensated by providing extra academic guidance to their children through these tuition classes and overall academic environment. Thus, parents' belief that they did not receive quality education themselves and that their children should start early feeds into how parents went out of their way to make good on the cognitive focus.

Parental perceptions about early childhood highlight some major academic expectations parents had from their children at this early level of education. Although parents believed early childhood education was for behavior development and socialization, they preferred it to have a heavier academic bent. For education to provide their children social mobility, parents assumed that their child should start their academic journey young to acquire skills to excel at formal school. Study participants valued homework, and preferred schools that taught their children the alphabet, numbers, and writing. The wide prevalence of shadow education at the ECE level supports these parental expectations as well. Substantial portion of children's days were spent actively studying and preparing to excel at school academically.

4.5.3. Parental preference for non-governmental preschools

Parents' cognitive focus led them to private playschools and other non-governmental institutions. Parents preferred private preschools over government preschools because they equated price with quality (fee-charging private preschools versus free government preschools). More importantly, parents were partial towards private playschools because according to them these schools were equipped with better resources to teach their children academic skills to be ready for formal primary school.

In the context of developing both good behaviors and academic skills, parents showed a clear preference for institutions that would especially ensure the latter for their children, an aspect not found at government preschools. Parents viewed the government crèche or *anganwadi*

as a place where the child mainly got into the routine of going away from home and sitting there for two-three hours regularly. It was viewed as the poor man's only option for any kind of early education for their child. Some parents explained that in the early learning journey of a child, some socializing behaviors were first learnt at the *anganwadi*, and then the child started picking up more academic aspects at a playschool (like the alphabet). Participants talked about the convenience, basic safety measures, and care that were ensured at the *anganwadi*, which was located nearby. So, in case of any issue related to their child, the parents or some other family member could easily go and pick up the child. However, many participants believed that *anganwadis* were not for learning, and that "real" learning happened only in private schools. Thus, despite being free of charge, in not ensuring an academic aspect, *anganwadis* did not offer the early education experience that most parents valued.

For ECE, parents voiced a preference for non-governmental, specifically private playschools which were paid options, but ensured quality education according to the parents. From the total sample of 18 participants, 12 participants said they preferred private playschools over government schools or anganwadis. Parents believed private playschools to have better infrastructure, greater play materials and overall resources, and more attentive teachers. In comparison, several study participants spoke about the unappetizing food given to the children at anganwadis, and that in general teachers were inattentive in government schools and anganwadis. As a recommendation, one parent suggested that anganwadis could be improved by adding more play materials as private playschools are known to have. Below are quotes of two different participants comparing government and private schools when asked about what a 'good' preschool looked like to them.

Participant 10: "The people around here talk and they said to me that you should put your daughter in a playschool. In the anganwadi the teachers scold the children there. There are too many children there, and the teachers are not able to manage them. In the play school there are fewer children and they teach them to talk like this, talk like that, that's how they teach them, and how to write. That you should not talk to anyone in a wrong manner. Here, in the anganwadi, it's the opposite, she starts saying something to the children. Even I have seen this." (Study Participant – Mother, 28 years old, 3.5 year old daughter who attended a faith-based playschool)

Participant 2: "The children who go to anganwadis are not able to speak properly or write properly. In the playschool they will talk, the teachers will hold their hands while writing. This is what happens in playschool." (Mother, 24 years old, 4 year old son who attended a playschool)

Only one participant, a grandmother who was the primary caregiver of her son's children, was particularly appreciative of government schools, saying that the current state government had invested and improved such schools quite a bit. The 44 year old woman lost her daughter-in-law to child birth and was taking care of her three grandchildren with their father not being around.

Despite parental preference for private playschools, only a limited set of parents were able to afford a private playschool education for their children. Study participants spoke candidly about their financial constraints in being able to afford private education for their children. Moreover, parents equated school price (fees) with school quality. Echoed by two parents was the statement that if a school took money, it would be a good school because you paid for it; that there were greater resources in private playschools and that the children were more cared for.

Participant 11: "Play school is for important people, it's not for poor people like us. Anganwadis is okay for us poor people. The main thing about anganwadis is that it's free, it doesn't charge any money. And then our child learns to sit there before going to formal school, to a large extent. He doesn't face difficulties later on, doesn't cry, and sits in school without a problem. Main benefit is this. Otherwise/ there is not much studying that happens at anganwadis. Very little studying happens there, but the child learns to sit." – Study participant (Father, 42 years old, 5 year old child who attended nursery in a government school)

Abundant research on private education at the primary level indicates that parents often relate price with school quality (Day Ashley et al., 2014). Even if parents struggled to pay school fees, they still prefer to pay for expensive private education compared to free education offered by government schools. Parents perceive private schools as offering better quality education, and are dissatisfied with government education, and consider government schools teachers to be inadequate. Moreover, a big, attractive factor for parents is English as the medium of instruction in private schools which they presume would improve their children's future prospects.

Recent literature highlights some of the commonly observed trends in private primary education being reflected at the preschool level too. Singh & Mukherjee (2018) find that the popularity of private preschools in India is because these schools are labelled as offering 'English-medium' teaching. In their longitudinal study of three Indian states, Kaul et al. (2017) too write about parents preference for private over government preschools because they felt that their children should have reading, writing, and numeracy skills even before entering primary school. Parents appreciated that private preschool teachers spent more time in teaching than non-teaching activities. In making children read, write, and give homework, parents preferred private preschool's focus on beginning formal teaching early.

Parents in the study considered early childhood education important for developing good behavior and inculcating some useful daily habits in their child. Government crèches or *anganwadis* provided these for free along with ensuring safety and basic care of their children. However, in their emphasis on academic preparation in ECE, parents believed that private playschools offered behavior development, care, and cognitive skills to their children. Thus, tied to the argument of the study participants that money ensures quality is their perception that private playschools rather than government preschools ensured "good" quality ECE because private schools had greater resources, teachers took care of the children more, and that children were taught all the required academic skills. The next section highlights that even though parents were often hesitant to engage with private school teachers, they still sought a private preschool education for their children.

4.5.4. Limited parental involvement at the school-level

This study notes complex patterns in parental involvement. Parents showed clear needs, expectations, and perceptions regarding ECE that included preference for a cognitively focused education and private playschools for their children. Moreover, although parents were generally aware of their child's progress in preschool, yet, their involvement at the school-level was limited. Parents' school-level involvement was overshadowed and shaped by preschools exerting power and authority over parents in overt and covert ways.

4.5.4.1. Parental exposure to child's preschool

Most parent participants had gone and seen the school from inside either at the time of their child's admission or during other meetings. Parents were also aware of their child's preschool infrastructure and spoke about what the preschools looked like – open spaces, swings, desks, toilets, number of teachers, number of non-teaching staff, air conditioner, a security guard.

Participant 18: "The school is in the basement, so I saw all of it. There is everything for children. There are swings, small tables and chairs, and there are chairs along the side for any parents that may come to talk to the teacher. There is a toilet for the children, it's not inside but upstairs." – Study participant (Mother, 26 years old, 2.5 year old son who attended a private playschool)

Some parents spoke about their child's preschool organizing events around different festivals like Christmas, Independence Day, Diwali, and others where the children received gifts and food from the school. On these days, by highlighting the most popular festivals, schools aimed at increasing the children's knowledge and curiosity about diverse cultures. Schools also included a sense of festivity by distributing food and small gifts to the children.

Participant 6: "They [school] have functions and other events there like Christmas or Independence Day. The NGO-managed school helps us out too. They also give children gifts. They give children juice during hot summer days, food, and everything." – Study participant (Mother, 22 years old, 4 year old son who attended an NGO-managed playschool)

Beyond the school's physical infrastructure and special events, parents also had a general sense of what their child was being taught in preschool and discussed their child's day in school with them.

Participant 5: "My grandson's studies are going fine. The teacher told us that they will not give pencils to nursery class children right now. Maybe after one year or six months they will give the children pencils. The teachers make the children do drawing, reciting poems, A, B, C, D." – Study participant (Grandmother, 44 years old, 4 year old grandson who attended nursery in government school)

Participant 15: "Yes, they make the little children say A,B,C,D and they tell them a little bit about yoga. They make them exercise. After he [son] comes back from school, we ask him in the evening, what did ma'am make him do. He tells us that she taught them A for aanar [pomegranate], he tells us all that. He recites poems too, short poems"– Study participant (Father, 32 years old, 3 year old son who attended an anganwadis school)"

Parents saw, understood, and discussed the evolution of their young child's early learning upon attending school.

Participant 12: "I can see that he is learning. He recites the poems he learns in schools. He has been talking more since he started going to the playschool. He tells us that madam did this in school, she did that." – Study participant (Mother, 29 years old, 4 year old son who attended an anganwadi and then a private playschool)

Participant 16: "The way the school teaches them daily habits, that's how the children learn. From the way they walk you can figure out what they are learning in school." – Study participant (Grandfather, 59 years old, 3.5 year old granddaughter who attended nursery in government school)

Participant 17: "Yes, there has been change, a lot of change. See, first he didn't know how to study that much. Going to the anganwadi he has learnt poems. He has learnt these poems in the anganwadi, but also through the videos he watches on YouTube". – Study participant (Mother, 29 years old, 5 year old son who attended kindergarten in private school)

In these ways parents kept abreast of and were involved with their child's early schooling and learning. That said, parents and caregivers had limited direct interactions with their child's teachers. This interaction was mainly during parent-teacher meetings where the teachers

informed parents about their child's progress in school. From the parents' side, involvement with the teachers was equated with getting or discussing complaints about their child.

Participant 2: "In terms of the playschool, if there are no complaints coming from the teacher it means there is no problem. I have not spoken to the teacher. We mainly drop and pick up our son from the school. Have not been inside." – Study participant (Mother, 24 years old, 4 year old son who attended a playschool)

Participant 11: "My wife drops him in the morning, and I go and pick him up in the afternoon because I work nearby. No, we've never really spoken to the teachers, we've never felt the need to. There has been no complaint from the teacher" – Study participant (Father, 42 years old, 5 year old child who attended nursery in a government school)

4.5.4.2. Power dynamics between schools and parents

In the context of parents' restricted involvement with the school, from the school and teachers' side, there was less involvement but more of one-sided information sharing and directing of parents about how they should think about ECE issues that were often at odds with parents' own ideas and preferences. Interviews revealed that some play-based, non-academically focused schools were directing cognitively focused parents to not exert pressure on their young children, and that schools would mostly work on children's behavior development initially.

Participant 10: "I spoke to the teachers. I asked them about my children. They [the teachers] were talking nicely; they were saying they do not exert pressure on the children. Initially they let the children play, that's all. They only make them sit, make them say "good morning" and "good afternoon", stuff like this they teach, like "A for apple". They don't exert any pressure. One of my daughter's friends goes to a school that puts a lot of pressure on the

children, and then the child says she won't go to school then. No, not my daughter's school. They let them play there, my daughter also goes there to play, even I stand outside and watch if something happens or not, whether she is scolding them or not. But no, everyone plays there." – Study participant (Mother, 28 years old, 3.5 year old daughter who attended a faith-based playschool)

Participant 11: "My younger child is in KG class in that school. They are not teaching him much right now, they teach very little. The teachers don't want to put too much pressure on the children right now." – Study participant (Father, 42 years old, 5 year old child who attended nursery in a government school)

Even as parents may have accepted this push from the schools, I noted some disbelief about this directive from the school which was expressed in subtle ways. In the first quote above, "*Even I stand outside and watch if something happens or not, whether she is scolding them or not. But no, everyone plays there."* there is some disbelief from the mother's side that children may actually just play in school, and suspicion that there must be something strange going on if the teacher was asking the mother not to pressurize her child. So, the mother told me that she stood and watched outside the school to see if *"something happens or not"* and noted with some surprise that "everyone plays there".

Another example of schools redefining and redirecting parental expectations was in schools deploying technology and social media as tools to update parents about their child's progress.

Participant 18: "The teacher at the school sends messages over Whatsapp to us; whatever she teaches the children. These messages are sent to all the parents, for example she sends videos to all of us. Whatever they play with the children, or for instance it's some child's

birthday. So, they play the birthday song and all the children dance by making a round and they send a video of all this. Otherwise, whatever poem they teach them, they do that through dance, actions and different expressions. In this way, even the children are more interested to do the same. When my son comes back from school, he tells me and shows me that "Mama, today ma'am said this, did this", so he is happy. In the same way, the teacher also shares with us whatever the children learn. They don't message every day, but sometimes." – Study participant (Mother, 26 years old, 2.5 year old son who attended a private playschool)

Participant 7: "There is an LED there, on it there are things to study and there are things to watch. If the children start crying they show something on the LED then, to quieten them. They show cartoons etc. They still show them, it has been a week they still show cartoons. The teachers sing songs, and even the children sing along. The activities they do with the children, the teachers show that to the parents on the LED. That your child did this, they do that. See your child is drawing. This is what they show. The video keeps playing. [inaudible]. Like poem and all they show on that only. And all the facilities are there. Swimming and all." – Study participant (Mother, 34 years old, 6 year old son who attended nursery in a private school)

In using videos and LED TV screens, the schools were using "performative" tools to impress parents with their use of modern, sophisticated technology.

The other ways through which schools shared information with parents were parent-teacher meetings. Parents who reported attending parent-teacher meetings said that teachers informed a large group of parents about their children's progress. A significant barrier in the relationship between teachers and parents seemed that despite paying fees to the school, some parents did not receive one-on-one attention from the teacher. The excerpt from the interview

below reflects that some parents were called to the private school in large groups to update them of their child's progress.

Participant 11's wife: "Yes, he is learning at school. The teacher shows us… there is something drawn in a notebook, so she shows it to us during our meeting. Whenever they want, they call us for a parents meeting, almost every month. There are about 150 children across two KG classes, so they make all the parents sit together. Our child has about 40 children in his class. Till now we have gone three times for our older son. And there has been one meeting for the younger one in 3-4 months." – Study participant (Father, 42 years old, 5 year old child who attended nursery in a government school)

Parents who did challenge the school's power and authority did so in groups. This was especially the case for private preschools. One particular participant in the study had two daughters attending a primary government school, whereas her youngest son got admission in an elite, private school. Dismayed about her daughters' government school education, the participant spoke vociferously about her daughter's teachers. However, her under-confidence was apparent in making her voice heard in the case of her son's private school.

In the following quote, the participant is recounting her meeting with her daughter's government school teacher.

Participant 7: "All the teachers are there, when we go for parents meeting. The teachers give the children work but they do not check it. Their [teacher's] job is to give the homework, which they do. The children take it home. Whatever homework or activity it may be. They should check it. I had gone to complain. The teacher was not able to recognize my child. What kind of teacher is she?! So, I asked her that my child studies in her class and does the teacher not know her? I got angry. The teacher said, Ma'am how will I know she is your child if she sits at the

back quietly? I asked the teacher why my daughter will keep sitting quietly...I also told the teacher, you sit at a desk and chair, don't you? You should be able to see whether the children are keeping their head down or keeping their head up and whether they are studying or not? You should know that, shouldn't you? – This is the situation in government schools…" – Study participant (Mother, 34 years old, 6 year old son who attended nursery in a private school)

There was a change in the participant's tone while conveying an issue she was having with her son's private school. The participant reports that even after two years of her son studying there, the school had not given her son an identification card. The participant worried that in an unfortunate event the school may not be held accountable and responsible for her child if her child was without an identification card.

Participant 7: "Since he has gone to Class 1, he has not gotten his ID card. He does not wear anything, no ID card. That's what I have to ask the school, but the parents' meeting has not happened yet. I don't have the courage, but I will have to be brave. Is it not? I do not how to speak, but whichever way I talk, I'm sure they will understand it. This is the only complaint I have. When we go to complain, at least ten ladies will go, because we stand together. We discuss what homework the children got today, what homework they got yesterday. If the children take leave, what homework they got that day. We get all this information from each other. We do it over the phone too…no, this is not from the teacher, we receive this information from the parents. Like all of us parents go together." – Study participant (Mother, 34 years old, 6 year old son who attended nursery in a private school)

Limited parental involvement at the school level can be explained by perceived socio-economic gaps. Acknowledging their low-income backgrounds, several parents felt restricted by

their own educational abilities and experiences in really engaging with their child's school and teachers. A few parents who had migrated to Delhi also spoke about their language barriers.

Participant 6: "Yes, I've gone inside the school. I met the teacher there. She told me what my child does. That is it, nothing else. No, I didn't ask the teacher anything, what will I ask? The school is very clean, has AC [air-conditioning]inside, it's very nice from inside. Little children go there. It's very clean. I can't remember the name of the school. I've just gone there once, usually my husband goes. All of us have gone inside. See we're poor people, we think if our child goes to that school he will sit there comfortably, he'll learn something there. Wherever [whichever school] they speak nicely, we go to that school. We think it'll be good for our child's future." – Study participant (Mother, 22 years old, 4 year old son who attended an NGO-managed playschool)

Participant 7: "See we can't really help him, we do not understand much. The teacher also talks in English. I tell the teacher very clearly, that Ma'am we have studied till this level, and we can't talk in English. We can understand English little bit. So, she talks to us in Hindi." – Study participant (Mother, 34 years old, 6 year old son who attended nursery in a private school)

Participant 9: "Since I do not know Hindi, I find it very difficult to help my daughter with her school work. I only know English and Tamil." – Study participant (Mother, 31 years old, 4 year old daughter who attended a church managed playschool)

At home, parents are quite involved with the child's learning; they spend considerable time interacting and playing with their children or going over their child's school-work with them. However, when it came to parents' involvement at the school-level, this study finds that parents' involvement was being aware of what was happening in the school and the facilities the

school offered. Some parents did not see the need to interact with teachers, and other parents did not think they had the required abilities to engage meaningfully with their child's education. From the school's side, there was no effort made to really engage with parents; rather, schools and teachers mostly conveyed information to children's parents.

4.5.5. Juxtaposition of the local, national, and international

The global vision for ECE can be categorized into mainly two traditions: the 'social pedagogy' tradition and the 'preprimary school' tradition. In the first approach, pedagogy is designed to be play-based, with movement, choice, and child autonomy (Bennett, 2005). Moreover, in this approach the national curriculum allows flexibility for local providers to experiment with different pedagogical practices. Whereas, in the 'preprimary school' tradition emphasizes teacher-driven, highly-structured, and academically-focused practices. The preprimary approach is influenced by the primary school model. Moreover, this approach argues for benchmarking and assessing children especially as they become of school entry age (Bennett, 2005). In reality, however, countries tend to adopt features from both types of approaches.

4.5.5.1. International discourse and best practices in ECE

In general, the international community has pushed for a holistic view of children's early development. The notion that learning during the early years in children's lives should be through developmentally appropriate practices, child-centered, and play-based learning has been at the crux of the global vision towards strengthening ECE systems.

In the 1980s and 1990s, critical research in developmental science and neuroscience established the value of early education, especially for populations that may be surrounded by varying levels of adversity. In the West, the National Association for the Education of Young

Children (NAEYC), a leading American early childhood professional group in the 1980s first used neuroscientific, developmental science disciplines as rationales for 'child-centered' practices in ECE (Pence & Nsamenang, 2008). With the evolution of the child development literature, some researchers critiqued these seemingly "universal" norms, policies, and practices as being pushed onto countries that are very different from each other. According to these experts, the developmentally-appropriate practices perspective was limited in its inclusion of topics of context, culture and primacy of a positivist approach (Kessler, 1991; Pence & Nsamenang, 2008).

However, the general consensus was towards strengthening of early childhood education system the top policy priority. Many LMIC governments, policy makers, researchers, and academics shared this international vision of investing early in children. By the early 2000s, a large number of LMICs had created integrated, national level policies catering to the education, health, nutrition, and social-protection needs of young children. In its global report focusing on preprimary education, UNICEF (2019) proclaims that implementing a developmentally-appropriate and child-centered curriculum is essential for building and delivering preprimary education systems at scale. The report goes on to say, "A well-designed curriculum would ideally reflect a child-centred, inclusive approach, promoting holistic learning and development, including emergent language, literacy, numeracy and social-emotional development, through a clear vision and articulation of goals and/or standards for children's learning and development" (p. 86).

4.5.5.2. National discourse and best practices in ECE in India

In line with the international discourse, nationally, India's early education policies acknowledge that a child's early education should happen in a stimulating, nurturing, and

responsive environment. According to these policies, ECE should constitute an active component of learning through play and abstract thought.

A policy landmark for India was the formulation and approval of National ECCE Policy by the national government in 2013. The policy was accompanied by a new National Curriculum Framework and Quality Standards document. At the start the document presents the "Vision for an Indian Child" (p. 6), in these terms: "The National ECCE Policy visualizes nurturance and promotion of holistic development and active learning capacity of all children below 6 years of age by promoting free, universal, inclusive, equitable, joyful and contextualized p0opportunities for laying foundation and attaining full potential". The vision section goes on to say, "It [the policy] views children as happy, healthy and confident; each child with unique identity, grounded in their individual strengths and capacities; and with respect for their unique social, linguistic, and cultural heritage and diversity".

This framing hints at the 'social pedagogy' tradition of child-centered approaches that are less academic driven, and more inclusive of play and movement in their teaching. Additionally, the Curriculum Framework document of 2014 has an entire section devoted to discussing the harms of early formal instruction (p. 20). The section starts off by acknowledging the empirical evidence and recent surveys in the country that indicate that play-based, development-oriented ECE programs as advocated in an earlier policy, the National Policy of Education (1986), are more of an "exception than the norm" (p. 20). The Framework goes on to say why early formal instruction may affect children adversely; "Children are made to give regular tests and examinations, and are assigned regular doses of homework. Exposure to formal instruction is causing harm to children. This is a result of misinterpretation of early care and education. The risks are both short term and long term; the short-term risks include the

manifestation of stress and anxiety symptoms among children and the long-term risks include far-reaching effects on the children's motivational, intellectual, and social behaviour".

4.5.5.3. Stance of ECE providers in India

Although, this study is not focused on highlighting perspectives of ECE providers in India, it is important to briefly comment on the overall approach of ECE providers to be able to effectively contrast international and national visions against parental perceptions and expectations. As the literature review section presents, there are several different services providers for the ECE sector in India. The country has a wide network on government crèches called *anganwadis* that provide preschool education. Moreover, there are preschool classes attached to government primary schools, as well, a burgeoning market for private preschools. Many of these private preschools cater to low-income populations.

Multiple studies examining practices followed in ECE institutions in India find a wide variety in the quality of preschool education being offered. In general, it appears that private preschools seem to align with parental expectations in that such schools emphasize on children learning to read and write (Kaul et al, 2017).

Prabha et al's (2019) research on ECE using ethnographic methods examines local contexts, norms, and practices in two study sites spread across two states in India (Bihar and Tamil Nadu). The study provides a useful comparison between private and public ECE providers. It notes that in the backdrop of inadequate quality of government preschool education, parents go towards private ECE providers. These private preschool providers are seen to be providing developmentally inappropriate curriculum through practices such as, rote memorization and completion of homework. The study finds that in contexts with stronger public institutions, such as functional *anganwadis* and government schools, parental demand for private

ECE provisioning is lower, and the nature of parental expectations different. Parental concerns revolve around the quality of the education being provided in the form of formal literacy.

From this evidence, there appears to be a divide in the best practices national Indian policies propose and the practices adopted by ECE providers, especially private preschools. Thus, ECE providers in India seem somewhere in between on the spectrum of visions of ECE, depending on the type of institution. On one end of the spectrum are the international and national visions of a child-centered preschool education, and on the other end of the spectrum are parental perceptions of a preschool education that facilitates an easier entry into formal school.

4.5.5.4. Parents' needs and expectations from preschools

The current study presents a local picture of the perceptions, beliefs, and involvement of parents with ECE institutions in a low-income urban settlement in Delhi, India. Parental perceptions and children's early learning environments from this study present a picture that is in stark contrast to that prescribed by the international and national ECE discourses. Study findings show that parents believe ECE to be important for behavior and socialization, however, they give greater emphasis to their children being able to learn cognitive and academic skills of reading, writing, and numeracy.

4.5.5.5. A complex web of visions, needs, and expectations

Internationally, high-quality ECE constitutes developmentally-appropriate and effective pedagogy and curriculum, which is fluid rather than fixed, and accounts for a wide range of children's abilities. However, parents in the study did not really discuss such notions about their child's early education. Study findings indicate that parents not only demand a cognitively focused early education for their child but they go out of their way in cultivating an academic

environment as well. Parents appreciate and seek preschools that impart foundational skills to their children early on. Parents also ensure revision of school-work by sending their children for tuition classes.

Another complexity is that Indian national policies and the National ECCE Curriculum Framework are designed keeping in mind attendance at government *anganwadis.* For example, on p. 55, the National ECCE Curriculum Framework document suggests some weekly schedules that teachers at *anganwadis* can design which are "activity-based, theme-based and age-appropriate". However, there is evidence through evaluations and studies in the literature that critiques *anganwadis* for their lack of preschool education provision (Alcott et al., 2018; Ghosh & Dey, 2020). Additionally, the current study highlights in detail that although parents appreciate and widely use free services provided at *anganwadis,* they do not see these institutions as providing quality early education services.

In terms of the role of private players, India's National ECCE policy recognizes organized and unorganized form of private preschool sector being the "the second largest service provider of ECCE" (p. 5) with its outreach extending to rural areas as well. The policy also acknowledges the lack of systematic data on the non-governmental preschool provides. That said, the policy is clear in stating that it encompasses "all early childhood care and education programmes/ related services in public, private and voluntary sectors in all settings across regions, that are offered to children under 6 years. These services could go by the nomenclature of Anganwadis (AWC), crèches, play groups/schools, preschools, nursery schools, kindergartens, preparatory schools, *balwadis*, home based care etc. and propose to cater to the needs of children from prenatal to six years".

From the current study findings, it was evident that parents preferred private playschools because these schools were equipped with "better" resources to teach their children academic skills to be ready for formal primary school. Parents spoke about "good quality teaching", "English medium instruction", "more discipline", reading, writing, and numeracy skills that private playschools ensured. These needs, expectations, and desires are in contrast to what the country envisions for their young children. Existing literature on ECE providers finds that private preschools, especially low-income private preschools, seem to be catering to parents in providing an education that is not entirely developmentally-appropriate.

There is an evident gap between the international and national visions on the one hand, and local visions of ECE, on the other. There is a need for more research on diverse parental perspectives and perceptions of ECE which will facilitate a more comprehensive picture of the ground-realities of uptake of this education level. Additionally, greater efforts are needed for policy makers and policy implementors to engage with parents in unpacking the developmental needs and patterns of young children. Comprehensive, effective education systems cannot be developed without the support and buy-in of all stakeholders that influence early education for children. Thus, serious efforts would have to be made to develop a common vision for ECE that also aligns with needs and expectations of children and their parents, especially those living in vulnerable geographies.

4.6. Discussion and conclusion

This research looks at parental perceptions, beliefs, and expectations of early childhood education through qualitative research conducted in a resource-constrained environment of a low-income urban settlement in Delhi, India. Equitable ECE access is possible if there is a greater understanding of how parents, especially from low-income backgrounds, view early

childhood education. Greater information about parental perceptions and expectations of ECE can be matched with overarching global visions of early childhood education.

The study findings are based on in-depth qualitative interviews with 18 caregivers (mother or father or other family member) of children aged 2.5 – 6 years. Analysis was conducted using a thematic analysis approach by identifying general themes and patterns in the data. There are four key findings that emerge from the study: i.) parental preference for cognitively focused early childhood education, ii.) parents preference for non-governmental preschools, specifically private playschools; but not all parents can afford these, iii.) limited parental involvement at the school-level iv.) gaps in local, national, and international visions of early childhood education.

Study findings indicate that parents saw value in preschools inculcating good behaviors and socially preparing their children for life and formal schooling. However, there was unwavering preference for a greater academic environment in preschool for their child. Parents did not just give importance to academics in school, they wanted their child to engage in several hours of study at home as well. In addition, parents sent their young children for tuition classes to revise their schoolwork. These efforts and beliefs are indicative of parents' desire to ensure that their child does not miss out on or lag behind in educational experiences, perhaps in the same ways that they did. Several existing studies, Alcott et al. (2018), Kabay et al. (2017), Kaul et al. (2017), find similar parental emphasis on academic preparation in Ghana and across different states in India. For example, Kaul et al. (2017) talked about preschools in Indian states being downward extensions of primary school. The authors argue that children were taught in a manner similar to that of a primary school curriculum. Activities central to a play-based

curriculum were rarely mentioned by parents. This could be because parents did not observe the activities, or they did not understand that learning could occur through play.

The second important theme in the current study was the parental preference towards non-governmental, especially private playschools. Many parents believed that private institutions would ensure academic learning for their children. The same perception was not held about government preschools even though they charged no fees. In fact, parents equated school quality with money. In several instances, parents said that private schools were better because they charged money. Despite their preference for private playschools, a limited set of parents in the study could afford a private preschool education for their children. Existing literature, mostly based on primary schools than preschools in India, notes parental preference for private schools and some studies also focus on the reasons for this preference. With regard to ECE, *anganwadis* are known to emphasize more on their health and nutrition provision services rather than the preschool education component (Kaul & Sharma, 2018). Thus, it is not surprising that parents in the sample found the *anganwadis* lacking in their preschool teaching. Singh & Mukherjee (2017) used qualitative data from the Young Lives Study based in Andhra Pradesh in India and found that parents did not perceive *anganwadi* education to be of high quality. According to the authors, parents preferred private preschools so that their children could do preparatory work for primary school and start learning English.

The current study also illustrates the complex relationship between parents, schools, and teachers. For instance, this study finds that parents do not feel comfortable and confident in being more involved with their child's school. In the context of primary education in a low-income urban slum in Delhi, India, Aggarwal & Chugh (2003), also found that parents could not assist much in their child's studies and sought additional help for their children through tuition

classes. Multiple studies discuss this theme of parents perceived lack of ability to help out with the child's schooling in contexts other than India. Research by Donkor (2010) in Ghana and Yulianti, Denessen, & Droop (2019) in Indonesia examine parental educational aspirations, the role of parents in educational decision-making in ECE. These studies find that parents have high educational aspirations from their child's educational journey, yet feel underconfident in supporting them given their own limited education.

Through an analysis of international and national policies documents, it is clear that these high-level visions of ECE are in complete contrast to the local-level beliefs, needs, and expectations parents hold from their child's preschool education. Where the international community and national policies push for a child-centered, developmentally-appropriate curriculum at the ECE level, parents prefer a cognitively focused education. Parents see preschool as starting early in developing the foundational skills of reading, writing, and numeracy.

By studying the current status of ECE in India with a focus on slum populations, this study goes beyond the abundant ECE literature on developed Western countries. Given the huge scope of ECE services in a populous country like India, other developing countries too will have as much to learn from studies examining low-income parents' experiences and challenges in seeking ECE for their children. Moreover, there are substantial policy implications of this research in terms of long-term benefits of high-quality early intervention programs that incorporate parents. This study shows a dissonance between the global vision and the local vision for ECE, in terms of the expectations that low-income parents hold from ECE. If developmentally-appropriate and child-friendly programs are to be developed and scaled up, we need the buy-in and support of the community, including local educators implementing these

programs and most importantly the parents. There needs to be a common vision about ECE among policymaker, educators, and families. Additionally, the current study recognizes the importance of parental perceptions, expectations, and beliefs about ECE that contribute to parents' overall involvement in ECE. It is crucial that conceptualizations of the broad construct of parental involvement include a variety of perspectives, including those of low-income populations in LMICs.

APPENDIX

APPENDIX

Presented below is the semi-structured qualitative study protocol I followed while interviewing parents.

Table 4.4: Semi-structured qualitative study protocol for data generation

Semi-structured interview protocol		
INTERVIEW INFORMATION		
101.	Date	
102.	Start time	
103.	End time	
104.	Interviewee name	
105.	Interviewee sex	01 = Male 02 = Female
106.	Interviewee age	_ __ (in completed years)
107.	Interviewee highest educational qualification	
108.	Interviewee current marital status	
109.	Interviewee caste status	
110.	Interviewee religion	
PARTICIPANT INTERVIEW		
Note: Remember to obtain all the information using probe points given below each question. Make note of additional probes you find useful to include/add at the pilot stage.		
201.	**(FAMILY PROFILE AND INCOME)** How many members are there in your household? What are their ages and gender? What is the occupation of the household members? Household's average monthly income? How many children below the age of 6 years do you have/are there in the family? What are their names, ages and gender?	
202.	**(PARENTAL INTERACTION WITH CHILD)** Your child is quite young, how do you keep you child busy at home? What kind of activities does he/she do in a general day? Do you play with your child?	

Table 4.4 (cont'd)

Semi-structured interview protocol	
203.	**(PARENTAL KNOWLEDGE ABOUT EARLY CHILDHOOD EDUCATION)** According to you, what does a 'good' preschool look like? Why should children go to preschool? **Probe points:** • Probe about reasons to send child to preschool: is this a way to help them learn, prepare for school, or to support parents' labor market participation or both? • What is the need for early childhood education?
204.	**(GENERAL INFO ABOUT PRESCHOOL)** Do any of your children attend preschool? If yes, which children attend preschool? What type of preschool do they attend (government/private)? What is the name of the preschool? What preschool grades are they in? At what age did they start preschool?
205.	**(PARENTAL KNOWLEDGE ABOUT CHILD'S PRESCHOOL)** Why do you send your children to preschool? What do you think the children learn there?
206.	**(FACTORS AFFECTING PRESCHOOL CHOICE)** What type of factors influenced which preschool your child should attend? What did you like about the school you were considering for your child? How did you get information about preschools the time you were selecting one for your child? **Probe points:** • Did you consider how far the school was? • Did you think about the school fees and other additional costs? • Was the religion of the school a factor? • How did you find out that this school is of "high quality"? • Did you think about the quality of schooling in terms of discipline in the school, class size, quality of the teaching, school infrastructure? • Did you interact with the teachers or principal in the school you considered? What did you think about them? What did you talk about? How many times did you meet them? • Did you think about other things, such as, nice uniforms with ties, English-medium school • Did someone tell you about this particular school?

Table 4.4 (cont'd)

Semi-structured interview protocol
207. **(PARENTAL INVOLVEMENT WITH CHILD'S SCHOOLING)** Have you ever been to your child's preschool? How often do you interact with the teachers at your child's school? What is discussed during these interactions? How do you monitor the preschool teaching post admission? Do you feel that you are able to support your child in their schooling?
208. **(PARENTAL SATISFACTION WITH CHILD'S SCHOOL)** Are you satisfied with your child's current preschool? Which things in the school are you happy with? In your opinion, how can the quality of the preschool, your child attends, be improved? **Probe points:** • Probe about the quality of the preschool: teacher quality, school infrastructure, peer group
209. **(HOW IS PRESCHOOL PAID FOR)** What is the total fees you paid for preschool? How did you manage the financial burden of school enrollment for your (focal) child? (Probe for: used own savings, borrowed from friend/family/neighbor, from selling other assets). **Probe points:** • Probe about the following expenses: admission fees, school fees, uniform and shoes, textbooks, stationery, private tuition fees, transport cost, extracurricular activities (such as trips, annual day, sports day), other sub-heads.
210. **(PARENTAL KNOWLEDGE ABOUT GOVT. AND PRIVATE PRESCHOOLS)** What do you think of government preschools in your area? What do you think of the private preschools?
211. **(GENERAL INFO ABOUT TUITION CLASSES)** Does your child attend tuition classes (apart from preschool)? What does your child learn at these tuition classes? **Probe points:** • Why did you decide to send your child for private tuitions?

Chapter 5. Conclusion

Family care behaviors and practices or nurturing care of young children includes responsiveness, warmth, provision, and organization of the physical environment, and encouraging learning or exploration. Within the early childhood care and education literature, scholars interpret caregiver involvement as doing activities with children that enhance or support the children's development and learning. Literature indicates that this involvement could be at home, at the school or at the community level. Moreover, parental expectations, beliefs, and perceptions relate closely to caregiver involvement as well. This section provides a concluding note to the current dissertation. In connecting the main findings of the three studies, I propose a conceptual framework that will be useful to understand parental and adult involvement in low- and middle-income countries.

5.1. Key findings and main contributions

Based on three analytical studies, this dissertation contributes to the overall ECCE literature while offering a nuanced understanding of parental and adult involvement. This dissertation pays special attention to local contextual perspectives while studying caregiver involvement, and includes variations in contexts, environments, and socio-cultural settings of human development. Moreover, this nuanced empirical understanding is supported by a different research method in each study: a systematic literature review, quantitative, and qualitative analytical methods.

The first study (Chapter 2) analyzes the conceptualization and measurement of parental involvement in early childhood care and education in LMICs through a literature review. Study findings indicate that especially for low- and middle-income countries, the discourse of parental

involvement in ECCE lacks strong guiding frameworks and conceptualizations. In the absence of comprehensive theories explaining parental involvement, I find limited measures and data that facilitate an analysis of current trends and patterns of adult involvement. Thus, through the literature review, I identify an urgent need for both a stronger framework and global, population-level indicators of caregiver involvement.

The second study (Chapter 3) quantitatively analyzes patterns in home-based parental and adult involvement in Ghana, The Gambia, and Zimbabwe through descriptive and multi-variate regression analysis using UNICEF's MICS data for the three countries. Overall, the study indicates that any type of adult involvement is positively contributes to child development. I find expected patterns in parental involvement, with wealth and maternal education being key drivers of cognitive involvement for all three countries across mothers', fathers', and others' involvement. Moreover, mothers' involvement relates strongly with children's literacy and numeracy development. The key contribution of this study is the careful exposition of non-traditional forms of caregiver involvement carried out by other, non-parental members in the household. Specifically, I find substantial proportion of others' involvement in all three countries, differences being based on contextual factors. In Ghana and The Gambia, given large family sizes, others often assist in caregiving. However, in Zimbabwe, other members compensate for parental caregiving in the absence of the parents. Data analysis suggests that these other members are likely to be adult females or older children in the household, however due to limitations of the data, it is difficult to say for certain. MICS data only terms these non-parental adults as "other" members and offers no further background information for these individuals.

The third study (Chapter 4) qualitatively analyzes parental perceptions, beliefs, and expectations of early childhood education based on interviews of parents living in a low-income urban settlement in Delhi, India. Study findings indicate parents prefer a cognitively focused early childhood education, which drives their behaviors in creating an academic environment, for example through tuition classes and opting for private preschools that seem to focus heavily on academic teaching as well. Although parents have a clear vision of early childhood education for their child, their school-based involvement is limited given unbalanced power structures between parents and schools, and perceived limited abilities of parents to engage more with teachers. This study also finds a deep disconnect between international and national ECE policies on one hand, and ECE provider practices and parental expectations on the other hand.

In this concluding chapter, I propose a conceptual framework that builds on findings from these studies and brings together learnings from previously reviewed theories and frameworks, and existing empirical evidence. This framework addresses the need articulated in several studies for research that is more localized to develop contextualized definitions of what currently are "universal" constructs in the child development discourse (McCoy, 2022), in this case, parental and adult involvement. This framework combines individual components of several theoretical models, such as Hoover-Dempsey and Sandler's (1997) framework, Epstein's parental involvement model (1995), amongst others. In including caregiver's broader contextual environments, it is mindful ecological models such as Bronfenbrenner's model (1986).

5.2. Conceptual framework

Through this conceptual framework, I contribute to the current ECCE discourse based on low- and middle-income countries by offering a context-specific theoretical grounding of caregiver and parental involvement that is not reliant on Western, high-income countries. The

proposed framework brings together individual elements of existing models and conceptualizations and builds on them further. There are four key elements of the framework: caregiver perceptions, beliefs, and expectations; caregiver socio-economic status, including parental education and wealth; quantity and quality of home-based caregiver involvement; and quantity and quality of school-based caregiver involvement. The three main chapters of this dissertation, Chapter 2, 3, and 4, guide the framework. Chapter 2 reveals significant gaps in the overall conceptualization of parental involvement specific to LMIC contexts. Chapter 3 and 4 guide two components of the framework. In analyzing adult involvement using UNICEF MICS data from Ghana, The Gambia, and Zimbabwe, I essentially examine the quantity and quality of caregiver and adult involvement as proposed in the framework. Moreover, the qualitative study of parental perceptions of low-income parents in Delhi, India, guided the caregiver perceptions, beliefs, expectations component of the framework.

5.2.1. Caregiver perceptions, beliefs, and expectations

Borrowing from several frameworks cited before, caregiver's perceptions, beliefs, and expectations from the child's early education are related to their involvement and in turn children's development and learning. Frameworks and theories such as Vygotsky's socio-cultural theory (1978), Bronfenbrenner's ecological model (1986), and Coleman's social capital theory (1988) all emphasize upon people and their contextually-influenced and contextually-related beliefs. For instance, cultural beliefs could influence behavior that may constrain or facilitate parental involvement outcomes (Eng et al, 2014). In addition to these theories, it is useful to also consider Hoover-Dempsey and Sandler's (1997) model which postulates that with a greater sense of self-efficacy, parents can help their child succeed with their education, "parents believe that they have the skills and knowledge necessary to help their

children, that the children can learn what they share and teach, and that they can find alter- native sources of skill or knowledge if and when they become necessary" (Hoover-Dempsey and Sandler's, 1997, p. 314).

Literature suggests that parental aspirations/expectations for children's education achievement have a strong relationship with student's academic achievement (Fan and Chen, 2001). Eng, Szmodis, & Mulsow's (2014) study based on Cambodia investigates the role that parental involvement has on children's academic performance. As part of parental involvement, the scholars focus on parental beliefs (fate, gender roles, educational aspirations) and parental social networks and trust. They find that parental beliefs (fatalistic and cultural beliefs) and parents' perceived trust between people had a positive, significant impact on parents' involvement with education.

5.2.2. Caregiver socio-economic environment

Extensive research on this topic highlights caregiver socio-economic status, through education and/or wealth to be a dominant mediator of adult involvement. Evidence and theories suggest that low-income families often have limited education, reducing their ability to provide a responsive stimulating environment for their children (Coleman, 1990; Engle & Black, 2008). At the country level, several studies examining large country samples find that in high-income countries, as well as in countries that rank higher on the Human Development Index, parents engage more in stimulating activities as compared to low- and middle-income countries (Bornstein & Putnick, 2012; Cuartas, Jeong, et al., 2020).

In country-specific studies, some examples such as, Lassasi (2021) in Algeria, Gubbins & Otero (2020) in Chile, Ivrendi & Isikoglu (2010) in Turkey, and Cashman et al. (2021) in India found that parental education and wealth or income was positively related to the quality of

parent-child interactions. won Kim (2017) through a meta-synthesis of qualitative studies discusses that one of the biggest barriers in preventing parents from engaging with schools is poverty. Poor parents often could not afford the costs of schooling or were busy at work and could not afford to take out time to visit their child's school. Moreover, high rates of parent illiteracy and lack of education impeded parents' understanding about their children's learning and lowered their expectations (won Kim, 2017).

5.2.3. Quantity and quality of home-based caregiver involvement

Whether it is older frameworks of child development (such as Vygotsky's socio-cultural theory, 1978; Bronfenbrenner's ecological model, 1986) developed keeping in mind multiple country contexts or newer frameworks applicable directly to LMICs (such as the Nurturing Care Framework, 2018), in general there is evidence showing positive, significant impacts of warm, responsive caregiving on early childhood care and education. Home-based involvement includes activities done by parents or other caregivers at home that stimulate different aspects of child's development (physical, cognitive, socio-emotional, executive functioning). Number of involvement or stimulation tasks done, frequency of doing a stimulation activity, greater time spent by the caregiver with the sample child are all associated with higher levels of child development.

There is a growing body of research that suggests that home-based parental involvement at the early childhood care and education level has positive effects on children's learning, education, and development. This body of research has mainly studied mother-child interactions, and only recently has expanded its focus to examining father-child interactions as well. Additionally, several new studies investigate caregivers beyond parents and their role in children's development and education. Such studies have found that with greater adult

involvement by other members in the household (such as grandparents, older siblings, aunts, uncles), children's ability to read increases (Ong'ayi et al, 2020) or children's emotional and behavioral development improves (Pearson et al, 2019).

5.2.4. Quantity and quality of school-based caregiver involvement

The above literature review has focused more on home-based rather than school-based caregiver involvement, however, to make this conceptual framework comprehensive, I include school-based involvement as well. The most seminal framework, Epstein's model of parental involvement has highlighted in detail how increased parental engagement with a child's school and teachers can increase academic achievement. Epstein's model, however, is more applicable for primary and higher levels of education, rather than early childhood education which is the focus of the current conceptual model. From the United States, Hill and Tyson (2009) find that school-based involvement, measured as classroom visits and interactions with children's teachers increase parents' understanding of the curriculum, enhance parental social capital, and increase the effectiveness of home-based parental involvement (Wolf, 2020).

Frameworks explaining school-based caregiver involvement in early childhood education have not been developed for LMICs yet. That said, there is growing empirical evidence based on LMICs that measure school-based involvement at the early childhood education level. For instance, the Quality Preschool for Ghana (QP4G) project implemented in 2004 was aimed improving kindergarten education and children's development through teacher training and increasing parental awareness. As part of several studies associated with the project, Wolf and colleagues (2020, 2022) examined school-based parental involvement quantitatively and qualitatively. Wolf (2020) investigates school-based involvement through her study of parents' and teachers' experiences in the parental-awareness meetings, perceptions of parent and teacher

roles in children's learning, and perceptions of teacher-parent relationships. Additionally, Bartoli, Joshi, & Wolf (2022)'s sheds light on their quantitative measurement of school-based involvement which includes caregiver's reports of attending school events and home-school conferencing.

In the final chapter of this dissertation, I offer an overarching conceptualization of parental and adult involvement in ECCE in low- and middle-income countries. Consolidating and building on existing theories, frameworks, and empirical evidence I propose a framework that brings together four elements that are fundamental to understanding and explaining parents' involvement at the early childhood care and education level: caregiver perceptions, beliefs, and expectations, along with parental self-efficacy; caregiver socio-economic environment; quantity and quality of home-based caregiver involvement; and quantity and quality of school-based caregiver involvement. This conceptual framework is a culmination of the findings reached in each of the analytical studies of the current dissertation. The framework contributes to addressing the gap identified in the caregiver involvement literature based on LMIC contexts. This framework is well-suited for low- and middle-income countries for two main reasons. First, the framework interprets caregiver involvement to be multifaceted; it is cognizant of the complexities of parental perceptions of ECCE, as well as the complexities of parents' environments. Second, the proposed framework pays careful attention to LMIC contexts, specifically to diverse family structures and demographics, by including non-traditional caregiving patterns examined in multiple countries.

5.3. Future research and policy implications

Through this dissertation I offer a nuanced understanding of caregiver involvement in early childhood care and education in low- and middle-income country contexts. In this section I

conclude by providing possibilities for future research and related policy implications. The quantitative study based on MICS data from Ghana, The Gambia, and Zimbabwe provides greater evidence on patterns and types of non-traditional caregiver involvement. Study findings point to significant possibilities for future ECCE research to understand more deeply characteristics of other caregivers in the household, as well as the association between others' involvement and child development. The study is also likely to inform better targeted policy programs designed for children and their families.

Findings from the qualitative study from New Delhi, India suggests an exploration of parental perceptions of different segments of populations in India, and how they would compare with each other. Additionally, the qualitative study makes a compelling case for examining perceptions of early childhood education providers in India and juxtaposing them against parental perceptions and the international, and national discourses. Moreover, the study extends a policy perspective for education policy makers and implementers. It shows that global, national visions of early childhood education can be in stark contrast to the lived realities and needs of parents who are key stakeholders in a child's early years.

Based on the proposed conceptual framework, future ECCE research can develop valid, reliable measures that pay adequate attention to each element of the proposed framework. Such informed measures will enable a broad as well as nuanced understanding of patterns of caregiver involvement. Moreover, it would allow for the exploration of associations between caregiver involvement and child development. Systematic, global benchmarking of caregiver involvement will also guide policy and intervention programs aimed at improving the developmental trajectories of children.

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