

## Early Care and Education Research Scholars: Head Start Dissertation Grants 2021

**Yemimah A. King**

**Project Title:** The Factor Structure of Parents' Math-Related Talk and Its Relation to Children's Early Academic Skills

**Mentor:** Dr. David Purpura

**Project Funding Years:** 2021-2022

**University Affiliation:** Purdue University

**Project Abstract:**

Early math skills, including numeracy and math language (e.g., “less”, “a few”), are important for later academic achievement. However, early achievement gaps emerge prior to the start of kindergarten and children who start school with fewer math skills than their peers tend to underperform throughout their academic careers. Early academic deficits have been linked to later academic problems (e.g., increased likelihood of math and reading deficits) and long-term consequences for mental health and career attainment. Importantly, children's math language knowledge is one of the strongest predictors of numeracy skills before kindergarten, suggesting that early exposure to math language is necessary. Although studies suggest that math language knowledge is important, there is very little work focused on understanding how children are exposed to math language within their early learning environments (e.g., at home while interacting with parents). The objective of this project is to investigate parents use of math language during math activity engagement with young children. The long-term goal is to develop home-based interventions for preschoolers at risk of early achievement gaps by first identifying key aspects of the home learning environment (e.g., parents' math-related talk) that may be strengthened. The initial focus will be on observing parent-child engagement in a range of math-related activities and investigating if parents' math language use, number talk, and general talk are distinct factors related to child's math language knowledge, numeracy ability, and general vocabulary. The central hypotheses are that parents' talk will statistically separate into three factors representing a math language, number talk, and general talk factor. In addition, if there is a three-factor model, parent's math language use will be related to both children's math language knowledge and numeracy skills, while parent number talk will be uniquely related to children's numeracy skills and parent general talk will be uniquely related to child general vocabulary. Specific aims of the proposed study are: 1) to identify the factor structure of parents' talk during parent-child engagement in math-related activities and 2) to test the relation between the best fitting factor structure of parents' talk and direct assessments of preschoolers' math language knowledge, numeracy skills, and general vocabulary. This study is novel in using confirmatory factor analysis as a technique to distinguish the factor structure of parents' talk during interaction with children. This distinction is necessary for understanding how specific aspects of parents' talk are directly related to children early math skills. In the long-term, these findings can be expected to inform the development of home-based interventions that aim to improve children's numeracy ability and math language knowledge. Additionally, this study could have significant implications for supporting early mathematics practices of Head Start children, families, and educators.

**Lok-Wah Li**

**Project Title:** Chinese Heritage Families' Childrearing Beliefs and Practices for Learning in a Shared Caregiving Context

**Mentor:** Dr. Christine McWayne

**Project Funding Years:** 2021-2022

**University Affiliation:** Tufts University

**Project Abstract:**

Chinese Americans represent the largest single Asian-origin group, comprising 22.4% of the overall Asian population in the US. Chinese families raising young children in the US have childrearing activities and perspectives that are shaped by intersecting factors such as adults' heritage background, experiences living in the US, and individual parenting beliefs. Moreover, among low-income Chinese heritage families, a combination of individuals such as mothers, fathers, and grandparents are often involved in the routine care for young children. The dynamic relationships among multiple caregivers serve as a protective factor to buffer the negative effects of economic hardships and stress associated with transitions to a new country and also contribute to children's early learning and development.

Chinese heritage caregivers' childrearing practices that facilitate children's learning at home is a valuable but often misrepresented resource. Existing research begins to reveal that Chinese heritage families' home practices in guiding children's learning goes beyond the acquisition of intellectual knowledge. Through a guided process over time that is negotiated and scaffolded by multiple caregivers on a daily basis, children can develop positive learning attitudes and habits of mind such as persistence, patience, and valuing the importance of hard work. These learning virtues most valued in Chinese families align with the early childhood construct of positive "approaches to learning" (AtL). AtL is one of the school readiness domains and refers to children's behaviors in the face of various learning situations. This information is particularly valuable because COVID-19 has shifted school learning to virtual meetings and reduced teacher-child interaction time.

The present study seeks to leverage the voice of the caregivers to make visible the existing shared caregiving structure and culturally salient decisions Chinese heritage, low-income families have in nurturing preschool-aged children's home learning routines. This project will interview pairs of caregivers from the same family and use an interpretative phenomenological approach to explore caregivers' meaning-making processes related to cultural orientations, childrearing routines and approaches, relationships with the co-parent, and children's early learning. Findings can inform programs such as Head Start to integrate home and school routines when strengthening young children's approaches to learning. Moreover, findings may be applicable also to families outside of this specific group (i.e., Chinese heritage low-income families), including families from other ethnocultural backgrounds that also value shared caregiving (e.g., Latine and African American families), and families with low-income in other ecological contexts (e.g., single parents with kith and kin support). This study will have direct relevance to the home-school partnership with immigrant families by contributing a new framework for educators, researchers, and policy makers to understand the broader contextual influences (e.g., shared caregiving, cultural orientations, Chinese childrearing beliefs) on young children's development of school readiness competencies.

**Sarah F. Pedonti**

**Project Title:** Features of Disability Coordination and Literacy and Language Skills of Children in Migrant and Seasonal Head Start

**Mentors:** Dr. Harriet Able, Dr. Kathryn Leech

**Project Funding Years:** 2021-2022

**University Affiliation:** The University of North Carolina at Chapel Hill

**Project Abstract:**

Children of migrant and seasonal farmworkers (MSFW) in the U.S have been identified as one of the nation's most vulnerable populations (Arcury & Quandt, 2007; Duarte & Rafanello, 2003; Tavassolie et al., 2018), due to significant poverty, mobility and rurality. Migrant and Seasonal Head Start (MSHS) programs are designed to provide high-quality early education and care to the children of MSFW. Experimental evidence on Head Start has shown the largest effects on dual language learners (DLLs) and children with lowest vocabulary skills at preschool entry (Bitler et al., 2014). Despite positive effects, data indicate young DLLs with disabilities may continue to be under-identified by early intervention or preschool special education (McManus et al., 2020; Morgan et al., 2016). This appears to be particularly true for MSHS, where only 6% of enrolled children are identified as having a disability, compared to 13% in regular Head Start (Office of Head Start, Program Information Report, 2017). Early identification of language related disabilities is especially important for MSHS children because of their high risk for later reading difficulty (Ezell et al., 2000; Wood Jackson et al., 2014). Thus, further research is needed to examine the factors that facilitate or inhibit early identification of MSHS children at risk for language-related disabilities.

The proposed study will first compare MSHS and non-MSHS programs on their disability coordination- that is, the rates of screening, referral for, and identification for early intervention/special education, controlling for 1) program rurality, 2) enrollment size, 3) demographic characteristics of enrolled families, and 4) demographic characteristics of staff. Next, associations between MSHS children's teacher-rated communicative "risk" on screening questionnaires and language and literacy skills will be examined. Lastly, multilevel analyses will examine if parent, teacher, and center-director reported aspects of disability coordination in MSHS programs are associated with children's language and literacy outcomes.

The study sample will be drawn from two datasets- The Head Start PIR from 2017, and the Migrant and Seasonal Head Start Study - a population-based cross-sectional study of migrant children and their families enrolled in MSHS during the 2017-2018 program year (Caswell et al., 2019). In partnership with the Disabilities and Education Managers at East Coast Migrant Head Start and Redlands Christian Migrant Association, this proposal examines child, teacher, and classroom-level data from the MSHS Study in combination with program-level administrative data collected by the Office of Head Start. This study aims to identify child, teacher, and program-level characteristics that contribute to MSHS children's identification for, and access to early intervention and special education. These findings will inform policymaking related to preschool services for children with or at risk for disabilities and dual language learners.

**Melissa Pierce**

**Project Title:** Preschool Intervention for Embodied Storytelling (PIES): Using Drama to Enhance Language Skills at Story Time

**Mentor:** Dr. Maria Adelaida Restrepo

**Project Funding Years:** 2021-2022

**University Affiliation:** Arizona Board of Regents on behalf of Arizona State University

**Project Abstract:**

Background: Low-income and dual language learners (DLLs) need efficacious oral language interventions to close their academic achievement gaps compared with their peers from higher SES and monolingual backgrounds. The purpose of the study is to examine the effects of story time language intervention that uses embodied principles through drama-based instruction (DBI). We hypothesize that including DBI strategies during story time will result in greater significant positive effects for the intervention group than the attentional control group (traditional shared book reading). We predict that the DLLs will show greater storytelling and comprehension gains than their monolingual peers. Further, we hypothesize that children in DBI will demonstrate greater emotional knowledge and the teachers participating in DBI will use more DBI strategies after observing the intervention.

Method: The Preschool Intervention for Embodied Storytelling (PIES) project will address storytelling skills amongst at-risk students by implementing a DBI program in a Head Start program in the southwestern United States. We will measure 80 students' storytelling and comprehension skills before and after implementing the PIES intervention across 6 classrooms. Teaching Artists will deliver the lessons twice weekly for four weeks. Classroom teachers will be active participants in the lessons.

Analyses: We will compare the intervention and control groups' story comprehension and retell ability, and their emotional knowledge, using multilevel repeated measures ANCOVAs. Intervention and control groups will be randomized at the classroom level. We will also examine teachers' use of drama strategies before and after PIES is implemented in their classrooms using a repeated measures ANOVA. Finally, we will compare teachers' survey responses at pre and posttest regarding their feelings about the use of drama-based strategies.

Implications/Conclusions: Our results will advance knowledge on the role of embodied DBI in language development and teacher use of these strategies in the classroom.

## **Tonya Thomas**

**Project Title:** Culturally Responsive Practices and Child Outcomes in Early Head Start Classrooms

**Mentor:** Dr. Kyong Ah Kwon

**Project Funding Years:** 2021-2022

**University Affiliation:** Board of Regents of the University of Oklahoma

### **Project Abstract:**

Early childhood classrooms have seen demographic changes in ethnic, cultural, and linguistic differences throughout the United States. During the 2017-2018 program year, Early Head Start (EHS) enrolled nearly 92,000 culturally diverse families and infants and toddlers in center-based programs (Office of Head Start, 2017). The increase in the numbers of culturally diverse families has significant implications for teachers of infants and toddlers in EHS settings. It is imperative to address the instructional practices that would best serve culturally diverse infants and toddlers and their families. Although there is limited research regarding culturally responsive practices (CRP) in infant and toddler classrooms, teachers will be able to focus on the specific needs of culturally diverse young children as these practices are implemented. The proposed study will examine associations between CRP implemented in classrooms, family engagement, and children's social and emotional development within a large Head Start agency. This mixed methods study will examine data from EHS classrooms including 60 lead or assistant teachers and 160 parents or guardians and their children.

The research questions for this study are:

- (1) Are high levels of teachers' culturally responsive beliefs and practices associated with higher levels of family engagement for EHS infants and toddlers?
- (2) Are high levels of teachers' culturally responsive beliefs and practices associated with higher levels of social and emotional outcomes of EHS infants and toddlers?
- (3) Does family engagement mediate the association between CRP and social and emotional development of EHS infants and toddlers?
- (4) What CRP beliefs and implementation do EHS infant and toddler teachers demonstrate in the classroom setting?
- (5) How do EHS families of infants and toddlers perceive and experience CRP implementation in classroom settings?

This mixed methods study will examine data from EHS classrooms including 60 lead or assistant teachers and 160 parents or guardians and their children. A collection of quantitative and qualitative data sources for this study includes teacher and parent interviews, teachers' ratings of their perceptions and beliefs related to culturally responsive instructional practices, and children's social and emotional development. This study hypothesizes that teachers' teaching practices for culturally diverse young children will promote family engagement in the classroom as well as impact young children's social and emotional development. Study results can help inform teachers' understanding of how CRP implementation will positively increase family engagement and children's social and emotional development in EHS classrooms.

**Wendy S. Wei**

**Project Title:** A Bioecological Approach to Understanding the Predictors and Consequences of Absenteeism in Head Start

**Mentor:** Dr. Dana Charles McCoy

**Project Funding Years:** 2021-2023

**University Affiliation:** Harvard Graduate School of Education

**Project Abstract:**

Despite rapid increases in the number of publicly funded early childhood education slots available to children in the United States, the benefits of these efforts may be mitigated due to the high levels of school absenteeism during the preschool years. Indeed, 20 to 45 percent of children enrolled in public preschool and Head Start programs across urban, rural, and statewide samples are estimated to be chronically absent (Connolly & Olson, 2012; Dubay & Holla, 2015; Ehrlich et al., 2018; MA DESE, 2019; Rhoad-Drogalis & Justice, 2018). These high rates of absenteeism have important implications for children's learning and development. Compared to their peers with fewer absences, preschoolers with more absences exhibit lower school readiness skills by the end of the academic year and significantly reduced academic skills in elementary school, as well as higher levels of absences in subsequent school years (Ansari & Purtell, 2018; Dubay & Holla, 2016; Ehrlich et al., 2018; Fuhs et al., 2018; Rhoad-Drogalis & Justice, 2018). Moreover, children from lower-income households are doubly at risk: they are more likely to be absent and experience greater learning losses due to absenteeism (Chang & Romero, 2008; Morrissey et al., 2014; Ready, 2010), suggesting the role absenteeism may play in the socioeconomic achievement gap. Collectively, these findings highlight the need to focus on the early years as a critical period for intervention when patterns of school absenteeism are beginning to develop. Nevertheless, the current research base is limited in empirically unpacking which factors predict absenteeism and under what conditions absenteeism matters more for learning, hindering the ability of researchers, policymakers, and practitioners to intervene effectively.

The present study addresses these gaps through the following objectives: (1) identify *who* is most likely to exhibit high levels of absenteeism by identifying profiles of household risk factors that predict children's absenteeism in Head Start; (2) understand *under what conditions* absenteeism matters for young children's learning and development by examining the role children's various learning environments may play in these associations; and (3) explore *whether* and *which* family engagement practices may be promising approaches for intervention in Head Start programs.

To address these objectives, this study leverages data from the Head Start Family and Child Experiences Survey (FACES) 2009 cohort, a nationally representative sample of 3- and 4-yearold children enrolled in Head Start for the first time. FACES includes rich child-, family-, classroom-, and center-level data, which provide an opportunity to unpack heterogeneity in and across children's home and school experiences among a sample of children who are more likely to be chronically absent. The proposed study not only builds on the current literature exploring the antecedents and outcomes of absenteeism during early childhood, but also informs the development and implementation of more targeted and effective interventions for families and Head Start programs. Specifically, the results can be used to identify families' barriers to attendance, approaches to strengthen connections between families and programs, and mechanisms for ultimately supporting children's school readiness skills and long-term success.