Head Start Graduate Student Research Program: 2019 Research Scholars

Jennifer K. Duer

*Project Title***:** A Mixed-Methods Examination of the Effects of Early Head Start
Mentor: Dr. Jade M. Jenkins
Project Funding Years: 2019-2020
University Affiliation: The Regents of the University of California, Irvine

Project Abstract:

Since its creation in 1995, Early Head Start has provided comprehensive early intervention services to pregnant women and low-income families with infants and toddlers. Designed around developmental theories demonstrating the ability for early interventions to change later outcomes, Early Head Start (EHS) programs offer a wide range of early intervention services including home visits, child care, parenting education, and health care and referrals (Brooks-Gunn, 2004; Elder, 1998; Rutter, 2000). The EHS Evaluation revealed benefits for EHS participants including higher cognitive and language development, higher emotional engagement with parents, and fewer aggressive behaviors than non-participants (Love et al., 2005). However, follow-up analyses conducted when EHS Evaluation participants reached fifth grade found no effects on study outcomes including in cognitive and socio-emotional domains (Vogel et al., 2010). These experiments, however, cannot capture the impacts of EHS at the population-level on children's future life experience. The present study exploits variation in the timing and adoption at the county level to examine the impact of EHS on both intermediate- and long-run child cognitive and health outcomes to build upon similar work examining the impact of roll-out of key War on Poverty programs (Almond, Hoynes, & Schanzenbach, 2011). This mixed-methods study aims to answer three research questions regarding the impact of EHS on families and young children including: (1) What is the impact of EHS on long-run cognitive and health outcomes? (2) What is the effect of participating in Early Head Start-Child Care Partnerships (EHS-CCP) on cognitive and health services? (3) How and why do ECE providers implement blended funding models to utilize funding from multiple sources including EHS-CCP grants?

To gather empirical data to analyze these issues, an explanatory sequential mixed-methods research design will be used, combining quantitative and qualitative data. For Study 1, the Office of Head Start Program Information Reports (PIR) data will be used to identify county rollout and describe characteristics of grantees. Separate datasets will be used to measure the effects on the study's four outcome variables: The Center for Disease Control's (CDC) natality data collects birthweight data; The Current Population Survey (CPS) measures health insurance coverage and preschool enrollment; and the Stanford Education Data Archive includes rich Math and English/Language Arts Achievement records. PIR data will be used for Study 2, and the analyses will compare grantees with and without the EHS-CCP grants. After completing the quantitative analyses, Study 3 will collect data through semi-structured interviews with EHS directors to examine the implementation and allocation of blended funding to more fully understand how programs utilize additional program funding.

This research will provide a more complete understanding of the effects of this large, federal early intervention program serving diverse families and children from under-resourced communities, and the extent to which short-term impacts might persist in the intermediate and long run. This analysis will extend beyond the current research literature by informing current child and family policy at the national level and reveal how grantee-level funding decisions can be better executed with limited resources.

Kelsey McCoy

*Project Title***:** Learning Social and Emotional Skills in Head Start: Influence of Familial Risk
Factors and Classroom Characteristics
Mentor: Dr. David J. Hansen
Project Funding Years: 2019-2021
University Affiliation: Board of Regents, Univ of Nebraska, Univ of Nebraska-Lincoln
Project Abstract:

Social and emotional competence has a profound impact on healthy child development
and is associated with numerous outcomes that persist across the lifespan (Bettencourt, Gross,
Ho, & Perrin, 2017; Jones, Greenberg, & Crowley, 2015; Whitted, 2011). Children enrolled in
Head Start are at an increased risk for deficits in social and emotional skills (e.g., Yoshikawa,
Aber, & Beardslee, 2012) due to numerous familial risk factors across a bioecological
framework (Bronfenbrenner & Morris, 2006). Thus, it is critically important to support social
and emotional learning in early childhood, particularly in Head Start programs where children
have an increased risk for deficits.

The classroom is an important context that may have a unique role in fostering healthy
development (Cooper & Lanza, 2014). A rapidly growing research base suggests that social and
emotional skills (e.g., prosocial behaviors, identifying and managing emotions) can be taught
through the use of systematic instructional approaches in the classroom, such as teacher-led
stories, role-plays, and games (Payton et al., 2008; Tominey & McClelland, 2011). Within Head
Start, social-emotional learning curricula have been shown to effectively teach targeted skills
(Bierman et al., 2008; Upshur, Heyman, & Wenz-Gross, 2017). However, the existing literature
on social-emotional learning curricula does not address differential impacts for children exposed
to various risk factors within the family. Therefore, there is a need to understand how a social-
emotional learning curriculum and exposure to a high-quality classroom environment may
represent significant protective factors for children with numerous familial risks present.

Overall, the proposed study seeks to identify whether the presence and number of familial
risk factors predict rates of change in social and emotional skills over the program year and how
classroom characteristics may act to buffer or enhance these effects. The aims of the proposed
study are to identify (a) the relationship of familial risk factors and classroom characteristics
(e.g., teacher efficacy, fidelity to the curriculum, and classroom quality) with child social and
emotional skills; (b) changes in child social and emotional skills from the beginning to the end of
the program year; and (c) how cumulative familial risk, classroom characteristics, and their
interaction impact acquisition of social and emotional skills from the beginning to the end of the
program year. Data on approximately 140 children and families enrolled across eight Head Start
classrooms will be utilized in this study. Data will include Head Start clinical records and
teacher-reported measures on child social and emotional functioning. Analyses will utilize
growth curve modeling to identify how the presence of familial risk and classroom
characteristics influence social and emotional learning over the program year.

Information from this research will provide direction for improved fit between classroom
characteristics and child needs. Results will also give insight into gaps in understanding how risk
factors influence children's social and emotional skills and skill acquisition in the classroom,
which will inform comprehensive training of teachers in responding to and supporting children
exposed to a multitude of risk factors. Knowledge learned from this project will improve the
effectiveness of Head Start, enhance child well-being, and protect against familial risk factors
associated with living in poverty.

Lillie Moffett

*Project Title***:** Math and Executive Functioning Circle-Time Games: A Coaching Framework
with Head Start Teachers
Mentor: Dr. Frederick Morrison
Project Funding Years: 2019-2021
University Affiliation: Regents of the University of Michigan
Project Abstract:

Preschool teachers are typically less knowledgeable about children's math development
compared to literacy, language, and social-emotional learning. In the Los Angeles context,
specifically, preschool teachers report having little access to math instructional training and
supports (Barrett, 2017).

While there have been several successful math curricula implemented in Head Start
preschool classrooms, most Los Angeles-based centers still use whole-child curricula that place
little emphasis on math instruction. A recent policy report revealed that Head Start preschool
teachers often feel overwhelmed implementing content-focused curricula given the competing
demands of children's behavioral and social-emotional needs (Jacoby & Lesaux, 2017). A
potential solution is to provide supplemental activities that integrate math content with executive
functioning (EF) skills. Children's working memory, response inhibition, and cognitive
flexibility—the primary components of EF—serve as major underpinnings of successful
behavioral self-regulation in the classroom. Thus, integrating math and EF skills may provide
teachers with a balance of providing academic content while simultaneously supporting
children's ability to regulate their cognition and behavior during learning activities. To date,
there have been several promising interventions demonstrating the benefits of explicitly
exercising EF within a math domain (e.g. **integration**; Farran, Lipsey, & Wilson, 2011; Iseman
& Naglieri, 2011; Capraro, Capraro, & Ruplely, 2011)—and how this may prove more effective
than having teachers implement two separate EF and math curricula simultaneously (e.g.,
Clements, Sarama, Unlu, & Layzer, 2012).

The aim of the current study is to assess the feasibility of implementing integrated math
and EF activities with teachers in preK classrooms—as well as an accompanying program of
instructional coaching support. These activities will be implemented during circle-time and
small-group instruction in 10 Los Angeles-based Head Start classrooms. Teachers will
implement integrated activities using easily creatable materials, as well as exercise agency in
tailoring the activities to complement their existing curricula and schedule of the day. Each
activity covers a specific math topic (e.g., geometry; addition; patterning, etc.) integrated with
EF—explicitly exercising working memory, response inhibition and cognitive flexibility skills.
The coaching framework will serve as a foundation to support Los Angeles based Head Start
Centers in the increased inclusion of math and other STEM-based instruction in the classroom,
while simultaneously enhancing children's EF development.

Research Questions:
1) How do the teachers and their coaches respond to the activities? (e.g., do they find activities
enjoyable and beneficial for their students? Feasible to implement? Are they motivated to
continue using them? Is there anything they would change? etc.) (qualitative survey data- year 1)
2) How do the teachers and their coaches respond to the coaching framework? (qualitative
survey data- year 1)

3) How well do teachers implement the math/EF activities? (fidelity observations- year 1)
4) Do children in classrooms who receive math/EF activity coaching make significantly more gains in math skills than the national norm of growth for preK children on the same math assessment? (year 2)

Shannon M. Warren
*Project Title***:** Head Start Home-Classroom (Dis)Continuity and Children's Self-Regulation
Mentor: Dr. Melissa A. Barnett
Project Funding Years: 2019-2020
University Affiliation: Arizona Board of Regents, University of Arizona
Project Abstract:

Young children's self-regulation is shaped by recurring experiences with people, objects, and symbols in their immediate environment. Evolutionary-developmental theoretical perspectives posit that these early experiences serve as environmental cues that adaptively shape development. There is evidence that high quality experiences in the home and the preschool classroom each positively impact young children's self-regulation (e.g., Cadima et al., 2016; Lengua et al., 2014). Research also suggests that high quality experiences in one environment, such as the preschool classroom, can have a compensatory effect on development for children with low quality experiences in another environment, such as for children living in poverty (e.g., Watamura, Phillips, Morrissey, McCartney, & Bub, 2011). Thus, (dis)continuity in cues from two environments may have implications for children's development. However, less is known about different patterns of (dis)continuity between children's home and preschool environments (Belsky, 1980), and how patterns of (dis)continuity relate to self-regulation.

Using a mixed methods approach, this collaborative study investigates patterns of Head Start home-classroom (dis)continuity and how those patterns of experience relate to self-regulation. Specifically, this study will address the following research questions across two phases:

Phase 1: Quantitative
> 1. What are patterns of (dis)continuity in Head Start home and classroom environmental experiences?
> 2. How do patterns of (dis)continuity relate to children's self-regulation?

Phase 2: Qualitative
> 3. What are Head Start parents' and teachers' perceptions about the importance of early home-classroom (dis)continuity for children's proximal processes?
> 4. How do parents and teachers perceive home-classroom (dis)continuity impacting children's self-regulation?

Phase 1 will include person-centered, quantitative secondary data analyses using the Head Start Family and Child Experiences Survey 2009 Cohort (FACES 2009; U.S. Department of Health and Human Services, 2013) to investigate the complex interrelationships between children's home and classroom environments and self-regulation. The derived patterns of Head Start home-classroom (dis)continuity will capture the experiences of children in Head Start and inform research, policy, and practice at the national level.

Phase 2 will include collection of qualitative data via focus groups with Head Start parents and teachers from a targeted local community served by a community partner in the southwestern U.S. Understanding how (dis)continuity is perceived in this context has the potential to inform local Head Start practices including professional development for teachers and home-school partnerships.

Bethany Williams

*Project Title***:** Association Between Health-Enhancing Community Environment and Early Childhood Education Classroom Health Practices
Mentor: Dr. Susan Sisson
Project Funding Years: 2019-2020
University Affiliation: Board of Regents of the University of Oklahoma Health Sciences Center
Project Abstract:

Incidence of childhood obesity is twice as high during early childhood years compared to adolescence, and children who are overweight when they start kindergarten are four times more likely to be obese by adolescence. Adiposity clearly tracks into adulthood and is associated with burdensome chronic disease, and low-income children are most vulnerable to health risks. More than 12 million preschool-aged US children attend some form of non-parental childcare for an average of 33-40 hours/week. Our work identifies early care and education (ECE) settings as a promising avenue to establish health behaviors in young children, and indicates that supportive classroom practices can improve children's physical activity and dietary behaviors. Programs such as Head Start, serving primarily children from low-income and minority families, promote desirable teacher classroom practices and can improve health for high-risk children. Children's health behaviors are influenced by a variety of interactive community factors, including access to opportunities for physical activity and healthy nutrition options (i.e., safe sidewalks, parks, healthy eating establishments).

The influence of these environments on ECE program's classroom health practices and beliefs is unknown. In many ways, and especially in non-Head Start programs with fewer regulations and standards, teachers are the primary influencers of classroom physical activity and nutrition. By analyzing upstream and community determinants of program characteristics and program behaviors, interventions can be properly adapted to the community within which they are located to maximize impact. The goal of this study is to understand the relationship between the community around an ECE and classroom health quality by program arrangement (Head Start, community based childcare, family childcare home) by the following specific aims:

Aim 1: Determine the relationship between ECE classroom health practices and access within health-enhancing environments in Oklahoma. We hypothesize that closer community access to healthy environments will positively influence best practice implementation in the classroom. We will use mailed surveys to a statewide sample of directors at licensed childcare programs serving children 3- to 5-years in Oklahoma including Head Start, community based childcare centers, and family childcare homes. Respondents will provide information on program demographics, structure, classroom health practices and barriers. The location of community health options for each program will be geocoded to understand availability and access.

Aim 2: Determine the relationship between barriers to implementing ECE classroom health practices and access within health-enhancing environments in Oklahoma. We hypothesize that community access to healthy environments will influence type of perceived barriers reported by program directors. The methods described for Aim 1 will also address Aim 2.

This study addresses research priorities established by the National Institutes of Health, Centers for Disease Control and Prevention, and Department of Health and Human Services by

assembling an inter-professional team of researchers with expertise in early childhood education, health behaviors, and spatial epidemiology, and practitioners including Oklahoma Head Start and DHHS. Through further collaboration, our team established the Oklahoma ECE Obesity Prevention Action Plan; this study will advance our shared long-term goals of reducing childhood obesity and working with ECE programs in Oklahoma.

Katherine A. Zambrana

Project Title: Building Bridges: A Brief School Readiness Intervention Designed to Guide Families Transitioning from Early Head Start to Head Start
Mentor: Dr. Katie Hart
Project Funding Years: 2019-2021
University Affiliation: Florida International University
Project Abstract:

There are well-established cognitive, social, and emotional skills that are necessary for children to enter school ready to learn. These school readiness skills serve as the foundation for future success, both socially and academically. The transition into these early school years signifies an important developmental milestone, which lays the groundwork for later school success. Parent involvement in children's development and early learning experiences has been widely examined and identified as a strong predictor of children's school readiness. Therefore, promoting positive parent involvement during the early school years and during developmental transitions is key to children's later school success.

Recognizing the importance of early school success, a number of educational initiatives and programs have been developed to promote best practices to support children and families in their transition to school. The majority have focused specifically on supporting the transition to kindergarten. However, as early as preschool, a number of children display significant behavioral and academic difficulties, which places them at risk for later school failure. Specifically, young children from low-income and ethnic minority families, are at an increased risk for behavioral and academic problems. In Head Start (HS), it is estimated that between 15% and 40% of children are at risk for these difficulties. The fact that children's school readiness skills, especially academic achievement, remain relatively stable after the first years of school underscores the importance of intervening earlier, before problems arise. Since parents play a leading role in children's early learning and development, enhancing skills and supports for parents in promoting school readiness in young children during earlier transitions to school may bolster later school readiness.

Therefore the proposed project objectives are to: (1) Adapt a school readiness parenting program, the School Readiness Parenting Program (SRPP), to support families transitioning from Early Head Start (EHS) to HS; (2) Investigate the acceptability and feasibility of the adapted SRPP (i.e., SRPP-BRIDGE); and (3) Evaluate the initial efficacy of SRPP-BRIDGE in improving parental involvement, positive parenting skills, and children's academic and social-emotional outcomes in the transition to HS compared to an active comparison group. The study will use a randomized design (n=60; 30 families assigned to each condition) with structured observations and assessments (pre-intervention, post-intervention, and 6-month follow-up). Parent participants will be included in the study if: a) their child is transitioning out of EHS, b) they plan to enroll their child in HS preschool, and c) they can commit to weekly 2-hr sessions over the course of four-weeks during the summer transition to HS. The findings from the proposed project will ultimately help to inform best practices for supporting families in their transition from EHS to HS.