HEAD START HOME-CLASSROOM (DIS)CONTINUITY AND CHILDREN'S SELF-REGULATION

by

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ABSTRACT

Young children's development, is shaped by recurring experiences (i.e., proximal processes) in their immediate environment (i.e., microsystem; Bronfenbrenner & Morris, 2007). Relatedly, psychosocial acceleration theory conceptualizes these early experiences as environmental cues that adaptively shape development to best fit the developing individual to their context (Belsky, Steinberg, & Draper, 1991). Research demonstrates the connection between quality experiences in the home and in the preschool classroom contexts with development (National Research Council and Institute of Medicine, 2000), and compensatory effects on development for children with high quality experiences in one environment, such as the preschool classroom, and low quality experiences in another environment, such as for children living in poverty (e.g., Schweinhart et al., 1993; Ramey & Campbell, 1984; Watamura et al., 2011). Thus, home-classroom (dis)continuity may have implications for development.

Using a mixed methods approach, this collaborative dissertation project investigates Head Start home-classroom (dis)continuity. The first two papers use person-centered quantitative analyses to investigate the complex interrelationships between children's home and classroom environments and children's development of self-regulation. The third paper uses qualitative data from Head Start parents and teachers to understand their perceptions about the importance of home-classroom (dis)continuity for children's proximal processes and development. The integrated results of this dissertation offer several contributions to inform research, policy, and practice for Head Start at national and local levels.

CHAPTER 1: INTRODUCTION

Young children's development, is shaped by recurring experiences (i.e., proximal processes) with people, objects, and symbols in their immediate environment (i.e., microsystem; Bronfenbrenner & Morris, 2007). Psychosocial acceleration theory conceptualizes these early experiences as environmental cues to levels and predictability of environmental support and harshness that adaptively shape development to best fit the individual to their context (Belsky et al., 1991). There is robust literature demonstrating the connection between quality of experiences in the home and in the preschool classroom contexts and children's development (National Research Council and Institute of Medicine, 2000). 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., Schweinhart et al., 1993; Ramey & Campbell, 1984; Watamura et al., 2011). Thus, home-classroom (dis)continuity may have implications for children's development. However, it is not yet clear what different patterns of (dis)continuity exist between multiple aspects of children's home and preschool environments (Belsky, 1980; Shpancer, 2002), particularly for children in economically disadvantaged environments such as those enrolled in Head Start, nor how these different patterns of (dis)continuity relate to developmental outcomes. Using a mixed methods approach, this dissertation project integrates bioecological systems theory (Bronfenbrenner & Morris, 2007) and psychosocial acceleration theory (Belsky et al., 1991) to investigate patterns of Head Start home-classroom (dis)continuity and how those patterns of experience relate to an important aspect of development during early childhood: self-regulation (SR).

Background

While the home environment is one important aspect of the developing child's microsystem, about 60% of American 4-year old children also receive care for a considerable portion of the day outside the family home in preschool programs (National Center for Education Statistics, 2017). Therefore, for many American 4-year olds the preschool classroom is another important microsystem (Shpancer, 2002; Watamura et al., 2011). Head Start specifically aims to provide quality preschool for children from families whose income is below the federal poverty threshold, and thus children who may exhibit economic disparities in development.

Head Start Program Performance Standards support home-classroom continuity through Family Engagement practices that include developing parent-teacher relationships "that incorporate the unique cultural, ethnic, and linguistic backgrounds of families in the program (45 CFR § 1302.50 Subpart E; U.S. Department of Health and Human Services, 2016, p. 43)." There likely exist similarities and differences in children's experiences in home and Head Start preschool environments (Bradley, 2010) that represent both structural (i.e., physical) and process (i.e., relationship) aspects specific to each context (Shpancer, 2002). While families and Head Start teachers may aim to provide continuity in caregiving because of assumed benefits for the child (Bradley, 2010), the home and preschool classroom environments are by definition different (Bradley, 2010; Shpancer, 2002): family homes are made up of and led by related family members (biologically or otherwise) and thus represent individual and family characteristics, processes, and resources; Head Start classrooms are made up of teachers, staff, and unrelated children and are led by a larger federally-funded administrative system and thus represent characteristics, processes, and resources outside of the child's family group.

Children from low-income environments begin to show economic disparities in aspects of social and cognitive development as early as preschool, such as with SR (Lengua et al., 2014).

SR refers to a family of processes including inhibition, effortful control, and executive functions and is integral for children's success in school and in life (Karoly, 1993). SR is implicated in a host of outcomes including social competence, cognitive skills, and academic success, with low SR linked to internalizing and externalizing behavior problems (for review see Blair, 2010). The preschool years are a particularly important developmental period for SR given rapid development and increasing exposure to contexts that demand self-control and management over one's thoughts, behaviors, and emotions (e.g., more complex social interactions, behavioral and cognitive demands in school environments). While extant research focuses on uncovering how early experiences in the home and school are related to SR separately, understanding how children's home and classroom experiences interact to shape SR is important for federal and local policies and practices, particularly for federally-funded preschool programs such as Head Start aimed at providing high quality preschool for children whose home resources and experiences may be limited by poverty.

While there exist bodies of research that investigate how children's experiences in the home environment impact SR, and how children's experiences in the early childhood classroom environment impact SR, research attempting to understand the complex interrelationships between these two environments is scarce (Belsky, 1980; Shpancer, 2002), particularly under a psychosocial acceleration theory framework. Further, mixed methods research offering both a person-centered approach to speak to children enrolled in Head Start across the nation, and focused qualitative analyses to highlight how these processes are perceived in a local Head Start community have not yet been reported.

Dissertation Research Aims

Using a mixed methods approach in partnership with a local Head Start grantee (i.e., community partner), this dissertation project investigates Head Start home-classroom (dis)continuity. The project integrates two theoretical perspectives, bioecological systems theory[1] and psychosocial acceleration theory to examine how different patterns of Head Start home-classroom (dis)continuity relate to children's SR within a national sample. Further, this project considers insights from parents and teachers about the importance of home-classroom (dis)continuity for children within a targeted community sample in the southwestern U.S. This dissertation project is comprised of three papers, each focused on one of the following three corresponding research aims:

1. What are the different patterns of home-classroom (dis)continuity that children enrolled in Head Start experience?
2. How do different patterns of Head Start home-classroom (dis)continuity relate to children's SR?
3. What are Head Start parents' and teachers' perceptions about the importance of home-classroom (dis)continuity for children's proximal processes and development?

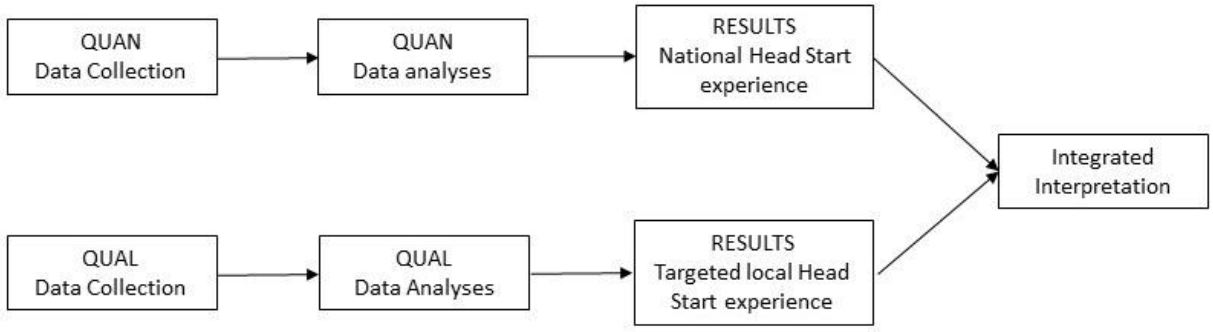
To address the research questions, this project uses a *parallel mixed methods research design* that allows for the collection and analysis of quantitative and qualitative data in parallel with integration in the interpretation stage (see Figure 1). Parallel mixed methods research designs (also called concurrent mixed method research designs) have been applied in social and behavioral sciences research and allow for the mixing of quantitative and qualitative data analyses toward *complementarity* whereby mixed methods are used to gain complementary

[1] The use of Bronfenbrenner & Morris' (2007) bioecological systems theory in this dissertation project is particularly fitting given Bronfenbrenner himself was highly influential in the development of federally funded Head Start in 1965. Bronfenbrenner emphasized that in order to benefit the child the program must also involve the family child-rearing environment (American Psychological Association, 2004).

views of the same phenomenon (Bergman, 2008). In this project, the complementary views gained are general patterns of Head Start home-classroom (dis)continuity and how those patterns relate to SR development among a nationally representative Head Start sample (i.e., quantitative analyses), and the perceptions and experiences of Head Start home-classroom (dis)continuity among a local targeted Head Start subpopulation (i.e., qualitative analyses). Together these complementary views of the study phenomenon, home-classroom (dis)continuity, serve to inform future research, policy, and practice at the national level, as well as program planning and implementation for a local Head Start community partner. The results of the quantitative and qualitative studies are integrated in the final interpretation stage presented in Chapter V.

Figure 1

Visualization of Parallel Mixed Methods Research Design



CHAPTER II: HEAD-START HOME-CLASSROOM (DIS)CONTINUITY

Bioecological systems theory proposes that proximal processes within one's immediate environment (i.e., microsystem) influence individual development, particularly during early childhood (Bronfenbrenner & Morris, 2007). Psychosocial acceleration theory, an evolutionary-developmental theory, proposes that these early experiences serve as cues to the developing individual about their anticipated adult context, such as regarding the availability and predictability of resources (i.e., levels and predictability of support and harshness; Belsky et al., 1991). These cues aim to adaptively shape individual development in ways to maximize outcomes given expected opportunities and constraints (Belsky et al., 1991). Bringing the two together, proximal processes during early childhood serve as cues regarding levels of environmental support and harshness, and adaptively direct children's development in context-specific ways.

Given about 60% of four-year-olds in the U.S. attend preschool programs (National Center for Education Statistics, 2017), the home and the preschool environments are important aspects of the microsystem for most American young children (Shpancer, 2002; Watamura et al., 2011). Yet, it is not clear to what extent young children experience continuity or discontinuity in the cues they receive from these two environments. This may be particularly important for children from families living in poverty who attend federally-funded preschool such as Head Start, aimed to provide high-quality, supportive preschool environments. For Head Start children, discontinuity, such that high quality experiences in the classroom compensate for lower quality experiences in the home environment, may be beneficial and supports Head Start as a compensatory preschool program (Carneiro & Ginja, 2014). Conversely, given Head Start's two-generation approach (U.S. Department of Health and Human Services, 2016), it may be that

home-classroom continuity, such that both environments ultimately provide high quality experiences, is to be expected. However, despite attempts to keep quality standards high and program delivery consistent across regions (e.g., Head Start Performance Standards and Head Start Program Designation Renewal System; U.S. Department of Health and Human Services, 2016), concerns regarding quality and consistency have been raised (Barnett & Friedman-Krauss, 2016). Likewise, Head Start children's home environments may vary in levels of harshness and support despite being characterized by the context of poverty. Thus, the extent that Head Start children experience (dis)continuity in their home and classroom environments is of question. By integrating bioecological systems theory, this study expands the use of psychosocial acceleration theory beyond children's early home environments to include the increasingly important preschool environment in an investigation of home-classroom (dis)continuity for children in Head Start. Children's profiles of home-classroom (dis)continuity have implications for Head Start policy and practice concerning program delivery quality and consistency, as well as family engagement practices.

Background

Bioecological systems theory emphasizes proximal processes during early childhood as important for children's developmental outcomes (Bronfenbrenner & Morris, 2007). The bioecological systems model provides a framework for investigating early child development via the contexts (i.e., ecological systems) in which they live (Bronfenbrenner & Morris, 2007) and has been used to investigate experiences in both home (e.g., Lengua et al., 2014) and preschool classroom environments separately (see Phillips, McCartney, & Sussman, 2006) and jointly (e.g., van Ijzendoorn, Tavecchio, Stams, Verhoeven, & Reiling, 1998; Watamura et al., 2011).

The bioecological systems model is an interdisciplinary model of development, and though it does not explicitly account for the role of evolutionary processes in development, it is congruent with evolutionary-developmental theoretical models. Bronfenbrenner and Morris (2007) state that the bioecological model rests on the assumption that "biological factors and evolutionary processes not only set limits on human development but also impose imperatives regarding the environmental conditions and experiences required for the realization of human potentials" (p. 799). Psychosocial acceleration theory (Belsky et al., 1991) further conceptualizes the impact of the environment (including interactions and experiences) on early childhood development by acknowledging the evolutionary basis of these experiences (i.e., ultimate causes) and that differences in development ultimately aim to maximize an individual's fitness, or the ability to survive and successfully reproduce, within a given context (i.e., ultimate function). Under psychosocial acceleration theory, early environmental interactions and experiences serve as cues regarding levels of support or harshness in the environment. Put simply, cues of higher environmental support indicate resources are more available and predictable; cues of higher environmental harshness indicate resources are less available and predictable. These environmental cues influence developmental trajectories in ways to equip the individual with adaptive strategies best matched to the given environmental context (e.g., high/low in support and harshness; Belsky et al., 1991), thus maximizing fitness outcomes given specific environmental opportunities and constraints.

The bioecological systems model identifies four defining properties: Process, Person, Context, and Time (PPCT). A central tenant of the bioecological systems model is that the impact of proximal processes (i.e., Process) on an individual's development varies as a function of the other three key components: the individual's Person characteristics, immediate and remote

environmental Contexts, and the Time periods in which the proximal processes take place (Bronfenbrenner & Morris, 2007). Thus, components of PPCT relevant to developmental outcomes should be included in empirical research (Bronfenbrenner & Morris, 2007). As such, methods for the current study include variables reflecting PPCT that are salient to development during early childhood, and are of importance when investigating early environmental cues as adaptive "shapers" of development within an evolutionary-developmental framework. These study variables include Process variables across both home and preschool classroom Contexts that have been identified as relevant during the Time of early childhood (e.g., parent-child interactions at home, teacher-child interactions in the classroom), as well as Person characteristics that represent the individual child and adults involved in these proximal processes (e.g., child sex, parent and teacher depressive symptoms).

Early cues within the microsystem: Home environment. A young child's home environment is the most salient and, hence, frequently studied aspect of a child's microsystem. It is within this microsystem that children regularly receive cues (via experiences) regarding levels of support and harshness in their surrounding environment (Belsky et al., 1991; Ellis, Figueredo, Brumbach, & Schlomer, 2009). Based on the integration of psychosocial acceleration theory and bioecological systems theory, early environmental cues serve to adaptively shape early development via proximal processes in ways to best match the individual's expected environment (Belsky et al., 1991). Some cues may be more proximal to the child and are received via proximal processes including available materials and activities in the immediate home environment, parent-child interactions, and parent-child separations. For example, warm, supportive parenting practices associated with an authoritative parenting style during early childhood convey high levels of available support from social others in the environment (Belsky

et al., 1991) and have been shown to adaptively shape development towards strategies well-matched for environments high in support later in middle childhood (e.g., Ellis & Essex, 2007). Other cues are more distal, such as cues from parental mental health (e.g., depressive symptoms), levels of violence in the home and neighborhood, and family income (Ellis et al., 2009). For example, preschoolers living in harsher neighborhood contexts also had lower levels of self-regulation (i.e., an important social-cognitive outcome regarding one's ability to control one's emotions, behaviors, and attention; Karoly, 1993) even when controlling for income and parenting (Warren & Barnett, 2020); lower self-regulation is theorized to be more adaptive in harsher contexts (Del Giudice, 2015). As such, both proximal and distal measures of the child's home environment are included in the current study.

Early cues within the microsystem: Classroom environments. The preschool classroom environment has become an increasingly recognized aspect of a child's microsystem (e.g., Belsky, 1980; Phillips et al., 2006). It is within this microsystem that children begin to form relationships with adults and peers other than their immediate family members (Phillips et al., 2006) which may serve as cues regarding levels of support and harshness outside of their home environment. As in children's home environments, cues from the classroom may be experienced via proximal processes such as with teachers and classroom materials. Other cues may be more distal, such as teacher mental health (e.g., depressive symptoms). However, given the early childhood classroom environment is unique to present-day humans and not matched to our evolutionary history (i.e., our ancestors of long ago likely did not educate their young children in age-segregated, adult-directed classrooms; Hewlett, 2017), how cues specifically from the early childhood classroom interplay with cues from home within a psychosocial acceleration theory perspective is unclear.

Given preschool children spend several hours a day in their preschool classrooms, it is reasonable to expect these early cues (via experiences) contribute to adaptively shaping development; indeed, research in preschool contexts support links to aspects of children's development (e.g., Cadima et al., 2016; Fuhs, Farran, & Nesbitt, 2013; Weiland, Ulvestad, Sachs, & Yoshikawa, 2013). Therefore, when studying how early cues shape development in ways to best match the individual's environment, the proximal processes in early classroom environments must be included for most children living in the U.S. Research conceptualizing early experiences as early environmental cues has thus far neglected the preschool classroom microsystem. In this study, existing preschool classroom research on children's development, coupled with what has been learned from the home environment contexts, are used to guide selection of measures of environmental cues from preschool classroom contexts. As for the home context, both proximal measures of quality of classroom interactions and environment (i.e., proximal processes, classroom instability), and distal measures that theoretically serve as early environmental cues within the preschool classroom context (i.e., teacher depression) are included in the current study. This aspect of the project is more exploratory given the lack of existing research investigating these aspects of early environmental cues in the preschool context.

Home-classroom (dis)continuity. The importance of considering the complex interrelationships between young children's experiences in the home and classroom environments has been raised by researchers (e.g., Belsky, 1980; Bradley, 2010; Nelson & Garduque, 1991; Shpancer, 2002; Watamura et al., 2011), but as of yet remains largely unaddressed. Some early studies suggest minimal impact of early classroom environments, with the home microsystem as most important for children's outcomes (see Phillips et al., 2006). Others suggest home and classroom experiences interact to impact development. In a review of

literature investigating the home-childcare link, Shpancer (2002) highlights the importance of considering children's experiences in this "dual ecology" within the bioecological systems framework, including home-childcare interrelationships or interactions (see also Belsky, 1980). From a developmental standpoint, researchers and practitioners agree that consistency (e.g., continuity of care) is important for children and is often assumed to support optimal development (Bradley, 2010). Further, when conceptualizing children's early environmental experiences as cues regarding the local ecology, how cues in a dual ecology are reconciled to adaptively shape development is unclear. This is particularly of interest for young children who may have qualitatively different experiences in each environment, such as those attending Head Start.

One existing study in early childhood by Watamura, Phillips, Morrissey, McCartney, and Bub (2011) regarding home-classroom (dis)continuity identified four ecological niches for young children that differentiated children's parent- and caregiver-rated social and emotional outcomes: a "Double-Protection" niche (i.e., both home and classroom environments provided high protective factors), a "Lost Resources" niche (i.e., high protective factors at home, but high risk in classroom), a "Compensatory Care" niche (i.e., high risk at home, but high protective factors in classroom), and a "Double-Jeopardy" niche (i.e., high risk factors across both environments). Niches were determined based on configurations of home-classroom environmental quality using a triadic split based on data distribution (e.g., low, medium, and high quality) such that children in the double-jeopardy niche were in the lowest third for both home and early childhood classroom, and so on. A reference group of children with medium quality experiences in both environments was used for comparison with the four niche groups. Children who did not fit into any of the defined niches were excluded from analyses and thus not represented in the study. Parenting quality was observed using the Home Observation for Measurement of the

Environment Scale (HOME; Bradley & Caldwell, 1979) and observations of a semistructured parent-child interaction; classroom quality was observed using the Observer Ratings of the Caregiving Environment (NICHD ECCRN, 1996). Importantly, the study by Watamura and colleagues was not conducted with a nationally representative sample and, in particular, had an overrepresentation of children and families with low risk. Hence, it is important to consider the potential for configurations of home-classroom risk and protective factors within a higher risk population (Watamura et al., 2011) such as those attending Head Start. Further, the study by Watamura and colleagues used a variable-centered approach which essentially assumes homogeneity in the nature of individual differences (Bergman, von Eye, & Magnusson, 2006). The current study uses findings by Watamura and colleagues to guide person-centered analyses which account for the existence of qualitative differences in individual experiences, and thus heterogeneous patterns of variable interactions (Bergman et al., 2006). Specifically, these patterns of experience are derived from measures of early environmental cues and experiences theorized to adaptively shape development during early childhood.

Current Study

Using a person-centered approach, this study identifies home-classroom (dis)continuity in early environmental cues for children attending Head Start. Person-centered assumptions include (1) that development is partly specific to the individual, (2) that development is complex with interacting factors and complicated interrelationships, and (3) that a limited number of patterns can be identified interindividually (Bergman et al., 2006). This person-centered approach is novel to the investigation of home-classroom (dis)continuity and allows for identifying individual profiles of environmental cues from home and preschool, and uncovering how these processes co-occur within individuals to different degrees and in different combinations

(Bergman et al., 2006). *The current study hypothesis was that distinguishable patterns of home-classroom (dis)continuity would emerge that resembled the following profiles: "Double-Protection" (i.e., high cues of support in home and classroom), "Lost Resources" (i.e., high cues of support in home, low cues of support in classroom), "Compensatory Care" (i.e., high cues of harshness in home, high cues of support in classroom), and "Double-Jeopardy" (i.e., high cues of harshness in home and classroom).*

Methods

This study used secondary data from the Head Start Family and Child Experiences Survey 2009 data set (FACES 2009; U.S. Department of Health and Human Services, 2013). FACES 2009 includes a nationally representative sample of 3,349 children ages 3, 4, and 5 years old and their families who initially enrolled in Head Start in 2009 (Malone et al., 2013). The sample was recruited from 486 classrooms in 60 Head Start program across the country. The data were collected across four waves: fall (T1) and spring (T2) of children's first year in Head Start, spring of the second year in Head Start (for children age 3 at initial enrollment year; T3), and spring of children's kindergarten year (T4).

FACES 2009 uses a conceptual framework emphasizing the complex interrelationships between the developing child and home, classroom, and community contexts that impact children's development (Moiduddin, Aikens, Tarullo, West, & Xue, 2012) and is thus compatible with the current study's bioecological systems approach. Included in the data set are interviews with children's families and teachers and assessments of classroom quality. Importantly, FACES 2009 includes a measure of parent-reported child-rearing practices and parenting behaviors which is not included in the more recent 2014 cohort, making FACES 2009 the ideal Head Start secondary data set for the current project aims.

Study sample. Data from 1,507 four-year old children, parents, and teachers are used. In terms of child demographic characteristics, 44% of children in the study sample were identified as Hispanic/Latino, 31% were African American, 18% were non-Hispanic White, 5% were multi-racial/bi-racial non-Hispanic, 1% were Asian or Pacific Islander, and 0.2% identified as a race other than those listed. In terms of family demographics, 61% of children in the study sample lived in families at or below the federal poverty threshold, 32% lived in a family with either an unemployed parent or parent who did not complete high school, and about 50% were cared for by a single mother. One parent respondent per child provided the parent-reported data. Parent respondents in this study sample were mostly mothers (85% biological, adoptive, or stepmothers) followed by fathers (6% biological, adoptive, or stepfathers), grandparents (4%), and other identified (2%; where 3% respondent relationship data was missing). Head Start classrooms in the current sample were largely led by teachers with degrees: 73% had at least an associate's degree and 44% had at least a bachelor's degree. On average, Head Start classrooms in the current study sample were rated as at least meeting the minimum quality thresholds for Provisions for Learning as measured by the Early Childhood Environmental Rating Scale-Revised (ECERS-R; Harms, Clifford, & Cryer, 2005), and were above or well-above minimum quality thresholds as set by the Head Start Program Designation Renewal System (U.S. Department of Health and Human Services, 2016) for Instructional Support, Emotional Support, and Classroom Organization measured by the Classroom Assessment Scoring System (CLASS; Pianta, La Paro, & Hamre, 2008).

Treatment of missing data. Missing data analyses were conducted using the current study sample and variables to confirm data were missing at random (MAR). Missingness was less than 1% on all study variables in the current study sample. Given the determination that data

were MAR, missing data were handled by maximum likelihood estimation (Enders, 2010). Based on theory by Little and Rubin (2002), missingness for variables MAR is ignorable as the probabilities of missing values can be predicted by nonmissing values. Mplus performs maximum-likelihood estimation for variables under the assumption they are MAR (Muthén, 1998-2004).

Measures: Early cues from home. To create person-centered profiles that included children's environmental cues from home, both proximal and distal measures of early environmental cues from the home context were used. These measures represent Person and Process variables within the home Context from the PPCT model that are theoretically salient during the Time of early childhood. All measures for the current study are summarized in Table 1.

Quality of home environment. This measure included 17 items from the HOME-Short Form (HOME-SF; Bureau of Labor Statistics, 1979-2012) which measures parents' cognitive stimulation of their child and the overall quality of the home environment. The HOME-SF is well-established in research with demonstrated high validity and reliability (see Mott, 2004). Example items include: *How many times have you or someone in your family read to the child in the past week?; In the past week, have you or someone in your family taught him/her letters, words, or numbers?* To construct an overall score, scoring procedures for the HOME-SF were followed (Bureau of Labor Statistics, 1979-2012) such that all items at T2 were translated into dichotomous zero-one variables and then summed across the 17 items (possible range 0-17).

Parenting behaviors and styles. This measure included 13 items drawn from the Child Rearing Practices Report (CRPR; Block, 1965) and evaluates parents' parenting practices across four domains: (1) expression, handling, and regulation of positive and negative emotions; (2)

conveying of authority and discipline practices used; (3) parent ideals and goals regarding children's accomplishments and aspirations; and (4) parent values regarding child development, autonomy, independence, and self-identity. Items were parent-rated using a five-point Likert scale (1 = *exactly*, 5 = *not at all*) and example items include: *I control my child by warning him/her about the bad things that can happen to him/her*; and *My child and I have warm intimate moments together*. The 13 items formed three subscales reflecting parenting styles or patterns: authoritarian pattern, authoritative pattern, and adherence to rules (Malone et al., 2013). The current study used the authoritarian pattern subscale score at T2 in the analyses (e.g., emphasis on inductive methods, reasoning with child, fostering child's individuality, and encouraging open parent-child communication), representing children's proximal experiences with parental support (possible range 1-5). Research specifically investigating the reliability of CRPR demonstrates acceptable to high levels of reliability across behavioral categories (i.e., percent agreement ranged from 58% - 94%; Kochanska, Kuczynski, & Radke-Yarrow, 1989).

Household instability. The total number of parent-child separations as reported by mothers was used as a measure of household instability which may serve as a cue regarding the unpredictability of available resources. Parents reported at T2 on the number of times the parent and child were separated for more than one week over the past 12 months. This total is used as the score for parent-child separations.

Parent depressive symptoms. Parent depressive symptoms were measured using the short 12-item version of the Center for Epidemiologic Studies-Depression Scale (CES-D; Radloff, 1977; Ross, Mirowsky, & Huber, 1983). Previous studies using the 12-item CES-D demonstrated alpha reliability estimates of .85 and .81 for women and men, respectively (Ross et al., 1983). Items asked parents to rate their levels of depressive symptoms on a scale of 1-4 (e.g., depressed,

lonely, sad). Reported internal consistency reliability estimate was 0.81. Parent depressive symptoms measured at T2 were used in the current analyses (possible range 0-36).

Home/Neighborhood violence. Parents reported on their own exposure and their child's exposure to violent and nonviolent crimes (i.e., witnessed, was victimized, knew someone victimized, or perpetrated) in the home and in the neighborhood within the past year at T1 (parents who did not previously respond to items were asked to update this information at T2). Example items include: *heard or saw violent crime take place in my neighborhood*; *been hit, kicked, punched, or otherwise hurt by someone*; *been a witness to domestic violence; been a victim of domestic violence*. Total scores of home and neighborhood violence exposure were calculated as the sum of "yes" responses across 9 items (possible range 0-9).

Poverty status. A measure of poverty status was used to represent cues of environmental harshness and support conferred by family's financial resources beyond those mediated through parenting. Poverty status was calculated using monthly income data from mothers and residential fathers at T2. Monthly income included reported (1) residential parents' income, (2) child support, (3) and other public assistance. Monthly income was then divided by the federal poverty threshold for the year of data collection and for the appropriate family size to create an income-to-poverty ratio (Malone et al., 2013). Finally, a binary variable was calculated to indicate whether a family fell below the poverty threshold such that 0 = family not below poverty, 1 = family at/below poverty.

Measures: Early cues from classroom. To create person-centered profiles including children's environmental cues from the Head Start classroom, both proximal and distal measures of early environmental cues from the classroom context were used (see Table 1). These measures

represent Person and Process variables within the classroom Context from the Person, Process, Context, Time (PPCT) model that are theoretically salient during the Time of early childhood.

Quality of classroom environment. To capture environmental cues within the classroom due to the quality of the classroom environment, classroom scores from a shortened version of the ECERS-R (Harms et al., 2005) were used. This scale is a global rating of classroom quality based on the structural characteristics of the classrooms (Harms et al., 2005). This measure used a subset of 23 items from the original ECERS-R each rated by an independent observer on a 7-point scale that combine to form two factors: Teaching and Interactions (e.g., quality of teacher-child interactions) and Provisions for Learning (e.g., materials and space provisions provided in the classroom environment). The current study used the Provisions for Learning (ECERS-Provisions for Learning) subscale as a measure of quality of the physical space and material provisions provided in the classroom (possible range 1-7). Inter-rater reliability was .84.

Quality of classroom interactions. To represent environmental cues within the classroom due to the quality of classroom interactions, classroom scores from the CLASS (Pianta et al., 2008) were used. This assessment is based on observer-rated items across 11 dimensions of teaching and classroom quality that form three domains rated on a 7-point scale averaged over four observation cycles: Emotional Support (CLASS-ES), Classroom Organization (CLASS-CO), and Instructional Support (CLASS-IS; possible range 1-7). Internal consistency across the three domains ranged from 0.79 to 0.91; average inter-rater reliability was .87.

Classroom instability. To capture environmental cues of instability within the preschool classroom, a measure of teacher turnover at the classroom level was used. This binary measure may reflect cues about the unpredictability of resources in the classroom, and measured whether

the lead teacher of the classroom changed between T1 and T2 (from fall to spring of the academic year).

Teacher depressive symptoms. Lead teacher's depressive symptoms were measured using the short 12-item version of the CES-D (Radloff, 1977; Ross et al., 1983). Items and scale were identical to the measure used for parent depressive symptoms, with reported internal consistency reliability estimate of 0.81. As with parents, teacher depressive symptoms measured at T2 was used in the analyses (possible range 0-36).

Covariates. A number of covariates were included as control variables in the analyses representing Person characteristics from the PPCT model: child's sex, child's age, child's race/ethnicity, mother's and father's race/ethnicity, mother's and father's education, teacher's gender, teacher's race/ethnicity, teacher's education and certification. Head Start program exposure (i.e., full-day/half-day enrollment) and parent-reported number of child care arrangements were also included as covariates.

Analyses. Bivariate correlations were calculated and assessed to determine significant correlations between study variables.

Secondary data analyses included Latent Profile Analysis (LPA) conducted in Mplus 8.2 (Muthén & Muthén, 2017) to classify individual children into conceptually and empirically differentiated profiles for environmental cues from home and Head Start classroom based on data from each context (i.e., a person-centered approach). LPA is a type of finite mixture model using continuous variables to classify individuals into mutually exclusive and exhaustive latent profiles (Williams & Kibowski, 2016). Specifically, children's environmental cues from home and classroom were analyzed using the following continuous variables: HOME-SF, Authoritative Parenting, Parent Depressive Symptoms, Home/Neighborhood Violence, Parent-

Child Separations, ECERS-Provisions for Learning, CLASS-IS, CLASS-ES, CLASS-CO, and Teacher Depressive Symptoms. All continuous variables were standardized using DEFINE prior to LPA to allow for interpretation and comparison of results across variables. Two categorical variables were also included in the analyses: Poverty Status and Classroom Instability. Categorical variables were identified in Mplus 8.2 using the CATEGORICAL ARE option within the VARIABLE command. Covariates were included in the analyses using the AUXILLARY option within the VARIABLE command in Mplus 8.2.

To account for stratification, non-independence of observations due to cluster sampling, and unequal probability of selection, TYPE = COMPLEX MIXTURE was used and stratification, cluster, and sample weight (PRAOC2WT) were specified in Mplus 8.2.

Models were estimated such that the profile indicators were used to divide the sample into a set of mutually exclusive and exhaustive latent profiles. Two sets of LPA parameters of interest were examined: latent profile membership probabilities (i.e., profile distribution in the population) and within-profile response means and variances for each of the manifest variables. Model selection was based on multiple measures of LPA model fit criteria. The Akaike information criterion (AIC; Akaike, 1974), Bayesian information criterion (BIC; Schwarz, 1978), and sample size adjusted BIC (a-BIC; Sclove, 1987) were compared across models with varying numbers of profiles under the assumption that lower values provided indication of better model fit. Entropy across models was also examined with the assumption that higher values indicate higher classification utility and thus better fit. Entropy values above .80 indicate that the latent profiles are highly discriminating (Muthén & Muthén, 2017). The degree of profile separation (i.e., the degree to which latent profiles were clearly distinguishable from one another) was examined using 95% confidence intervals for all within-profile means as compared across

profiles. Ultimately, profile separation and interpretability were prioritized for final model selection.

Following model selection, each profile was then characterized based on statistically significant within-profile indicator means. Given all profile indicators were standardized prior to analyses, the significance test for all within-profile indicator means specifies whether the mean for that indicator within a given profile is statistically significantly different from the overall sample mean. Given the sample was drawn from the Head Start population, mean levels for profile indicators of children's home environments were assumed to represent an overall harsh environment (e.g., as common in environments characterized by poverty). Thus, levels significantly above the mean were characterized as more supportive/harsh whereas levels statistically significantly below the mean were interpreted as less supportive/harsh. Similarly, since on average all Head Start classrooms in the sample were rated above or well-above minimum quality thresholds (see **Study Sample**), mean levels on measures of children's classroom environments were assumed to represent an overall level of quality (i.e., a supportive environment). Thus, profiles with classroom quality levels statistically significantly above the mean were characterized as higher quality whereas profiles with classroom quality levels significantly below the mean were characterized as lower quality. Note that in most cases, profiles had at least half of the profile indicators in the home or classrooms environment that indicated statistically significant lower or higher support/harshness, with only one profile characterized by only one statistically significant indicator.

Each profile was next labeled based on the following four ecological niche identities: "Double-Protection," "Compensatory Care," "Lost Resources," and "Double-Jeopardy" (Watamura et al., 2011). Finally, based on the profile characterizations and corresponding

identities, each profile was determined as representing home-classroom continuity or discontinuity in early environmental cues.

Results

Descriptive statistics for demographic characteristics and covariates are presented in Table 2. Bivariate correlations for profile indicators are presented in Table 3. As expected, classroom measurements of quality were all statistically significantly correlated with one another in a positive direction. Family's poverty status was statistically significantly correlated with HOME-SF in a negative direction and with parent depressive symptoms in a positive direction. Interestingly, classroom instability was statistically significantly positively correlated with three classroom quality measures: ECERS-Provisions for Learning, CLASS-IS, and CLASS-ES. In other words, classrooms that had a change in the lead teacher from fall to spring had higher quality environments and teacher-child interactions based on these measures at T2 (spring).

Model fit information and model selection criteria for models with 1-7 profiles are presented in Table 4. As the number of profiles increased incrementally, the AIC, BIC, and a-BIC each also decreased suggesting a higher number of profiles yielded a better overall model fit. Entropy values decreased as the number of profiles was increased incrementally from 2 through 5 profile models; entropy decreased at 6 profiles and increased at 7 profiles. Upon closer inspection, increasing the number of profiles incrementally from the 2-profile model to the 5-profile model likewise provided more specificity with distinguishable profiles of children's home-classroom experiences. However, once reaching the 6- and 7-profile models, additional profiles failed to be theoretically or practically distinguishable and therefore did not add value with increased model complexity. Therefore, the more parsimonious 5-profile model was selected for interpretation; see Figure 1.

Parameter estimates for the 5-profile model are presented in Table 5. There were many statistically significant differences among the profile indicators as compared to the overall sample means and as compared across profiles. Parent-child separations, conceptualized as a measure of cues regarding the unpredictability of resources in children's homes, exhibited a clear pattern across all five profiles. Parent-reported parent-child separations were either statistically significantly lower (profile 1, $p < .001$; profile 2, $p < .001$; and profile 3, $p < .001$) or higher (profile 4, $p < .001$; and profile 5, $p < .001$) for each profile compared to the overall sample mean. As such, parent-child separations played a distinct role in how each profile was characterized. Authoritative parenting, poverty status, teacher depressive symptoms, and classroom instability did not show significant differences between profiles nor compared to the overall sample means.

Profile 1 (19% prevalence rate, $n = 284$) was characterized by near mean-level home harshness, low unpredictability, and low classroom quality; this profile was identified as *Double-Jeopardy with Low Unpredictability*. Profile 2 (64% prevalence rate, $n = 962$) was characterized by low home harshness, low unpredictability, and high classroom quality; this profile was identified as *Double-Protection with Low Unpredictability*. Profile 3 (8% prevalence rate, $n = 123$) was characterized by high home harshness, low unpredictability, and near mean-level classroom quality; this profile was identified as *Compensatory Care with Low Unpredictability*. Profile 4 (8% prevalence rate, $n = 114$) was characterized by high home support, high unpredictability, and near mean-level classroom quality; this profile was identified as *Double-Protection with High Unpredictability*[2]. Profile 5 (1% prevalence rate, $n = 20$) was characterized

[2] Profile 4 had only one profile indicator for cues from home that were statistically significantly different compared to the overall sample means. Given no previous research on home-classroom (dis)continuity, it was decided that this one indicator of higher support would characterize the profile as having high support from home despite three other indicators that indicated mean levels of harshness.

by near mean-level home harshness, high unpredictability, and low classroom quality; this profile was identified as *Double-Jeopardy with High Unpredictability*. (Note that though Profile 5 has a relatively small membership in the current sample which may call into question its theoretical and empirical justification, this profile persisted in 4- and 3-profile models with the exact same prevalence providing justification for interpreting this profile [Fosco & Bray, 2016].) Given the identification of each profile, they were lastly classified as broadly representing experiences of home-classroom continuity (profiles 1, 2, 4, and 5) or discontinuity (profile 3).

Detailed results of the covariates analysis are presented in Table 6 with profile 2 (the most prevalent at 64% of the sample) as the reference profile. Children's parent-reported number of total child care arrangements was a statistically significant predictor of membership for profiles 4 and 5. In other words, children who had additional child care arrangements beyond Head Start were more likely to belong to profiles 4 (*Double-Protection with High Unpredictability*) and 5 (*Double-Jeopardy with High Unpredictability*). Overall, the race/ethnicity of the child, child's mother, child's father, and child's teacher were often significant predictors of profile membership. Neither mother's education, father's education, nor teacher's education and certification predicted children's profile membership.

Post hoc descriptive analysis. Because parent-reported household instability (i.e., parent-child separations of more than a week over the past 12 months) played a distinct role in delineating the five profiles, a post hoc descriptive analysis was run providing additional detail regarding the parent-reported reasons for parent-child separations; see Table 7. The most frequently provided reason for parent-child separations was to visit other family members (53%), followed by the parent's own travel or vacationing (18%).

Discussion

Using person-centered LPA, this study identified five distinguishable profiles of environmental cues (i.e., experiences) from Head Start children's home and preschool environments and, by extension, patterns of Head Start home-classroom (dis)continuity. The use of a person-centered analytic approach allowed for a novel investigation of home-classroom (dis)continuity uncovering how patterns of early environmental cues co-occur within individuals to different degrees and in different combinations. These profiles go beyond the general characterization of contexts of poverty being high in harshness and instead demonstrate that there is variation in individual children's experiences with cues being received across multiple aspects of their early environments (e.g., cues of support and harshness from physical environments, parent- and teacher-child interactions, parent mental health, neighborhood, etc.). Results indicate that both proximal and distal cues from children's home and classroom environments play a role in distinguishing children's patterns of early environmental cues and home-classroom (dis)continuity. Thus, the results of the analyses honor the underlying processes of children's development as individually specific and complex with interacting factors and complicated interrelationships (Bergman et al., 2006).

The study hypothesis was that distinguishable patterns of home-classroom (dis)continuity resembling Watamura and colleagues' (2011) ecological niches would emerge. While profiles resembling "Double-Protection," "Compensatory Care," and "Double-Jeopardy" emerged, no profile resembling "Lost Resources" (i.e., high quality home environment with low quality preschool environment) emerged within the sample of Head Start children, families, and teachers. The current study results build on previous work by Watamura and colleagues revealing individual combinations of home-classroom cues children receive from various specific aspects of their early environments within a high risk sample. Expanding further, each

home-classroom profile was also distinctly characterized based on early cues of unpredictability from the home (i.e., resource unpredictability), namely parent-child separations. Cues of unpredictability are hypothesized to be distinct from cues of harshness and may direct children towards specific strategies and traits that are adaptive in an unpredictable context (Belsky, Schlomer, & Ellis, 2012; Blair & Raver, 2012; Brumbach, Figueredo, & Ellis, 2009; Ellis et al. 2009; Hartman, Sung, Simpson, Schlomer, & Belsky, 2018). Including cues of unpredictability in the profiles of early environmental cues adds further specificity in explaining children's patterns of early experiences. Characterizations for each of the five profiles and their identification as patterns of Head Start home-classroom (dis)continuity are discussed in further detail next.

Profile characterizations. As expected, there were multiple complex profiles explaining children's experiences with both proximal and distal cues from home and Head Start classroom environments. Notably, profile 2, characterized as *Double-Protection with Low Unpredictability*, was the largest profile and results suggest that just under two-thirds of the national Head Start population fall into this profile. Head Start children experiencing *Double-Protection with Low Unpredictability* (i.e., higher support and lower harshness in both home and classroom environments along with low unpredictability at home) may show differences in developmental outcomes (e.g., less internalizing behaviors and more prosocial behaviors; Watamura et al., 2011) relative to peers with less supportive early environments. Indeed, given the context of the current study is the context of poverty by design, the nomenclature is not to suggest that children in this profile do not experience disadvantage in comparison to the general population. Rather, the focus here is that, despite the context of poverty, more than half of children enrolled in Head

Start may be experiencing early environments with a number of protective factors both at home and in their classrooms. This information may become lost with variable-centered analyses.

From a theoretical standpoint, lower cues of environmental harshness (and conversely, higher levels of environmental support) conferred by lower parent depressive symptoms and lower levels of violence exposure in the home and neighborhood, may direct development toward strategies and traits beneficial in more cooperative and supportive environments compared to their peers with other profiles. However, whether lower cues of harshness (conferred by lower parent depressive symptoms and home/neighborhood violence) alongside higher cues of support from the Head Start classroom is enough to counteract the cues of harshness (conferred by average levels on the HOME-SF and authoritative parenting) is unknown. Future research should investigate how children with this profile differ in developmental outcomes in comparison to children in other profiles.

The high proportion of Head Start children with the *Double-Protection with Low Unpredictability* profile may in part be a reflection of Head Start's two-generation approach. Given the current study measures were based on data towards the end of the child's first year in Head Start, it may be that children's early home environments were positively impacted by access to high quality Head Start and included services (e.g., health screenings, referrals and social services, parenting resources). Research focused on Head Start's two-generation approach indicate that practices centered on increasing parental involvement and empowerment are associated with positive changes in the home environment including children's home learning activities, parenting styles, and parent well-being (for review, see Henrich & Gadaire, 2008). Thus, this explanation is feasible and is an opportunity for longitudinal research which may

support links between Head Start's two-generation approach and changes to children's early cues from home.

On the other hand, it is also possible that the high proportion of children in the *Double-Protection with Low Unpredictability* profile may be attributed to selection factors such that low-income parents with lower environmental risk factors may be more likely to access Head Start preschool for their child. Indeed, studies have shown disparate access to Head Start by low income families across racial/ethnic groups (e.g., Schmit & Walker, 2016). An analysis of Head Start 2011-2013 Program Information Report data indicated that only 43% of eligible preschool children across the U.S. had access to Head Start, with access by eligible Black children at 54%, eligible Hispanic/Latino children at 38%, and eligible Asian children at 36% (Schmit & Walker, 2016). Given these two opposing potential explanations, further unpacking the potential underlying factors that help explain the high proportion of Head Start children with the *Double-Protection with Low Unpredictability* profile is of interest.

Though a distinctly different pattern of home-classroom experience, profile 4 (*Double-Protection with High Unpredictability*) was also characterized as double-protection, but with children experiencing higher levels of unpredictability. Here, children experienced a higher than average level of quality (i.e., support) in their home environment as measured by the HOME-SF, alongside the average quality levels of the Head Start classroom. However, they also experienced higher than average parent-child separations relative to other children enrolled in Head Start. There are multiple reasons children may experience separation from their parents. In some cases, parent-child separation may be due to risk factors in the home environment (e.g., abuse, addiction, death, neglect, separation/divorce) which may correspond with early harsh experiences. However, other reasons for parent-child separations do not necessarily imply home

harshness (e.g., parental deployment and other employment-related separations). Post hoc results indicate that, according to parents, most parent-child separations occurred due to the child traveling to spend time with other relatives, or the travel needs of the mother. Studies of childhood unpredictability suggest that parent-child separations contribute to the development of an unpredictability schema (i.e., the belief that the world is unpredictability and is outside one's control) which is correlated with higher risk-taking behaviors (i.e., behaviors that may be more adaptive in an unpredictable environment; Ross & Hill, 2002). However, how these parent-child separations were communicated and the degree to which they were anticipated and regularly occurring (and therefore may not convey an indication of environmental unpredictability) cannot be determined in the current study. This profile suggests that less than 10% of Head Start children experience multiple separations from their primary parent, and these children also experience support within their home and classroom environments. Again, while early cues of environmental support in both home and classroom contexts for Head Start children may provide for strategies and traits that are beneficial in cooperative, supportive environments, how cues of unpredictability may be reconciled alongside cues of harshness/support is uncertain.

There were also two profiles resembling Double-Jeopardy: one with low unpredictability (i.e., Profile 1, *Double-Jeopardy with Low Unpredictability*) and one with high unpredictability (i.e., Profile 5, *Double-Jeopardy with High Unpredictability*). The former was characterized by distinctly lower levels of Head Start classroom quality along all measures and, based on the current study, may be the case for about 20% of children enrolled in Head Start. Children in the double-jeopardy profiles, despite being enrolled in Head Start, are experiencing overall cues of harshness and/or lower support both from their home and classroom environments. Children in this profile should be targeted for additional interventions and supports in both their home and

Head Start classroom contexts. Cues of harshness and less support may direct development toward strategies and traits that are adaptive in harsher environments (e.g., Ellis & Essex, 2007). As the current study suggests, a smaller percentage of Head Start children with a double-jeopardy profile may also be experiencing high levels of unpredictability as measured by parent-child separations (i.e., Profile 5). However, as noted earlier, the specific contexts of those separations and therefore how they serve as cues regarding level and predictability of harshness/support are unknown. Though this profile only accounted for 1% of the study sample, this profile persisted as a distinct profile with consistent membership even among models with fewer profiles.

There was one profile that was characterized as *Compensatory Care with Low Unpredictability*. Results suggest that about 8% of Head Start children experience higher cues of harshness or lower cues of support (as conferred by higher parent depressive symptoms and exposure to home/neighborhood violence) but average levels of support within their classroom. Thus, for this group of children, the quality of the Head Start classroom may compensate for limited support or opportunities within their home environments, perhaps contributing to outcomes (Watamura et al., 2011). Indeed, the intention of federally-funded Head Start programs is to provide supportive classroom environments that increase school readiness for children from families in poverty; these benefits are the cornerstone argument for investing in compensatory preschool education programs (Barnett, 1992; Heckman, 2011).

(Dis)Continuity. The five profiles that emerged in the current study by extension speak to children's experiences of (dis)continuity in their home and Head Start classrooms. Given that early experiences within the microsystem serve as early cues regarding anticipated levels of support and harshness in the environment, and that those cues adaptively direct development in

context-specific ways, it is of interest to better understand whether children who spend a considerable portion of their day in contexts outside of the home, such as in the preschool classroom, are experiencing (dis)continuity in those cues. This may be particularly important for children who may be experiencing discontinuity in early environmental cues, such as children enrolled in compensatory preschool programs like Head Start.

Study results suggest that, relative to the average levels of harshness and support in the population, most children in Head Start are experiencing continuity in early environmental cues. To be clear, profiles of double-jeopardy, with and without high unpredictability, and profiles of double-protection, with and without high unpredictability, are in essence considered profiles reflecting continuity despite being cues representing opposing levels of support and harshness. In other words, for most children enrolled in Head Start, the early environmental cues of harshness and support are relatively consistent across this dual-ecology. However, the implications of each profile representing continuity for children's development is likely very different. Each profile representing experiences with continuity in early environmental cues is further distinguished by levels of home unpredictability. Because the measure in the current study for classroom unpredictability did not statistically significantly differ between profiles nor between profiles and the sample mean, whether cues of unpredictability were consistent between home and classroom profiles (i.e., [dis]continuity) could not be determined. It is clear, however, that cues of unpredictability from the home play a distinct role in delineating children's profiles of home-classroom environmental cues.

Not all children enrolled in Head Start experience continuity in home-classroom cues. It remains unclear how home-classroom discontinuity is reconciled in regards to adaptive context-specific strategies for children experiencing compensatory care. From a theoretical standpoint,

given the evolutionarily novel aspect of preschool classrooms (Hewlett, 2017), differences in environmental cues across home and early classroom environments conveying different information about what one can expect in their current context (i.e., levels of support and harshness) is likely a new modern day issue. It may be that cues from one environment, such as from the home, are prioritized over cues from the other environment when directing development as some previous research suggests (Shpancer, 2002). Alternatively, compensatory care programs are based on seminal demonstrations that indicate that providing high quality experiences in preschool (i.e., cues of high support) can compensate for children's lower quality experiences at home (i.e., cues of lower support and higher harshness), impacting children's developmental outcomes (e.g., Abecedarian Project [Ramey & Campbell, 1984] and High/Scope Perry Preschool Project [Schweinhart et al., 1993]). Thus, how this discontinuity in cues is reconciled to adaptively shape Head Start children's development in comparison to children experiencing continuity in cues is still unclear and of theoretical and practical importance.

Limitations and Future Directions

The current study has the following limitations. The study sample was drawn from a nationally representative population of Head Start children, families, and teachers in 2009-2010. Although this nationally representative Head Start sample is an asset given the specific study aims, it does not speak to populations outside this demographic. While the current study builds on the study by Watamura and colleagues (2007) by investigating profiles of home-classroom (dis)continuity for lower-income populations, it still does not give a picture about home-classroom (dis)continuity across the general population. Thus, there may be limited variation in the range of experiences children in the current sample have with both proximal and distal cues. Further, early cues regarding availability and predictability of resources in this sample may be

specific to the years 2009-2010, a distinct point in time in American economic history given the Great Recession which occurred in 2007-2009. Likewise, given the current study focused on preschool children specifically enrolled in Head Start during this time, it does not offer insight into cues children received from a wider range of preschool environments with potentially a broader range of classroom quality. Future studies looking at profiles of home-classroom (dis)continuity with a more economically diverse sample may bridge the current study and the study by Watamura and colleagues to present a picture of experiences across a wider range of early environmental contexts. One finding that did emerge given the demographics of the current study sample was that the race/ethnicity of the child, his/her parents, and his/her teacher statistically significantly predicted profile membership. This suggests that children from families with different racial and ethnic backgrounds in the context of poverty may have different experiences with early environmental cues across home and early classroom environments, which may be further complicated by racial/ethnic disparities in access to Head Start (Schmit & Walker, 2016). This is an important area for future research.

Another limitation concerns the emergence of household instability (i.e., parent-child separations) as a distinct characteristic that differentiated profiles. Given limitations of the data, the specific context of these parent-child separations could not be discerned, and therefore it was difficult to determine whether cues from these experiences conveyed a message of unpredictability or, relatedly, support or harshness. Future studies could further probe at this aspect of early cues to help determine the role of parent-child separations in adaptively shaping children's development. Further, including additional measures of household instability (e.g., number and frequency of household moves, changes to family composition) would provide a more inclusive picture of household stability and children's experiences with cues of

unpredictability. On a related note, though the current study's measure of cues of unpredictability in the classroom (i.e., classroom instability measured by change in lead teacher) did not prove to play a prominent role in children's home-classroom (dis)continuity profiles, future studies expanding the use of psychosocial acceleration theory to early education contexts might consider other measures of unpredictability in the preschool classroom that may serve as a salient cue to environmental unpredictability.

Conclusions and Implications

This study integrated bioecological systems theory (Bronfenbrenner & Morris, 2007) with psychosocial acceleration theory (Belsky et al., 1991) to examine home-classroom (dis)continuity for children enrolled in Head Start. Taking a person-centered approach, LPA revealed five distinct profiles reflecting different patterns of co-occurring proximal and distal cues of harshness/support from home and preschool classroom contexts. Results suggest that the majority of children in Head Start, though with qualitatively different profiles that represent both double-protection and double-jeopardy, experience continuity in the early environmental cues from home and classroom. One profile characterized as *Compensatory Care with Low Unpredictability*, suggested discontinuity between home and Head Start classroom for a small portion of the population. Results also suggest that household instability may play a distinct role in children's profiles of early environmental cues, though how this impacts development is uncertain. The current study contributes to the limited research investigating early environmental cues during the period of early childhood to further understand how early environmental cues that have been previously tied to children's development co-occur across home and early classroom contexts (e.g., Warren & Barnett, 2020). This study serves to stimulate future research using psychosocial acceleration theory in the increasingly important early childhood education

context, and work investigating which early environmental cues in the classroom context are salient for the development of adaptive, context-specific strategies and traits.

The results of this study also serve to inform Head Start policy and practice by providing evidence of five distinct profiles of children's early experiences across their home and classroom environments which may have implications for development. One recommendation to consider is continuing policy efforts that support better overall alignment across Head Start programs towards the aim of consistent, high levels of classroom quality. The current study shows distinct profiles of experience with statistically significantly different levels of classroom quality, confirming nation-wide consistency in classroom quality is an issue (Barnett & Friedman-Krauss, 2016). Disparities in quality across Head Start classrooms may be putting children with lower quality home environments at particular risk. One such effort is the Head Start Designation Renewal System (45 CFR § 1304 Subpart B; U.S. Department of Health and Human Services, 2016) which is used to identify Head Start agencies who are (and are not) meeting high-quality standards. A second and complementary recommendation is to consider ways to help Head Start agencies identify clusters of children currently experiencing double-jeopardy profiles so that these regions can be targeted for additional federal funding and supports across both home and classroom contexts. For example, providing extra screening for family support services, increased parent engagement and parent-teacher partnerships, and teacher professional development to raise quality may provide the added support necessary to improve children's early environments (Henrich & Gadaire, 2008).

Table 1

Measures of Early Environmental Cues from Home and Classroom

	Early Cues from Home	Early Cues from Classroom
Proximal	Quality of home environment *Home Observation for Measurement of the Environment Scale – Short Form (HOME-SF; Bureau of Labor Statistics, 1979-2012)*	Quality of classroom environment *Early Childhood Environment Rating Scale – Revised (ECERS-R; Harms et al., 2005)*
	Parenting behaviors and styles *Child Rearing Practices Report (CRPR; Block, 1965)*	Quality of classroom interactions *Classroom Assessment Scoring System (CLASS; Pianta et al., 2008)*
	Household instability *Parent-reported coresidential parent-child separations*	Classroom instability *Binary measure indicating changes in the child's classroom teacher from T1 to T2*
Distal	Parent depressive symptoms *Center for Epidemiologic Studies – Depression Scale (CES-D; Radloff, 1977; Ross et al., 1983)*	Teacher depressive symptoms *Center for Epidemiologic Studies – Depression Scale (CES-D; Radloff, 1977; Ross et al., 1983)*
	Home/Neighborhood violence *Parent-reported exposure to (non)violent crimes* Poverty status *Binary measure of poverty status based on income-to-poverty ratio*	

Table 2

Descriptive Statistics for Descriptive Characteristics and Covariates

	Frequency (%) or *Mean* (*SD*)			
Demographic Characteristics/Covariates	Child	Mother	Father	Teacher[a]
Sex				
Female	766 (51%)			1347 (90%)
Male	741 (49%)			10 (1%)
Age	*55.7* months (*5.2*) *Range*=48-68			
Race/Ethnicity				
Hispanic	669 (44%)	641 (43%)	630 (42%)	331 (22%)
African American	471 (31%)	471 (31%)	504 (33%)	461 (34%)
White	267 (18%)	325 (22%)	272 (18%)	646 (43%)
Multi-Racial, Non-	69 (5%)	33 (2%)	32 (2%)	*not offered*
Hispanic	18 (1%)	20 (1%)	19 (1%)	31 (2%)
Asian or Pacific Islander				
American Indian or	7 (1%)	8 (1%)	9 (1%)	22 (2%)
Alaska Native	3 (<1%)	7 (1%)	13 (1%)	219 (15%)[b]
Another Race				
Head Start Exposure				
Full-day	973 (65%)			
Half-day	534 (35%)			
Child Care Arrangements	*0.6* (*0.9*)			
Education				
Up to 8th grade				3 (<1%)
12th grade, no diploma				24 (2%)
High school diploma/equivalent				65 (4%)
Vocational/technical				5 (<1%)
Some college, no degree				156 (10%)
Associate's degree				434 (29%)
Bachelor's degree				499 (33%)
Graduate/professional, no degree				47 (3%)
Master's degree				124 (8%)
Doctorate degree				0 (0%)
Teacher Certification				592 (39%)

Note. [a]Demographic variables for teachers have 10-11% missingness. [b]Multi-Racial, Non-Hispanic was not offered as a category in the teacher questionnaire and thus likely impacted this response rate.

Table 3

Descriptive Statistics and Bivariate Correlations for All Profile Indicators

	M (SD)	1	2	3	4	5	6	7	8	9	10	11
1. HOME-SF	13.27 (2.27)											
2. Authoritative parenting	3.53 (0.57)	0.02										
3. Parent depressive symptoms	4.40 (5.37)	-0.01	0.04									
4. Home/ Neighborhood Violence	0.63 (1.14)	0.04	0.03	.162**								
5. Parent-Child Separations	0.20 (1.34)	0.02	0.02	0.02	0.05							
6. ECERS-Provisions for Learning	3.89 (0.84)	.054*	-0.01	0.02	0.00	0.05						
7. CLASS-IS	2.26 (0.62)	0.00	-0.02	0.00	-0.04	-0.01	.203**					
8. CLASS-ES	5.29 (0.50)	0.01	-0.02	0.00	-0.04	-0.02	.417**	.505**				

9. CLASS-CO	4.67 (0.64)	-0.03	-0.03	-0.04	-.073**	-0.01	.362**	.491**	.734**			
10. Teacher depressive symptoms	3.77 (4.12)	0.02	0.02	0.00	-0.03	0.04	.063*	0.03	-0.01	.093**		
11. Poverty Status[a]		-.079**	-0.02	.054*	-0.01	0.01	0.04	-0.01	0.04	.054*	0.01	
12. Classroom instability[a]		-0.01	-0.05	0.03	-0.04	0.05	.121**	.091**	.052*	0.02	0.00	0.03

Note. [a]Point-biserial correlation coefficients are presented. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 4

Model Fit Information for LPA

No. of Profiles	No. of Free Parameters	Log-Likelihood	AIC	BIC	a-BIC	Entropy
1	22	-22851.634	45747.267	45864.187	45794.299	--
2	35	-22216.584	44503.169	44689.178	44577.993	0.982
3	48	-21617.404	43330.808	43585.906	43433.423	0.972
4	61	-21073.911	42269.822	42594.010	42400.229	0.888
5	**74**	**-20838.437**	**41824.873**	**42218.150**	**41983.072**	**0.891**
6	87	-20098.819	40371.638	40834.004	40557.629	0.857
7	100	-19549.659	39299.319	39830.774	39513.102	0.917

Note. Dashes indicate criterion was not applicable. Bold indicates model selected. AIC=Akaike Information Criterion; BIC=Bayesian Information Criterion; a-BIC=size adjusted BIC.

Table 5

Standardized Parameter Estimates for 5-Profile Model

	PROFILE 1	PROFILE 2	PROFILE 3	PROFILE 4	PROFILE 5	
Profile Characterizations	Double-jeopardy, low unpredictability *Continuity*	Double-protection, low unpredictability *Continuity*	Compensatory care, low unpredictability *Discontinuity*	Double-protection, high unpredictability *Continuity*	Double-jeopardy, high unpredictability *Continuity*	
Latent Profile Membership Proportions	.19 (n=284)	.64 (n=962)	.08 (n=123)	.08 (n=114)	.01 (n=20)	
PROFILE INDICATORS	WITHIN-PROFILE ITEM MEANS					Differences based on 95% CI
HOME-SF	0.088	-0.069	0.125	0.188*	-0.011	P4 > P2
Authoritative parenting	0.128	-0.055	0.025	0.033	0.258	--
Parent depressive symptoms	-0.083	-0.105**	0.660**	0.143	0.911	P3 > P1, P2 P5 > P2
Home/Neighborhood Violence	-0.131	-0.324***	2.384***	0.154	0.539	P3 > P1, P2, P4, P5 P4 > P2 P5 > P2
Parent-child separations	-0.269***	-0.269***	-0.243***	1.948***	6.425***	P5 > P1, P2, P3, P4 P4 > P1, P2, P3
ECERS-PROV	-0.695***	0.174	0.264	0.078	-0.044	P1 < P2, P3, P4
CLASS-IS	-0.858***	0.272*	0.000	0.073	-0.452*	P1 < P2, P3, P4 P5 < P2
CLASS-ES	-1.244***	0.388***	0.068	0.073	-0.609	P1 < P2, P3, P4 P5 < P2
CLASS-CO	-1.225***	0.410***	0.021	-0.081	-0.641*	P1 < P2, P3, P4

						P4 < P2 P5 < P2
Teacher depressive symptoms	-0.088***	0.012	-0.058	0.164	0.117	--
	CONDITIONAL PROBABILITIES OF "YES" RESPONSE					Differences based on odds ratio
Poverty status	0.581	0.645	0.659	0.634	0.412	--
Classroom instability	0.170	0.237	0.181	0.284	0.168	--

Note. Ave=average; CI=confidence interval; harsh=harshness; P1=Profile 1; P2=Profile 2; P3=Profile3; P4=Profile4; P5=Profile5. Dashes indicate no significant differences. $p < .05$. $^{**}p < .01$. $^{***}p < .001$.

Table 6

Logistic Regression Estimates of Covariates for 5-Profile Model

	PROFILE 1		PROFILE 3		PROFILE 4		PROFILE 5	
COVARIATES	Estimate	SE	Estimate	SE	Estimate	SE	Estimate	SE
Child's sex	0.318	0.342	1.258	0.888	0.298	0.608	0.560	1.878
Program Exposure	-0.999	0.735	-2.586	1.411	0.245	0.728	0.676	1.305
No. child care arrangements	0.460	0.304	0.431	0.449	0.813***	0.390	-16.745***	0.390
Child's race/ethnicity - Hispanic	-32.090***	4.205	-185.597***	3.335	-21.111***	3.973	106.419***	3.335
Child's race/ethnicity - White	-4.235	6.336	-92.392***	2.565	-1.032	1.942	99.167***	1.942
Child's race/ethnicity – African American	32.891***	1.885	-248.647***	2.685	22.401***	1.635	83.608***	1.635
Child's race/ethnicity – American Indian/Alaska Native	7.938***	0.000	-32.480***	0.000	30.603***	0.000	90.260***	0.000
Child's race/ethnicity – Asian/Pacific Islander	1.993***	0.000	-2.145***	0.000	-32.871***	0.000	33.724***	0.000
Child's race/ethnicity – Multi-racial, Non-Hispanic	31.675***	0.000	-180.984***	0.000	22.672***	0.000	74.485***	0.000
Child's race/ethnicity – Other race	138.205***	0.000	-48.597***	0.000	24.461***	0.000	94.599***	0.000
Child's age	-0.016	0.036	-0.069	0.124	-0.083	0.077	-0.581	0.371
Mother's race/ethnicity - Hispanic	32.277***	4.168	1.969	2.421	46.037***	2.237	42.130***	2.421
Mother's race/ethnicity - White	33.755***	5.021	20.211***	1.903	48.449***	1.903	45.386***	1.903

Mother's race/ethnicity – African American	31.896***	2.620	86.345***	2.344	48.150***	2.344	17.706***	2.344
Mother's race/ethnicity – American Indian/Alaska Native	32.506***	0.000	109.961***	0.000	46.135***	0.000	71.140***	0.000
Mother's race/ethnicity – Asian/Pacific Islander	34.143***	4.631	-129.043***	0.000	-35.298***	0.000	-30.697***	0.000
Mother's race/ethnicity – Multi-racial, Non-Hispanic	30.040***	0.000	17.882***	0.000	4.385***	0.000	3.972***	0.000
Mother's race/ethnicity – Other race	7.935***	0.000	3.214***	0.000	2.118***	0.000	3.214***	0.000
Father's race/ethnicity - Hispanic	60.695***	3.774	31.427***	3.774	15.228***	3.774	-34.082***	3.774
Father's race/ethnicity - White	31.236***	5.627	-39.797***	1.642	-5.889***	1.677	-25.065***	1.677
Father's race/ethnicity – African American	-2.521	1.901	51.151***	1.361	-28.439***	1.361	-42.493***	1.361
Father's race/ethnicity – American Indian/Alaska Native	33.782***	5.958	-60.759***	0.000	-32.227***	0.000	-52.648***	0.000
Father's race/ethnicity – Asian/Pacific Islander	-22.511***	0.000	-1.835***	0.000	-6.951***	0.000	6.817***	0.000
Father's race/ethnicity – Multi-racial, Non-Hispanic	-2.962***	0.000	-35.647***	0.000	-25.966***	0.000	-22.794***	0.000
Father's race/ethnicity – Other race	1.583***	0.000	-0.699***	0.000	0.649***	0.000	-0.699***	0.000

Mother's education	-0.150	0.094	0.293	0.240	-0.073	0.135	-0.204	0.232
Father's education	0.155	0.087	-0.043	0.184	0.080	0.163	0.174	0.109
Teacher's gender	-30.274***	0.000	-9.789***	0.000	-8.691***	0.000	-40.130***	0.000
Teacher's race/ethnicity - Hispanic	1.075	0.823	-20.653***	1.054	0.966	1.327	-0.154	1.054
Teacher's race/ethnicity - White	-0.012	0.164	12.012***	0.282	-2.431***	0.099	-1.431***	0.145
Teacher's race/ethnicity – African American	0.089	0.164	11.029***	0.252	-2.216***	0.115	-1.462***	0.252
Teacher's race/ethnicity – American Indian/Alaska Native	-2.286	0.000	-2.141***	0.000	-4.597***	0.000	-3.014***	0.000
Teacher's race/ethnicity – Asian/Pacific Islander	0.120***	0.088	5.589***	0.000	-3.072***	0.000	-2.067***	0.000
Teacher's race/ethnicity – Other race	0.007	0.061	-0.717***	0.000	-1.062***	0.000	-0.451***	0.000
Teacher's education	-0.073	0.157	0.052	0.188	0.258	0.276	-0.414	0.320
Teacher's certification	-0.852	0.696	1.129	0.965	0.576	0.874	1.328	1.164

Note. Profile 2 is reference profile. ***$p < .001$.

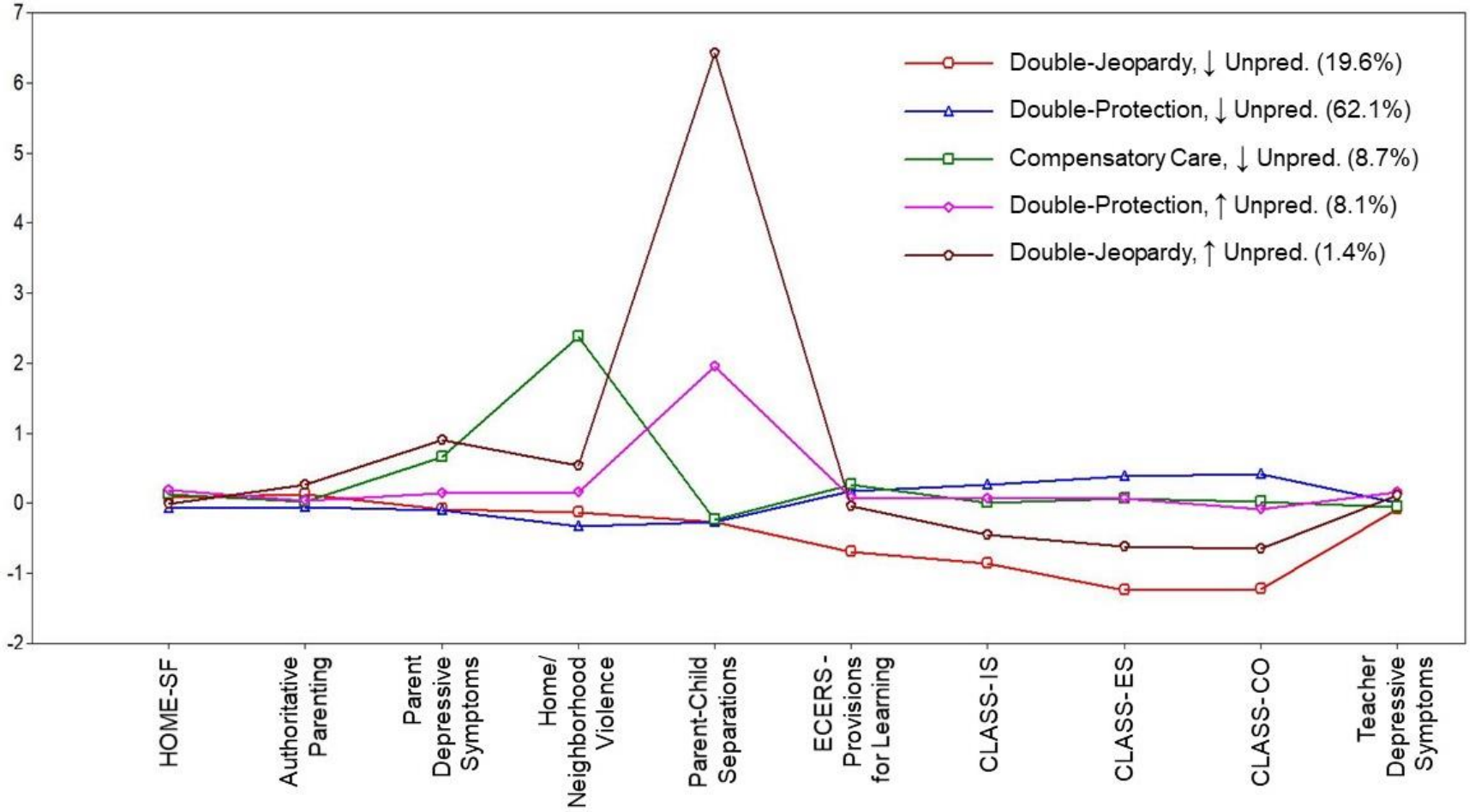
Table 7

Frequency Table for Reasons Given for Parent-Child Separations

Reason	*n*	%
Child went to visit relatives	66	53
Mom traveled or went on vacation	23	18
Mom too sick to take care of child	16	13
Something else (specified)	8	6
Divorce/Separation	3	2
Mom in trouble with the law or in jail	2	2
No explanation given	2	2
Mom did not have money to raise child	1	1
Mom had drug problem	1	1
Mom had mental/emotional problem	1	1
Mom in residential treatment program	1	1
Child's family is homeless	1	1
Mom had drinking problem	0	0
Child abused/neglected with Mom	0	0
Child Welfare Office intervention	0	0
	125	100

Figure 1

Latent Profiles of Environmental Cues from Home and Head Start Classroom



Notes. Categorical indicators are not depicted. See Table 5 for conditional probabilities

CHAPTER III: PATTERNS OF HEAD-START HOME-CLASSROOM (DIS)CONTINUITY & CHILDREN'S SELF-REGULATION

Psychosocial acceleration theory (Belsky et al., 1991) provides a framework for understanding the underlying processes associated with developmental trajectories for lower self-regulation (SR) and higher impulsivity. As opposed to suggesting that early adversity undermines children's development of SR, psychosocial acceleration theory suggests that alternate developmental trajectories, such as lower SR, may be adaptive from a fitness perspective (i.e., ultimate function) such as in harsh and unpredictable contexts. Higher SR involves being future-oriented (i.e., delaying small rewards today for the potential of bigger rewards tomorrow), socially cooperative, and able to sustain focused attention despite distractions (Karoly, 1993; Blair, 2010; Diamond, 2006). However, in the context of low support or resources and high levels of harshness (e.g., in the context of poverty), having lower SR (i.e., remaining present-oriented, more opportunistic, and reactive) may be more adaptive (Blair, 2010; Del Giudice, 2015). This may allow an individual to take advantage of fleeting resources and opportunities, take necessary risks, and compete for and secure limited resources (Blair, 2010; Del Giudice, 2015). Undeniably, lower SR correlates with harsher and more unpredictable contexts during childhood (Blair et al., 2011; Del Giudice, 2015; Hackman & Farah, 2009; Noble, McCandliss, & Farah, 2007). Thus, based on psychosocial acceleration theory, children who received early cues that their environment is high in harshness and low in support and other resources may be adaptively directed towards lower SR and higher impulsivity.

Research under psychosocial acceleration theory has thus far neglected the importance of preschool classroom environments and interactions as impacting the development of adaptive context-specific strategies. Bioecological systems theory acknowledges that both home and

classroom environments are important microsystems for children attending preschool with implications for development (Bronfenbrenner & Morris, 2007). Therefore, coupling psychosocial acceleration theory and bioecological systems theory provides an integrative framework for an evolutionary-developmental investigation into children's early contexts and context-specific outcomes.

Given Head Start programs aim to provide high quality educational experiences (e.g., through high quality environments and teacher-child interactions) for children in contexts of poverty in particular, there is reason to expect a range of similarities and differences in the cues children experience in their home and Head Start classroom environments. Using a nationally representative sample of Head Start children with measures of home and classroom proximal processes and SR, this study seeks to investigate if individual home-classroom profiles representing (dis)continuity in early cues are predictors for Head Start children's SR. Using person-centered analyses to investigate the relationship between preschool children's early cues from home and classroom with adaptive SR outcomes in the context of poverty is novel to evolutionary-developmental research. This study builds on existing research by integrating psychosocial acceleration theory with bioecological systems theory and expanding research on early environmental cues to the increasingly important preschool classroom context, specifically for Head Start children.

Background

Home proximal processes and SR. The proximal processes within the home microsystem such as those between parent and child are the most salient aspects of the environment for children's development (Bronfenbrenner & Morris, 2007), including SR. From a psychosocial acceleration theory perspective, parents' behaviors and styles of parenting may be

more than just undermined by harsh environments, they may serve to direct children's development in adaptive ways to best match the child to their context (Ellis et al., 2009).

Parenting behaviors indicating high levels of environmental support (e.g., warm, supportive and sensitive caregiving), are linked to higher levels of SR in children (e.g., Kopystynska, Spinrad, Seay, & Eisenberg, 2016; Lengua et al., 2014; Mathis & Bierman, 2015; Owen et al., 2013; Piotrowski, Lapierre, & Linebarger, 2013). For example, a study by Kopystynska, Spinrad, Seay, and Eisenberg (2016) demonstrates that observed maternal gentle control (i.e., gentle verbal control/guidance) coupled with observed high levels of maternal sensitivity during toddlerhood, positively predicts children's effortful control (e.g., a specific SR construct used in temperament research). This association was not evident for mothers rated as low in sensitivity. However, these results were specific to a predominantly non-Hispanic, middle-income Caucasian sample and thus, may not be representative of Head Start families who are from lower-income communities.

Another study with a large economically-diverse sample of 306 preschool children and their families demonstrated the association between supportive parenting behaviors and SR (Lengua et al., 2014). Results indicated that observed maternal scaffolding and limit setting largely mediated the positive link between income and children's effortful control, as well as the inverse relationship between cumulative risk and children's effortful control. These results support hypotheses that more distal cues (i.e., socioeconomic status and risk) impact development by directing parent-child interactions, which serve as more proximal environmental cues regarding levels of harshness and support during preschool.

Parenting behaviors indicating high levels of environmental harshness (e.g., harsh and controlling parenting behaviors), and thus a proxy to levels of harshness in the environment,

have likewise been linked to lower levels of SR in children (e.g., Gueron-Sela et al., 2018; Mathis & Bierman, 2015; Piotrowski et al., 2013). Specific to the Head Start preschool population, a study by Mathis and Bierman (2015) speaks to the role of harsh parenting behaviors in directing children's SR as compared to warm-sensitive parenting. In a sample of 210 Head Start preschool children, videotaped parent-child interactions were coded for directive-critical parenting behaviors as well as warm-sensitive parenting. Parents also reported on levels of parenting stress. Children's emotion regulation (i.e., SR of emotion) was measured via teacher-report, and children's attentional control (i.e., SR of attention) was directly assessed. Directive-critical parenting and parenting stress were both linked with lower emotion regulation skills in preschool, and directive-critical parenting was also associated with lower attentional control. No significant findings were found demonstrating a relationship between warm-sensitive parenting and children's SR. These findings suggest it may be the harsh parent-child interactions and levels of parenting stress that shape children's SR for those enrolled in Head Start and in environments characterized by lower levels of support.

The configuration of parenting approaches reviewed thus far (i.e., sensitive/supportive parenting behaviors and harsh/controlling parenting behaviors) could be combined to represent a parent's overall parenting style. Parenting styles as defined in research include classifications of authoritative (i.e., nurturing, consistence support for autonomy), authoritarian (i.e., excessive parental control), and permissive (i.e., notable absence of parental control; Baumrind, 1971). A study by Piotrowski, Lapierre, and Linebarger (2013) examined how parenting style relates to children's SR development in early childhood. This study included 1,141 children ages 2 to 8 years from a nationally-represented sample of English-speaking American families. Results demonstrated a significant relationship between self-reported supportive, nurturing parenting

practices (i.e., authoritative) and higher parent-reported SR, self-reported controlling parenting (i.e., authoritarian) and parent-reported lower SR, and self-reported permissive parenting with the most notable parent-reported self-regulatory deficits. Thus, using parenting styles as predictors of children's SR supports previously reported relationships between observed parenting behaviors and children's SR development.

In terms of the home environment itself, families experiencing low economic resources may be limited in their access and ability to provide cognitively stimulating materials and opportunities for their children, and thus less opportunity to support SR development, as compared to families with more economic resources (for review see Johnson, Riis, & Noble, 2016). Children from low-income families have been shown to have less exposure to varied and complex vocabulary and prolonged conversations, and more exposure to directive speech (for review see Johnson et al., 2016) which may also limit opportunities for practice with and development of SR. The relationship between limited experiences within the home environment and SR development in the context of poverty is demonstrated in a study by Hackman, Gallop, Evans, and Farah (2015). The study sample included 1,009 children and families from the large, national data set, National Institute of Child Health and Development Study of Early Child Care. Results indicated that the quality of the early childhood home environment (e.g., degree of enrichment provided in the home via toys, books, and experiences), measured by the Home Observation for Measurement of the Environment Scale (HOME; Bradley & Caldwell, 1979), partially mediated the positive relationship between SES and executive functions (i.e., a specific SR construct in cognitive research) even after controlling for other candidate mediators (e.g., stressful life events). To account for the role of proximal processes in children's home contexts

and thus for children's SR, measures of parenting styles as well as quality of the home environment as measured using the HOME are included in the current study.

Parent depressive symptoms and SR. Among the factors that may undermine parents' ability to provide warm, supportive, sensitive parenting is a parent's own compromised mental health, such as depressive symptoms. Parent mental health issues, such as depressive symptoms, may be more distal cues to the child regarding levels of harshness and support in the environment (Belsky et al., 2012). Parental depression also impacts a parent's capacity to engage with and provide support to the child. Indeed, the negative relationship between maternal depression and SR in early childhood has been shown to be at least partially mediated through parenting behaviors (Johnson et al., 2016) including less maternal inductive discipline and warmth, for at-risk children in the Midwest (Choe, Olson, & Sameroff, 2013), as well as more harsh-intrusive mother-child interactions in the context of rural poverty (Gueron-Sela et al., 2018). A recent large, national study by Nath, Russell, Kuyken, Psychogiou, and Ford (2016) with 3,520 families in the UK also implicates the relationship between paternal depressive symptoms and children's emotion regulation, mediated by father-child conflict. However, whether and how parental depressive symptoms impact parenting and SR specifically for children in Head Start remains unclear. To account for the role of parent mental health on children's SR, a measure of parent depressive symptoms for the responding parent is included in the current study.

Family income and SR. While low SES may confer high levels of stress on parents and thus effects on child development may be mediated through parenting (Finegood & Blair, 2017), direct effects of material deprivation also impact children's growth and development (Johnson et al., 2016). The impact of material deprivation on children's growth and development may be

compounded by the risk for limited access to nutrient-rich foods that are required for optimal brain development (Johnson et al., 2016). Further, children in low SES environments also come into contact with additional stressors including family conflict, separation, and household crowding (Johnson et al., 2016; for review see Raver, 2004). These levels of stress, experienced by children directly, shape the stress response system including the HPA axis (i.e., changes to neuroendocrine systems) which is implicated in SR outcomes (for review see Finegood & Blair, 2017, and Johnson et al., 2016). Thus, growing up in harsh and unpredictable environments related to poverty may direct children adaptively towards more reactive self-regulatory strategies as compared to peers who are experiencing more supportive, predictable, and better resourced environments. In this study, in addition to measures of the more proximal home environment relevant to shaping children's SR, a measure of family income to capture the impact of poverty beyond that mediated through parenting is included.

Household instability and SR. Emerging research suggests that experiences with unpredictability in early childhood shapes lower levels of SR (e.g., Sturge-Apple, Davies, Cicchetti, Hentges, & Coe, 2017). Unpredictable environments may adaptively direct children towards more present-oriented strategies (e.g., opportunism, impulsivity, reactivity) rather than the future-oriented strategies such as higher SR, effortful control, and delay of gratification (Del Giudice, 2015; Blair & Raver, 2012). Instability within the home environment, such as frequent household moves or caregiver changes, may be an indicator of environmental unpredictability and may be particularly relevant for children living in the context of poverty. For example, in one recent study of 243 children and families with low income by Sturge-Apple, Davies, Cicchetti, Hentges, and Coe (2017), higher levels of family instability (e.g., cumulative caregiver changes and residential changes) was associated with reduced emotionally-driven effortful

control (e.g., quitting a game despite the potential of a prize after experiencing several prior losses). A second set of analyses by Sturge-Apple and colleagues suggests that the link between early instability and effortful control may be mediated through physiological changes to stress response systems that direct children towards more present-oriented SR strategies (i.e., lower effortful control) rather than future-oriented strategies (Sturge-Apple et al., 2017). To account for the role of unpredictability in children's home contexts and thus on children's SR, a measure of household instability is included in the current study.

Home/Neighborhood violence and SR. Children exposed to domestic violence show a host of developmental outcomes linked to psychopathology, including externalizing behaviors and related problems with school and peer relationships (Jouriles, Norwood, McDonald, & Peters, 2001). Research suggests that the link between violence exposure and childhood maladjustment is mediated by lower emotion regulation (Katz, Hessler, & Annest, 2007; for review see Raver, 2004). The link between early domestic violence exposure and children's SR has been connected to changes to children's physiological functioning over time (i.e., less increase in baseline vagal tone; Rigterink, Fainsilber Katz, & Hessler, 2010), which may be adaptively shaped during early development to best cope in harsh environments. Importantly, a recent study focusing on a Head Start sample confirms the link between interparental aggression and lower emotional regulation in preschoolers (Caiozzo, Yule, & Grych, 2018). However, supportive parenting behaviors (i.e., emotion-focused listening and caregiving sensitivity) buffered this association, indicating the importance of considering both supportive and harsh parenting practices and behaviors alongside violence exposure when investigating the relationship between early cues of environmental harshness and support with children's SR.

While domestic violence occurring within the home may be a more proximal experience that particularly impacts children in low-income environments (for review see Johnson et al., 2016), emerging evidence suggests that measures of harshness outside the home may also be salient to children's development, including SR (Raver, 2004). From a psychosocial acceleration theory perspective, conditions of one's neighborhood surroundings may indicate levels of available resources including support from others (Ellis et al., 2009). In recent work investigating the relationship between harsh environmental cues and children's development in a predominately low-income sample, an interviewer-rated measure of neighborhood harshness (e.g., condition of the overall neighborhood block) emerged as a significant predictor of preschool children's effortful control (i.e., a specific self-regulatory construct), even when controlling for family income and harsh parenting (Warren & Barnett, 2020). These results suggest that cues from the neighborhood context may direct children's SR development beyond the impact on proximal processes with parents.

Classroom proximal processes and SR. Research investigating the relationship between aspects of measured classroom quality and children's outcomes in early childhood has been limited to generally modest associations (see Weiland et al., 2013). Often these analyses are conducted using variable-centered approaches such that linear relationships among a few variables are investigated with the assumption that the model is equal for every subject, and are not investigated specific to an individual (Bergman et al., 2006). Investigation of the profiles of children's experiences in both home and classroom environments may contribute to our understanding of the role of classroom cues in the complex home-classroom interrelationships that shape development for specific subgroups of children (Nelson & Garduque, 1991), specifically for SR. Considering the impact of the classroom environment in a person-centered

analysis will help identify how cues from the classroom interact with cues from the home and which particular configurations make a difference for SR.

As in the home environment, there is reason to suspect that aspects of classroom quality such as regular access to cognitively stimulating materials, activities, and interactions supports development of SR, though this has generally been underexplored in the early childhood classroom. One study that did examine the interrelationship between home and school contexts in early childhood was that by Cadima and colleagues (2016). This study of 485 preschool children from Portugal included measures of family risk (i.e., maternal/paternal education, employment, family income level, and household composition), quality interactions in the classroom as measured by the Classroom Assessment Scoring System (CLASS), and children's SR. Similar to children in the U.S., children from lower SES Portuguese families scored lower overall specifically on cool behavioral regulation (i.e., SR of emotionally-neutral behaviors), however not for hot SR (i.e., SR of emotionally-charged behaviors) nor emotion regulation as compared to their more affluent peers. Results indicated that classroom quality (i.e., the composite score across all three domains of the CLASS; Pianta et al., 2008) was positively associated with behavioral regulation and, importantly, was a function of the number of parent-reported family risk factors. Hence, considering how home-classroom experiences interact to shape children's SR is imperative for understanding the full picture of children's early experiences.

High quality teacher-child interactions in early childhood education environments include a mix of both sensitive and responsive caregiving behaviors similar to those between parent and child, and classroom-oriented instruction-focused behaviors (Phillips et al., 2006). Fuhs, Farran, and Nesbitt (2013) investigated specific teacher behaviors in classrooms of 803 ethnically and

racially diverse preschool children from mostly low-income homes. Study results indicated that both affective and cognitively-stimulating teacher behaviors across the preschool year were associated with more gains in children's cognitive SR. Specifically, affective teacher behaviors included more behavior approval and less disapproval, as well as more positive emotional tone, which could be considered congruent with sensitive, supportive caregiving and support for autonomy as provided by parents. Cognitively stimulating teacher behaviors included spending more time delivering instruction, higher quality teacher instruction, and more time allocated to engaging children in academic activities such as math and literacy, which are behaviors more specific to the preschool classroom context. To account for the role of proximal processes in children's classroom contexts and thus for children's SR, measures of the quality of classroom interactions using CLASS, and quality of the classroom environment as measured using another validated measure, the Early Childhood Environment Rating Scale – Revised (ECERS-R; Harms et al., 2005), are included in the current study.

Distal classroom cues and SR. It is less clear how more distal cues from the early childhood classroom impact children's development, particularly under a psychosocial acceleration theoretical lens. As with parents, it is reasonable to hypothesize that teacher's mental health (e.g., depressive symptoms) may impact their ability to provide high quality interactions in the classroom, and that these interactions may mediate the link between teacher well-being and children's development. However, it is still unknown how teacher depressive symptoms in Head Start preschool classrooms relates to children's SR and whether teacher depressive symptoms will serve as a similar environmental cue as found for parents' depressive symptoms. One study investigated early childhood education teacher stress and depression in relation to children's SR, specifically executive functioning. Neuenschwander, Friedman-Krauss,

Raver, and Blair (2017) led this investigation in a sample of 171 kindergarten children in the northeastern U.S. Findings suggest that it is teacher stress that is related to children's executive functions, not teacher depression. Importantly, the sample of Neuenschwander and colleagues' study does not match the population focus in the current study as the majority of children in the sample were non-Hispanic White and had parents with college degrees. Likewise, teachers were also primarily non-Hispanic White with the majority of teachers having master's degrees. Therefore, it is still unknown how teacher depressive symptoms in Head Start preschool classrooms relates to children's SR, and whether teacher depressive symptoms will serve as a similar environmental cue as found for parents' depressive symptoms.

Home-school (dis)continuity and development. With seminal studies identifying compensatory effects of high quality preschool for children in low income communities (e.g., Abecedarian Project [Ramey & Campbell, 1984] and High/Scope Perry Preschool Project [Schweinhart et al., 1993]), there exists an argument that home-classroom *dis*continuity may have benefits for children's development (see Bradley, 2010; Phillips et al., 2006; Shpancer, 2002). Whether those benefits exist specifically for children's SR in Head Start has not yet been investigated.

In an investigation of home-classroom (dis)continuity among 771 low risk, higher income preschool children, Watamura and colleagues (2011) identified four ecological niches for young children: a "Double-Protection" niche (i.e., both home and classroom environments provided higher protective factors), a "Lost Resources" niche (i.e., higher protective factors at home, but higher risk in classroom), a "Compensatory Care" niche (i.e., higher risk from home, but higher protective factors in classroom), and a "Double-Jeopardy" niche (i.e., higher risk factors across both environments). Watamura and colleagues' ecological niches were also associated with

aspects of children's social-emotional development. Children in the "Double-Jeopardy" niche were rated by mothers as having more internalizing and externalizing behaviors than children in any other niche including the reference group (i.e., a group of children with no discernable protective/risk factors in both environments), and fewer prosocial behaviors than children in the "Double-Protection" niche, "Lost Resources" niche, and reference group. Children in the "Double-Protection" niche had fewer mother-reported internalizing behaviors than the reference group. Children in the "Compensatory Care" niche were rated by mothers as having less prosocial behaviors than the reference group, while those in the "Lost Resources" niche did not differ from the reference group. In sum, the results suggest that quality early classroom experiences may matter most for children in less advantaged home environments, and therefore may be particularly the case for those living in poverty.

Current Study

This study integrates bioecological systems theory (Bronfenbrenner & Morris, 2007) and psychosocial acceleration theory (Belsky et al., 1991) and addresses the second dissertation project aim by investigating how profiles of Head Start home-classroom (dis)continuity (i.e., Double-Jeopardy with Low Unpredictability, Double-Protection with Low Unpredictability, Compensatory Care with Low Unpredictability, Double-Protection with High Unpredictability, and Double-Jeopardy with High Unpredictability) relate to individual differences in children's SR. *The study hypotheses were that patterns of home-classroom (dis)continuity that are theoretically promotive of higher SR based on quality experiences in at least one environment (i.e., Double-Protection with Low/High Unpredictability and Compensatory Care with Low Unpredictability) would positively predict SR, while patterns that are theoretically promotive of lower SR (i.e., Double-Jeopardy with Low/High Unpredictability) would negatively predict SR.*

Methods

Despite extant research on children's SR development in early childhood, and literature on how early environmental cues (i.e., experiences) shape development in context-specific ways, this work has yet to integrate information about cues from home and cues from early childhood classroom environments in relation to young children's development of SR. This study fills this gap by investigating early cues from home and Head Start classrooms salient to children's SR development. Previously identified profiles of (dis)continuity (see Chapter II) were used to predict children's SR in preschool using quantitative analysis of secondary data from FACES 2009.

Study sample. This study draws from the same sample of Head Start children, families, and teachers from Head Start Family and Child Experiences Survey (FACES) 2009 as presented in Chapter II. See Chapter II: Methods (p. 24) for full description of study sample.

Treatment of missing data. Missing data analyses are presented in Chapter II: Methods (p. 25). Consistent with the previous study presented in Chapter II, maximum-likelihood estimation for variables was performed in Mplus under the missing at random assumption.

Measures: Early cues from home. See Chapter II (p. 25) for full description of measures from the early home environment used to create person-centered profiles of home-classroom (dis)continuity.

Measures: Early cues from classroom. See Chapter II (p. 28) for full description of measures from the early classroom environment used to create person-centered profiles of home-classroom (dis)continuity. (Note that as in Chapter II, this aspect of the project is more exploratory given the lack of existing research investigating these aspects of early environmental cues in the preschool context.)

Outcome measures. Two outcomes measures were used to represent children's SR: a general measure of cognitive/social SR and a specific measure of executive functions both measured at T2[3].

***Cognitive/Social SR*.** Data from the Leiter International Performance Scale Revised, Examiner Rating Scale (Roid & Miller, 1997) were used to represent children's cognitive/social SR at T2. This measure involves the assessor rating the child's approach to the test situation across 8 subscales, including the child's approach to the assessments, engagement with materials, and ability to attend to and regulate physical and emotional responses. The over-arching standardized scale, Cognitive/Social (i.e., attention, organization/impulse control, activity level, and sociability) was used in this study such that the mean score is 100 with a standard deviation of 15 indicating a child's performance relative to same-age peers (Malone et al., 2013). Internal reliability was .90.

***Executive function*.** Data from the Pencil Tapping Task (Diamond & Taylor, 1996) at T2 were also used to represent a cognitively-based aspect of SR, executive function. Scores reflect the percentage of times children tapped correctly (i.e., higher executive function) across 16 trials (range 0-100). Internal reliability was .86.

Covariates. As in the previous paper presented in Chapter II, a number of covariates were included in the analyses; see Chapter II (p. 29) for a full list of all covariates.

Analyses. The five profiles reflecting home-classroom (dis)continuity in early environmental cues from the previous paper presented in Chapter II, were used to predict SR outcomes at T2 (i.e., cognitive/social SR and executive function). The outcomes analysis used

[3] The measure for executive functions (i.e., Pencil Tapping Task; Diamond & Taylor, 1996) is only administered to children age 4 and older. Thus, T2 data for SR was used given roughly half of children in the sample were age 3 at T1 and therefore did not have complete SR data for T1.

the recommended 3-step BCH procedure (Bakk and Vermunt, 2015; Bolck, Croon, and Hagenaars, 2004) considered optimal for predicting continuous distal outcomes (Asparouhov & Muthén, 2015). Step 1 was conducted in the previously presented paper from Chapter II such that latent profiles of home-classroom (dis)continuity were derived using latent profile analysis (LPA) in Mplus 8.2 (Muthén & Muthén, 2017). Current analyses involved step 2 such that posterior probabilities were derived and used for step 3, which classifies individuals to profiles based on posterior probabilities, and then analyzes effects of profile membership on outcomes. This 3-step BCH approach adjusts for classification error during the outcomes analysis by using the BCH weights derived in step 2 in the outcomes analysis during step 3 (Bolck et al., 2004). Results derived from the 3-step BCH approach reflect pairwise differences between profiles in the means of the continuous outcomes conditional on latent profile classification. Due to the risk of inflated Type I error in running multiple pairwise comparisons, a Bonferroni correction was applied. Wald chi-square test was also used to determine if profiles overall had statistically significant differences for cognitive/social SR and executive function and, thus, were statistically significant predictors of both outcome measures of SR (Nylund-Gibson, Grimm, & Masyn, 2019).

Results

Descriptive statistics and bivariate correlations with the outcome variables are presented in Table 1. Cognitive/social SR and executive function were statistically significantly positively correlated as expected, $r(1505) = .32$, $p < .001$. Cognitive/social SR was also statistically significantly positively correlated with multiple measures of early cues of support from home and classroom: HOME-SF, $r(1505) = .07$, $p < .001$; ECERS-Provisions for Learning, $r(1505) = .08$, $p < .001$; CLASS-CO, $r(1505) = .07$, $p < .01$. Cognitive/social SR also had unexpected

though small statistically significant correlations in opposite directions with authoritative parenting, $r(1505) = -.07$, $p < .001$, teacher depressive symptoms, $r(1505) = .06$, $p < .01$, and classroom instability, $r(1505) = .06$, $p < .01$. Executive function, however, was only statistically significantly positively correlated with HOME-SE, $r(1505) = .06$, $p < .01$, and CLASS-IS, $r(1505) = .06$, $p < .01$.

Effects of profile membership on outcomes are presented in Table 2. There were no statistically significant pairwise differences between profiles for either outcome measures. Wald Test results confirmed that there was insufficient evidence that cognitive/social SR and executive function outcomes differed overall across profiles, $\chi^2(8, n = 1502) = 9.45$, $p < .05$.

Discussion

Though existing research links early childhood experiences in the home and classroom environments separately with children's SR, how children's experiences in those two environments interact to shape development is less clear. Using previously derived profiles of home-classroom (dis)continuity, this study investigated whether the complex interrelationships between early cues from home and classroom microsystems adaptively shape SR in context-specific ways. The study hypotheses were that profiles representing early home-classroom cues theoretically promotive of higher SR would statistically significantly predict higher SR in preschool, while the profile theoretically promotive of lower SR would statistically significantly predict lower SR. Hypotheses were not supported by the current study analyses. In fact, there were no statistically significant differences in SR across the profiles. Potential explanations for and implications of null results are discussed next.

Economically homogenous sample. The current study focused on a high risk and relatively economically homogenous population of children, families, and their teachers in Head

Start. In this sense, the current study results are not representative of the general population. Though investigating home-classroom (dis)continuity in the context of poverty is particularly important, this sample demographic may also serve as a limitation when considering the potential for variation in children's SR. Despite having enough variation in early home and classroom experiences to derive distinct profiles of early home-classroom experiences, variation in measures of SR was limited. Undeniably, low socioeconomic status in early childhood is robustly linked to lower SR (Blair et al., 2011; Hackman & Farah, 2009; Noble et al., 2007) and these effects persist through childhood (Hackman et al., 2015). It may be that analyses of a nationally representative sample, and thus more socioeconomically diverse, would better be able to detect links between home-classroom profiles and SR outcomes. Given no other studies investigate profiles of early home-classroom (dis)continuity, this cannot yet be determined. Future studies should further explore the potential for links between home-classroom profiles and SR using a more economically heterogeneous sample.

Salient cues of environmental harshness. Additional questions the current null results raise are theoretical ones and tie back to the exploratory aspect of the project, namely the measurement of early cues from the preschool classroom. These questions concern whether the early Head Start classroom experiences measured in the current study are in fact representative of the early cues that are salient to adaptive self-regulatory strategy development, particularly for children in poverty. Though the classroom measures in the current study have been linked to children's SR outcomes either directly through research in early childhood classrooms (e.g., classroom interactions and classroom quality; Cadima et al., 2016; Fuhs et al., 2013) or in parallel through research within the family context (e.g., depressive symptoms; Nath, Russell, Kuyken, Psychogiou, & Ford, 2016), whether these experiences serve as cues regarding the

anticipated adult context that direct SR in context-specific adaptive ways is still unclear. Current work investigating early cues of harshness and support are limited to cues from the family home included in the current study (e.g., Warren & Barnett, 2020). However, cues from the early childhood classroom, argued here to be investigated as potential early cues of anticipated harshness and support, are as of yet largely unconsidered in research using psychosocial acceleration theory. One study outside of this theoretical framework, the Head Start CARES Demonstration, investigated the impact of three classroom-based interventions aimed at positively impacting children's social-emotional outcomes (Morris et al., 2014). Despite successfully raising the levels of classroom quality over the course of the interventions, no statistically significant effects were found on children's scores on the Pencil Tapping Task (i.e., SR; Morris et al., 2014). As such, if there are early cues regarding environmental harshness and support that come from the Head Start preschool classroom that are salient to adaptive SR development, perhaps the current study measures of classroom quality are not capturing how children receive those cues.

Evolutionary-developmental theorists argue that SR is a human adaptation and product of human evolution that emerged to address the specific societal problems that came with living in complex social groups (e.g., social exchange and social self-defense; Barkley, 2001; Heatherton, 2011; MacDonald, 2008). As such, perhaps more interpersonal interactions between the teacher and each child (like those between parent and child) are needed as opposed to measurement of overall classroom quality and globally-measured classroom interactions. Likewise, considering the inclusion of a measurement of peer-to-peer interactions in the classroom context, a precursor and microcosm of children's future societal interactions, may allow for better capturing cues of social harshness and support that may be salient to adaptive SR development. Future studies

should further explore these alternative measures of cues of harshness and support in the early childhood classroom in relation to the development of life history strategies in general, as well as SR development specifically.

As a further note, it is possible that early environmental cues that shape adaptive developmental trajectories may already be captured through measurement in the home environment. In other words, it may be Head Start's positive impact on parenting and the home environment itself, through the two-generational approach and family engagement practices (U.S. Department of Health and Human Services, 2016), that is ultimately impacting children's early cues and associated adaptive outcomes. Given the current study measures included data from the spring semester of children's preschool year, it may be that cues from home have already been impacted by the family's involvement in Head Start's family engagement practices throughout the school year. Note that the current study's null results do not directly suggests these conclusions, but rather raise such questions.

Conclusions & Implications

This paper aimed to examine whether children's home-classroom profiles reflecting early cues of environmental harshness and support predict adaptive SR. There was not sufficient evidence to support the study hypotheses. Despite null results, this paper serves to further inform future investigations of how children's early classroom experiences interact with early home experiences to shape SR by offering questions and next steps for future investigation. Among these suggestions is to further consider which experiences (i.e., cues) in the early classroom are most salient for SR under psychosocial acceleration theory given early childhood classrooms were not a relevant context when SR emerged in human history. Further, the necessity of future investigations to use a less economically homogenous sample (i.e., a sample with a wider range

of early environment cues from home and classroom) to detect links between early home-classroom profiles and SR was argued. In sum, null results of this study provide important information for future investigations of this, as of yet, largely uncharted theoretical territory.

Table 1

Descriptive Statistics and Bivariate Correlations for All Profile Indicators and Outcomes

	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13
1. HOME-SF	13.27 (2.27)													
2. Authoritative parenting	3.53 (0.57)	.02												
3. Parent depressive symptoms	4.40 (5.37)	-.01	.04											
4. Home/ Neighbor. violence	0.63 (1.14)	.04	.03	.16**										
5. Parent-child separations	0.20 (1.34)	.02	.02	.02	.05									
6. ECERS-Provisions for Learning	3.89 (0.84)	.05*	-.01	.02	.00	.05								
7. CLASS-IS	2.26 (0.62)	.00	-.02	.00	-.04	-.01	.20**							
8. CLASS-ES	5.29 (0.50)	.01	-.02	.00	-.04	-.02	.42**	.51**						
9. CLASS-CO	4.67 (0.64)	-.03	-.03	-.04	-.07**	-.01	.36**	.49**	.73**					

10. Teacher depressive symptoms	3.77 (4.12)	.02	.02	.00	-.03	.04	.06*	.03	-.01	.09**				
11. Poverty status[a]	--	-.08**	-.02	.05*	-.01	.01	.04	-.01	.04	.05*	.01			
12. Classroom instability[a]	--	-.01	-.05	.03	-.04	.05	.12**	.09**	.05*	.02	.00	.03		
13. Cognitive/ Social SR[b]	89.19 (0.37)	.07**	-.07**	-.02	.04	.01	.08**	.02	.04	.07*	.06*	-.01	.06*	
14. Executive function	49.60 (0.90)	.06*	-.03	-.03	.01	-.01	.00	.06*	.04	.07*	.05	-.02	.00	.32**

Note. Neighbor. = Neighborhood. Dashes are presented in place of *M* and *SD* for binary variables. [a]Point-biserial correlation coefficients are presented. [b]Based on standardized scores. *$p < .05$. **$p < .01$. ***$p < .001$.

Table 2

Effects of Profile Membership on Outcomes

Latent Profiles	1 Double-jeopardy, low unpredictability *Continuity*	2 Double-protection, low unpredictability *Continuity*	3 Compensatory care, low unpredictability *Discontinuity*	4 Double-protection, high unpredictability *Continuity*	5 Double-jeopardy, high unpredictability *Continuity*
Latent Profile Membership Proportions	.19 (n=284)	.64 (n=962)	.08 (n=123)	.08 (n=114)	.01 (n=20)
OUTCOMES			*M (SE)*		
Cognitive/Social SR	87.19 (0.90)	89.12 (0.51)	89.76 (1.41)	91.09 (1.36)	86.93 (2.93)
Executive function	46.30 (2.21)	50.10 (1.23)	51.98 (3.27)	53.56 (3.74)	41.47 (7.08)

CHAPTER IV: HEAD START PARENTS' AND TEACHERS' PERCEPTIONS OF HEAD START HOME-CLASSROOM (DIS)CONTINUITY

Background

The bioecological model acknowledges the importance of proximal processes within different microsystems, such as home and early classroom environments, for children's development (Bronfenbrenner & Morris, 2007). Relatedly, psychosocial acceleration theory conceptualizes these proximal processes as serving as early environmental cues that aim to direct children's development in adaptive, context-specific ways (Belsky et al., 1991). However, psychosocial acceleration theory has largely only been applied to children's early home environments. Given that preschool children spend considerable time in their classroom environment, it is important to examine the role that the classroom context plays in adaptively shaping development in context-specific ways.

High quality experiences (i.e., cues of support) in both the home and the preschool classroom positively impact young children's outcomes (e.g., Cadima et al., 2016; Lengua et al., 2014) and are therefore important for development. Researchers and practitioners alike often emphasize continuity in children's care as important for young children's growth and development (Bradley, 2010; van Ijzendoorn et al., 1998). However, research also suggests that high quality experiences in one environment can have a compensatory effect on development for children with low quality experiences in another environment (i.e., discontinuity that is compensatory), such as for children living in poverty and enrolled in Head Start preschool programs (e.g., Watamura et al., 2011). Further, providing a diversity of experiences for children across the home and childcare classroom contexts (i.e., discontinuity that is complementary) may have benefits for children (Shpancer, 2002). Thus, (dis)continuity in cues from the home and classroom microsystems may have implications for children's development.

Parents and teachers may influence the amount of (dis)continuity children experience (Shpancer, 2002), which may in part be driven by their own perceptions about its importance for children's proximal processes and development. For example, parents and teachers may seek to influence one another's practices (i.e., proximal processes with children) if they believe home-classroom continuity is important for children. Similarly, parents and teachers may be more inclined to work together towards home-classroom continuity (e.g., through parent-teacher communication, parent-teacher partnership) to promote positive impacts on children's developmental outcomes. Considering this possibility, Head Start's two-generation approach and emphasis on family partnership (U.S. Department of Health and Human Services, 2016) may set a foundation for home-classroom continuity through practices aimed at influencing higher levels of quality across children's home and preschool classroom environments in the context of poverty. Therefore, understanding parents' and teachers' perspectives about the importance of home-classroom (dis)continuity may build an understanding about the ways parents and teachers serve as agents in children's experiences of (dis)continuity via proximal processes.

Current Study

This study integrates bioecological systems theory (Bronfenbrenner & Morris, 2007) and psychosocial acceleration theory (Belsky et al., 1991) and addresses the third dissertation project aim by investigating Head Start parents' and teachers' perceptions about the importance of home-classroom (dis)continuity for children's proximal processes and development. This approach allows for capturing lived experiences from the perspective of parents and teachers that may help further describe and explain the overall dissertation project's theorized processes in action. As such, this study aims for complementarity alongside the project's previously presented quantitative analyses.

Methods

Qualitative data were collected to elucidate how early home-classroom (dis)continuity is perceived by parents and teachers within a targeted local Head Start community. Soliciting first-hand perceptions from Head Start teachers and families within a specific community serves to inform local Head Start practices, particularly for teacher professional development and parent-teacher partnerships, and serves to stimulate national conversations and future research on this topic. Qualitative data (i.e., focus group interviews) were collected from a targeted local Head Start subpopulation in collaboration with the community partner, a non-profit Head Start grantee delivering programming across five counties in a southwestern U.S. state. Internal Review Board (IRB) and community partner approval on all study procedures, including recruitment, was received prior to study implementation.

Recruitment. Recruitment was conducted in the community partner's large service delivery area, a southwestern metropolitan area. Head Start parents and teachers were recruited for participation using convenience sampling. Eligible Head Start parents included mothers, fathers, and legal guardians aged 18 years or older, with a 3-5 year old child who lived with them and was currently attending a center-based, full-day or part-day Head Start program in the targeted service area. One parent or guardian per child was eligible to participate. Eligible Head Start teachers included both lead teachers and co-teachers (i.e., assistant teachers) aged 18 years or older who worked in center-based Head Start classrooms administered by the community partner in the targeted service area.

To recruit Head Start parents and teachers, recruitment flyers in English and Spanish were sent out via the community partner's Head Start listserv as well as posted in Head Start centers in the targeted southwest metropolitan area (see Appendix A). The flyer directed

interested parents and teachers to contact the research team at the university via a dedicated office phone line who then provided further details about participation, answered questions, and screened prospective participants for eligibility. Areas with low response rates to the flyers were selected for in-person recruitment by the research team at previously scheduled teacher and/or parent meetings and family events.

Data collection. Initial registration for participation included an online Qualtrics survey for participant screening and collection of contact information, demographic characteristics, and participant availability. Participants either accessed the online Qualtrics survey themselves, or completed the survey over the phone with a trained member of the research team. Pre-scheduled focus group options were offered via the online survey for pre-registration based on the participant's role (i.e., teacher or parent) and language needs (i.e., English or Spanish). If the participant indicated they could not attend any of the pre-scheduled focus group options, they were prompted to provide their availability, including days of the week, times of the day, and locations across the metropolitan area. The full Qualtrics survey is included in Appendix B.

Qualitative data were collected through focus group interviews with Head Start parents and teachers separately. Focus groups allow researchers to get a range of perceptions and feelings that people have about a topic, and can help shed light on quantitative data (Krueger & Casey, 2014). Qualitative data collection using focus groups (as opposed to one-on-one interviews) was preferable given the focus group topic (i.e., Head Start home-classroom [dis]continuity and children's SR) may not be top of mind for participants. Discussing these complex topics via focus groups may allow participants to explore the topic through a group dynamic where participants' memories and insights may be sparked by hearing responses from others with similar or different experiences (Krueger & Casey, 2014). Further, the aim of this

study was to gather data regarding Head Start teacher and parent perceptions on the importance of home-classroom (dis)continuity and children's development rather than gather detailed data on individual specific experiences (Krueger & Casey, 2014) which are captured at a national level in paper 1.

As recommended by qualitative researchers, each focus group aimed to include an average of eight participants (Guest, Namey, & McKenna, 2017; Krueger & Casey, 2014). The number of focus groups is optimally determined by aiming for data saturation (Guest et al., 2017; Krueger & Casey, 2014). Data saturation occurs when adding an additional focus group no longer contributes to the data in terms of gaining new information or insights. Aiming for data saturation must be weighed against study resources and feasibility. Recent research suggests that using 2-3 focus groups per layer will capture about 80% of themes among relatively homogenous populations, while 3-6 focus groups will likely capture about 90% of themes (Guest et al., 2017). As such, the current study aimed to recruit participants for 3-4 focus groups for parents and for teachers, for a total of 6-8 focus groups. This plan was based on a balance of best practices, study priorities of the community partner, and feasibility of recruitment among each category based on size of population, demographics, and logistics.

Development of the question route. A question route (i.e., collection of focus groups questions and discussion prompts) was drafted to represent a series of focus group questions that the research team and community partners anticipated would help address the research question. Questions were divided into the following categories based on focus group best practices (Krueger & Casey, 2014): opening questions as an icebreaker (e.g., parents: *Tell us your name* [later exchanged for a pseudonym] *and how many of your children have gone to Head Start*.; teachers: *Tell us your name* [later exchanged for a pseudonym] *and how many years you have*

lived in [the metropolitan area].), introductory questions to introduce the topic and induce reflection (e.g., parents: *What is one thing you really enjoy or appreciate about your child's classroom*?; teachers: *What is one thing you really enjoy or appreciate about teaching in your classroom*?), transition questions to move conversation to key topics (e.g., parents and teachers: *Let's brainstorm together: what are some things that are different between children's home and classroom?*), key questions that drive the study (e.g., *When you look at the list of home-classroom differences, which do you think are helpful/unhelpful for children?),* and ending questions to bring closure to the discussion (e.g., *Is there anything else you want to add?*). Each section had an estimated time required indicated on the question route to help guide the focus group facilitators. The full focus group question route is presented in Appendix C.

The question route underwent review and feedback prior to being used in focus groups, including consultation with a research mentor with experience in qualitative data collection. The question route was semi-structured and designed to invite sharing of honest perceptions and experiences to the extent possible. Focus group interview procedures guided by Krueger and Casey (2014) were reviewed and approved by the community partner prior to the start of the study to ensure they were matched appropriate to the sample (e.g., uses language familiar to Head Start teachers and parents, honors the culture and values of families and teachers in the Head Start community). Once the question route was finalized, it was translated into Spanish by two bilingual research team members to accommodate Spanish-speaking participants; feedback was solicited from the community partners' staff members fluent in both English and Spanish before finalization and implementation.

Focus group interview procedures. All focus groups were scheduled by the research team based on participant scheduling and location needs. Reminder emails and phone calls were

provided to participants by a member of the research team one or two days ahead of the scheduled interview. All English-language focus group interviews were conducted by the principal investigator (PI) with the support of a trained undergraduate research assistant. A trained bilingual member of the research team (e.g., graduate research assistant) conducted all Spanish-language focus groups (with the support of a trained bilingual undergraduate research assistant when possible). Focus group training of all research staff included the following activities: assigned readings from Krueger and Casey's (2015) chapter "Moderating Skills", research team meeting and discussions regarding procedures and bias, and research team meeting practice sessions for each member to practice assigned facilitation duties. Further, debriefing of the focus group facilitation team (i.e., moderator and assistant) during team meetings served to identify areas for further training and refinement.

Focus group locations were identified in partnership with the community partner aimed towards venues that were comfortable for parents and teachers in the community (e.g., enclosed meeting rooms at Head Start sites or public libraries with enclosed meeting spaces), that could accommodate a 1.5-hour focus group interview of about eight people with minimal distractions and interruptions, and that allowed for drinks and snacks provided for participants by the research team. At the start of the focus group interview meeting, participant consent forms were reviewed by the moderator following IRB-approved procedures and consent was obtained. All focus group interviews were audio-recorded for later transcription. After the focus group interview was complete, all participants signed an incentives receipt form and received $20 in cash for participation.

Researcher bias and reflexivity. Researchers strive to avoid researcher bias in order to maintain objectivity, yet it is fundamentally unavoidable (Daly, 2007). All decision-making

points within research are made by people who inherently come to the work with their own experience, epistemological beliefs, identity, social position, voice, etc. (Daly, 2007). In qualitative research in particular, where the researcher is collecting data in the form of experiences, perceptions, and insights directly from individuals in the community, one's own biases must be addressed. In this project, the PI engaged in reflexive practices to examine and monitor the role she played in shaping the research outcome. Specifically, this reflexive practice included the use of journaling periodically throughout the project (Bergman, 2008). This journal provided an opportunity to reflect on experiences, beliefs, identity, social position, and voice (e.g., that may stem from extensive work professionally in early childhood education; Bergman, 2008).

Journaling activities took place before and after various research activities. For example, prior to conducting focus groups, the PI engaged in reflexivity by writing about her own assumptions, experiences, and beliefs regarding the focus groups questions and considered how those may play into the way she prioritizes individual voices and experiences during focus groups. To address this bias potential, the PI incorporated the use of paraphrasing throughout the focus group facilitation. During facilitation, the PI regularly restated participants' comments to help lower the possibility that a comment would get overlooked. This is an active listening strategy that allows participants to hear their own comments said back to them and provide an opportunity to say more or provide more detail, particularly when the statement may not be matched with the PI's anticipated themes. After conducting focus groups, journaling focused on ways the PI's own physical presence and social position may have influenced the focus group discussion and the data that were collected. For example, prior to facilitating focus groups, the facilitation team agreed that it may be important to plan for clothing that does not distract

attention or perpetuate division between facilitators from the university and participants (e.g., "business casual," subdued fashion without obvious branding, somewhat monotone or muted colors, avoidance of unneeded or distracting jewelry, etc.). During post-focus group journaling, the PI reflected that this dress code was comfortable in focus group settings and somewhat resembled the dress code of the local library staff and some participants. Therefore, this attention to facilitator dress code was continued throughout focus groups. However, journaling also acknowledged that the PI's position within the university itself could not be entirely forgotten or erased (nor, necessarily should it be given the role of PI for a research project) and that participants may feel inclined at times to use language or express ideas they think the PI is looking for or would approve. In this sense, and as stated earlier, bias was not entirely avoidable.

The PI and facilitator of the Spanish-language focus groups also engaged in joint journaling activities during facilitation training meetings and debriefings. For example, after jointly reviewing the focus group question route, both facilitators took 15 minutes to journal about how they foresee their own experiences in early childhood education classrooms influencing their facilitation. Engaging in ongoing reflexivity in these ways allowed the facilitators to scrutinize the mediating roles they play in the data collection and research results (Daly, 2007).

Further, the undergraduate research assistants engaged in training about researcher bias and were led through reflective activities during team meetings prior to focus group facilitation. These activities included a slide presentation developed by one of the undergraduate research assistants to the group on researcher bias, a discussion about how researcher gender may impact research with early childhood teachers and parents (most of whom would likely be female), and a team planning activity focused on how to dress for focus group sessions.

Ethical treatment of human subjects. Several steps were taken to ensure that participants experienced minimal risk from participation in this study. All personnel involved in the project underwent IRB-approved ethics training and certification. This study received Exempt Approval by the University IRB. Participants went through IRB-approved consent procedures prior to participation which stated that participation was not connected to their receipt of any services from Head Start or the university. Participants were assigned a pseudonym[4] which was used as the personal identifier in data records; records containing identifying information (e.g.., consent forms) were kept confidential and separate from data (e.g., focus groups transcripts, demographic information). Participants were told that they could refrain from responding to any questions during participation and could end participation at any point.

Analyses

Transcription and translation (if applicable) of the audio recordings for all focus groups were completed by an external professional service. Once transcriptions were received, one research team member conducted quality checks on each English-language transcript to ensure that the transcribed data matched the audio recordings; the PI used the quality check to finalize the transcripts for analysis. For the Spanish-language translations, one bilingual team member conducted the quality check by reviewing the Spanish transcription against the audio-recording and then reviewing the Spanish and English transcriptions.

Transcribed and translated data were analyzed using qualitative content analysis. Qualitative content analysis allows for the systematic classification of text-based data such as with transcribed focus group data (Mayring, 2004; Hsieh & Shannon, 2005). Systematic steps of

[4] Pseudonyms were assigned based on the first letter of the participant's first name. Alternate names were chosen based on other popular first names produced by a baby name website (babynamewizard.com) that was not a match to any other participant's real first name. Since all participants identified as female, names were chosen based on the website filter for "girls." Assigned pseudonyms were manually replaced in transcripts prior to data analyses.

analysis as guided by Mayring (2004) included the following sequence: centering of the research question, determination of category definitions and levels of abstraction for deductive and inductive categories, step-by-step formulation of inductive categories out of the data, reliability checks and revision of categories (three rounds), and interpretation of results. Qualitative content analysis has been described as an approach that allows researcher to "stay closer to their data (Sandelowski, 2000, p. 338)" and thus is appropriate for an investigation of parents' and teachers' own perceptions of home-classroom (dis)continuity. To address verifiability of qualitative data analysis, focus group facilitators engaged in the process of reflexive practices (see ***Researcher bias and reflexivity*),** which further documented researcher bias and the awareness of and plan to adjust for selective perception during focus group facilitation and analyses (Krueger & Casey, 2014).

The data coding process for each focus group using a combination of deductive (i.e., literature-based formation of codes) and inductive category development (i.e., data-based formation of codes) was conducted using NVivo 12 software (Richards, 1999). Codes were documented by the PI using a codebook that included the hierarchical organization of codes, code names, code descriptions, and coding notes or examples (see Appendix D). A double-coding process was used by trained members of the research team such that all transcripts were coded twice: once by the PI and once by another trained member of the research team. All transcripts were coded by at least one member of the research team (e.g., PI or undergraduate research assistant) who was present during that specific focus group and thus would have the ability to recall the progression and tone of the focus group discussion. Similar to the training provided for conducting focus groups, the PI led the research team through assigned readings describing the steps of the data-coding process, discussions about coding procedures and

reliability, practice sessions using NVivo 12 during team meetings, and revisions of codes or codebook based on team discussions and feedback. Discrepancies in coding were identified in each transcript by running a reliability check between the two coders in NVivo 12. Discrepancies were then reconciled during research team meetings where the two coders discussed their understanding of the data and codes until consensus was reached, with revisions and clarification made to the codebook if needed. Coding progressed over three rounds such that first higher level hierarchical codes were applied to the data (i.e., differences versus similarities), then the more specific coding level for "differences" was applied, and finally the more specific coding level for "similarities" was applied. The double-coding, reliability check, reconciliation of discrepancies, and revision of codes cycles were completed over each of the three rounds.

The PI completed the final phase of analysis by reducing coded data to main categories and meaningful interpretation to address the research question. During this final phase, the PI consulted with research team members and mentors regarding findings and interpretations. Each stage of data analysis involved continual centering of the collaborative research question to ultimately identify the most salient themes in the data that provide a cohesive picture representing Head Start parents' and teachers' perceptions and experiences with home-classroom (dis)continuity and its importance for children's proximal processes and development.

Results

Sample. A total of 31 parents and 21 teachers registered online or via phone for participation; all registered prospective participants were offered the opportunity to participate in focus groups in their immediate or surrounding area. Of those registered, 13 parents and 19 teachers successfully completed participation. Challenges for parents in particular to successfully complete participation included limited availability that matched up with other prospective

participants in their immediate area, limits on transportation to alternate focus group sessions in surrounding areas, and participant cancellations or no-shows, which in several cases were repeated after rescheduling. When a participant cancelled or did not show up to their scheduled focus group, a reschedule was attempted at least once.

All participants were female. A total of 85% percent of parent participants were mothers and 15% were grandmothers, with participant age ranging from 24 to 74 years (M_{age} = 36 years, *SD* = 13.85 years), and 77% self-reporting as Hispanic. All parent participants reported annual household incomes below $35,000, and 85% had children enrolled in part-day Head Start programs. A total of 65% of teacher participants were lead teachers while the rest were co-teachers, and 95% were Hispanic. Participating teachers also had a range of Head Start teaching experience (Range = 0 – 29 years, *M* = 11 years, *SD* = 9.21 years) and were dispersed across annual household income levels. The majority of participating Head Start teachers either currently or previously had children of their own enrolled in Head Start. Detailed participant demographics for parents and teachers are presented in Table 1.

Focus Groups. Nine focus groups were facilitated in the fall of 2019. A light breakfast (i.e., muffins and grapes) and water bottles were provided at focus groups facilitated in the morning; a light meal (i.e., pizza) and water bottles were provided at focus groups facilitated during the afternoon and evening. All participants were given a $20 cash incentive.

A total of 13 Head Start parents participated across five focus groups, with three conducted in English and two in Spanish. Parent focus groups were held at varied times on varied weekdays to match with parents' expressed availability and were held at Head Start schools and public libraries dispersed in the local community. Each parent focus group had 2-3

parents present with the focus group discussion itself lasting an average of 60 minutes (the welcome and consent process were not audio-recorded or transcribed).

A total of 19 Head Start teachers participated across four focus groups; all teacher focus groups were conducted in English (this was determined appropriate by the research team and community partner based on the English-fluency of Head Start teachers in the community). Teacher focus groups were held in the evenings on varied weekdays to match with teachers' expressed availability at public libraries throughout the community, with one focus group held at the local Head Start administration building. Each teacher focus group had 3-8 teachers present with the focus group discussion itself lasting an average of 68 minutes.

Discontinuity. The majority of focus group conversations among both parents and teachers focused on aspects of home-classroom discontinuity[5]. Main themes and representative quotes related to parent and teacher perceptions of home-classroom discontinuity are presented in Table 2. Most of participants' discussions were about examples of home-classroom discontinuity that were seen as helpful (as opposed to unhelpful) across both parent and teacher focus groups as evidenced by the number of qualitative passages coded to each theme.

Helpful discontinuity. Parents and teachers both talked about times when home-classroom discontinuity was seen as helpful for children. Parent's and teachers' perceptions about why home-classroom discontinuity is sometimes helpful fell into three main categories: (1) differences in what children experience in the home and the classroom are complementary (i.e., experiences in both contexts add to or build upon one another to support development), (2)

[5] As identified in the question route (Appendix C), the *transition questions* asked participants to first brainstorm examples of home-classroom differences and similarities (i.e., discontinuity and continuity) which served as the backdrop to the *key questions* focusing on whether home-classroom (dis)continuity is (un)helpful for children. Examples of differences discussed in parent focus groups included adult efficacy; behavior support and management; interactions; learning opportunities; modeling; and schedules, routines and expectations. Examples of differences discussed in teacher focus groups included behavior support and management; goals; interactions; learning opportunities; schedules, routines and expectations; and safety.

differences in what children experience are compensatory (i.e., experiences in one context addresses or makes up for a deficit in the other context), and (3) differences in what children experience in the home and classroom are helpful for building children's resiliency, adaptability, and flexibility. The vast majority of parent's discussions about helpful discontinuity focused on differences being complementary, with only one parent who expressed discontinuity as potentially compensatory. Among teacher focus groups, the instances of discontinuity perceived as complementary versus compensatory were fairly balanced. Discussions about home-classroom discontinuity were categorized as complementary when parents or teachers described both contextual experiences as positive for children's development.

> Parent quote: *And I feel like, I don't know, it's good to have different modeling.*
>
> Teacher quote: *It's different when you're dealing with your sibling that's older than you whereas when you're dealing with somebody the same age, that conflict resolution is different and they learn from their peers and then as teachers we model for them how that is to go.*

Differences were categorized as compensatory when parents or teachers described one contextual experience as deficient in supporting children's development and the other environment as compensating for that deficiency.

> Parent quote: *As one who grew up in a very abusive environment, I think having at least one positive thing really helps you stay on track.*
>
> Teacher quote: *They might feel more safe at school with us because we're consistent, we have a routine. And when they go home sometimes, with the family dynamics, it could make them feel like, 'Who's here? Who's going to pick me up?*

A few participants (in two parent focus groups and in one teacher focus group) talked about discontinuity as important specifically for building children's resiliency, adaptability, and flexibility which was seen as beneficial.

Parent quote: ...*because they got to learn that not everything is always going to be the same. They've got to learn how to roll with new and different.*

Teacher quote: *It builds resilience I think. I think it just builds resilience because life isn't just one path. There's many ways to get from point A to point B…*

Unhelpful discontinuity. Parents and teachers both talked about times when home-classroom discontinuity was seen as unhelpful for children. Parents' and teachers' perceptions about why home-classroom discontinuity is sometimes unhelpful fell into one main category: home-classroom inconsistency works against what is being taught and/or valued (e.g., skills, behaviors, school-readiness), and this is likely confusing for children. Unhelpful discontinuity was discussed in three parent focus group conversations, and across all four teacher focus group conversations.

Parent quote: *Sometimes it can kind of be tough because when I go back to when he picks up certain behaviors [from other children in the classroom], and I try to teach him differently, and then I notice certain outbursts [at home] and they're just different [from what I'm teaching him]*.

Teacher quote: *That's especially if they miss school. If they miss school and they come back, there's that resistance again and you're starting all over again. It's just unfortunate… Take a couple of steps forward and they take five steps back when they miss school.*

Context-switching. There were a few times when home-classroom differences were seen as neither helpful nor unhelpful because participants believed children were easily able to switch contexts and adapt to differences between the home and classroom without consequence. Children's ability to easily context-switch came up once during one parent focus group, and several times across two of the teacher focus groups.

> Parent quote: *I think it's okay because as kids, you constantly have to repeat, repeat, repeat until they finally understand it and they say, okay, this is when it's okay and this is when it's not okay.*
>
> Teacher quote: *I do think that it's just different, it's different, but it doesn't really hurt them. It's just that they know that at home or at school, they're one way and at home they're another way.*

Continuity. Notably less focus group conversations among parents and teachers focused on aspects of home-classroom continuity[6]. Main themes and representative quotes related to parent and teacher perceptions of home-classroom continuity are presented in Table 2. The majority of conversations about home-classroom continuity among both parent and teacher focus groups was spent on aspects of home-classroom continuity that was seen as helpful (as opposed to unhelpful) for children as evidenced by the number of passages coded to each theme.

Helpful continuity. Parents and teachers both talked about times when home-classroom continuity was seen as helpful for children. Parent's and teachers' perceptions about why home-classroom continuity is sometimes helpful fell into two main categories: (1) consistency

[6] As identified in the question route (Appendix C), the *transition questions* asked participants to first brainstorm examples of home-classroom differences and similarities (i.e., discontinuity and continuity) which served as the backdrop to the *key questions* focusing on whether home-classroom (dis)continuity is (un)helpful for children. Examples of similarities discussed in parent focus groups included adult efficacy; behavior support and management; interactions; and schedules, routines, and expectations. Examples of similarities discussed in teacher focus groups included goals; learning opportunities; and schedules, routines, and expectations.

reinforces what is being taught and/or valued, and (2) consistency is comforting for children. The vast majority of parents' and teachers' discussions about helpful continuity focused on the importance of consistency to reinforce what is being taught and/or valued (e.g., skills, behaviors, school-readiness).

> Parent quote: *With my eldest, I try to keep it as same as school and it helped her a lot. We would go home and we would do some activities that she would do here. We would take a break, eat a snack, and then teeth and all of that. It helped us stay in a routine for kindergarten.*
>
> Teacher quote: *Let's just say we're learning colors and shapes in a classroom and parents go home with them and practice the colors and shapes. That's similarity and that's helpful because speaking as a preschool teacher, when they get to kindergarten they'll be ready for that. It won't be new for them.*

One parent focus group and one teacher focus group expressed that consistency in routines and the physical environments, respectively, felt to be important because it is comforting for children.

> Parent quote: *I think it helps with adjusting through transitions with the kids. It can be harsh if they go from a very strict environment at school, and then all of a sudden they get home and things are completely different. It can be really upsetting for them emotionally. They can't keep up.*
>
> Teacher quote: *We're trying to keep our classroom environment similar to the home environment. When we think about it, we're trying to keep our materials with the [specific philosophy and curriculum] approach, where we try to keep the children feel more at home in the classroom, so that they can feel comfortable.*

Unhelpful continuity. One parent focus group and one teacher focus group separately identified one aspect of home-classroom continuity for children in Head Start that was as seen as working against children's development: a lack of interaction opportunities with male role models for children across both home and classroom contexts. In the home context, this was seen as occurring because there was either not a male role model in the home, or because the male role model was not as actively engaged with their young child. In the classroom context, this was seen as occurring because there were very few, if any, male teachers in Head Start (one teacher reported that she knew of two or three). Both focus groups expressed this aspect of home-classroom continuity as a concern along with the desire for this to be addressed in some way.

> Parent quote: *The main thing is that they have interactions later in life [with males] and they are going to be interacting with males all through life. In the business, in homes, with relationships who are close, and so I would hope that they can see how they should - males should be treated and how they should treat the males and how they're great people, too.*
>
> Teacher quote regarding her one experience working with a male Head Start teacher: *It's interesting how the children really want to bond with them, though, they really want to connect with male figures.*

Carry-over. An additional theme emerged in parent and teacher focus groups indicating that sometimes aspects of Head Start home-classroom discontinuity begin to shift towards more continuity. This theme is referred to as "carry-over" and occurs when one person (i.e., parent, child, or teacher) brings a behavior or practice from one environment to the other. The behaviors and practices here were described as positive or desired changes (as opposed to the carry-over of undesired behaviors). Parents implementing behaviors or practices from the classroom in the

home context was the most frequently discussed experience of carry-over across both parent and teacher focus groups.

> Parent quote: *My expectations for my four-year-old were a little lower before she started class, and then I started realizing she's capable of much more than I thought. Just because I don't have experience with kids, so I don't know developmentally.*
>
> Teacher quote: *[Parents] would ask, 'What are you guys doing that? He's never done that at home,' or whatever. Then you share some of those things (what's in the handbook), or you share your own classroom strategies, or whatever. I think that helps with the crossover. I think the parents see a change in their kids and then they are curious like, 'Wait a minute. What are you doing that's so different?' It's not always, but definitely it does happen.*

Children implementing behaviors or practices from the classroom in the home was the second most frequently shared experience with carry-over. Parents and teachers both shared that this seemed to happen because children wanted to do what they learned in the classroom at home as well, or that they seemed to want things to be the same.

> Parent quote: *When my eldest started to come to Head Start, she was showing her little sister how to pick up her plate, push in her chair, and throw away her food. Now, I got them doing that. It's really nice that it's the same…. She was like teaching us to do it. I felt like she wanted us to keep that same for her.*
>
> Teacher quote: *Yes, and families do share, 'Oh my gosh. The routine that you do - even on Fridays when there's no class - they want to do it! They want to be able to clean the table. They want to be able to set up the table for lunch.'*

Teachers implementing behaviors or practices from the home in the classroom was the least frequently shared experience with carry-over.

> Parent quote: *…my son has a hard time sitting and paying attention and everything. [The teachers were] like, 'What works for you guys at home?' I was like, 'Sometimes I give him just something to hold while he's doing it and then he can sit there and pay attention.' They gave him a ball and he sits there the whole time. I feel the teachers are very open to see what works for [parents] and then implement it, because they want it to work, too.*
>
> Teacher quote: *I think a lot of those things - even though they're differences - there is always carry-over. Sometimes there's carry-over this way [home-to-classroom], even going back with your support: if we are at a loss (I don't know how to calm the kid) then the parent would say, 'Oh, this is what we do at home,' or 'this is how they like this done.' Then it helps us, too.*

Discussion

The integration of two theoretical frameworks on child development, bioecological systems theory (Bronfenbrenner & Morris, 2007) and psychosocial acceleration theory (Belsky et al., 1991) outlines the impact of children's early contexts on development. For example, the bioecological systems model indicates that children's proximal processes within home and preschool environments influence children's development (Bronfenbrenner & Morris, 2007). Complementary, psychosocial acceleration theory conceptualizes proximal processes as cues regarding the proximal environment that adaptively shape development to best match the individual to that environment (Belsky et al., 1991). However, the extent to which discontinuity in children's early experiences (i.e., differences in early environmental cues) across children's

different contexts, such as home and preschool classroom, impacts their development is less understood. To address this gap, this study used qualitative content analysis of focus group transcripts from a targeted local community sample to understand Head Start parents' and teachers' perspectives on the importance of home-classroom (dis)continuity for children's proximal processes and development. Parents' and teachers' perceptions about the importance of (dis)continuity may influence their proximal processes with children and, therefore, children's experiences with home-classroom (dis)continuity. Head Start parents and teachers from a local targeted metropolitan community identified experiences of home-classroom (dis)continuity and explained how these experiences are seen as helpful or unhelpful for children.

An emphasis on discontinuity over continuity. Though parents and teachers in the current study acknowledged that aspects of home-classroom continuity were beneficial for children, their discussions focused more on aspects of discontinuity. The extant limited literature on home-classroom continuity suggests that continuity between children's homes and early care and education settings is in the best interest of children (e.g., van Ijzendoorn et al., 1998). Discussions among parents and teachers in the current study did reflect ways consistency (i.e., continuity) between children's home and classroom environments reinforced important learning and provided comfort for children. However, Head Start parents and teachers in this sample discussed more aspects of home-classroom discontinuity over aspects of continuity, giving the impression they either see higher levels of discontinuity between the two environments or that these experiences are more salient. Further, parents and teachers put more emphasis on how differences between children's home and classroom environments are helpful for children rather than unhelpful, a rather asset-based perspective to discontinuity.

Discontinuity as helpful for children: Complementary versus compensatory. There were some differences in the ways parents and teachers in this local community perceived how home-classroom discontinuity helps children's development. Parents were more apt to explain differences as being complementary such that the home and/or classroom environment provided experiences that added to or built upon benefits children were receiving from different experiences in the other environment. Teachers, however, viewed some aspects of home-classroom discontinuity as being complementary, while other aspects were seen as compensatory, such that differences in the classroom made up for deficits in the home environment. This difference in perspectives among parents and teachers may not be uncommon. Consistent with these findings, Nelson and Garduque (1991) reported that mothers with children enrolled in fully subsidized family childcare programs described home-childcare differences as complementary, while childcare providers described differences as compensatory, such that childcare provided experiences that addressed deficits in children's home experiences.

Reasons behind this difference in perspective among parents and teachers in the sample are unclear, though the notion of subsidized preschool for low income children and families as being compensatory is not new. From its inception, Head Start was considered a compensatory education approach for young children and families in poverty (Beatty & Zigler, 2012). This compensatory role may be emphasized more among teachers who get to know the families' strengths and challenges as they work with families to establish family and child goals and identify needed services. Alternatively, Head Start Performance Standards (U.S. Department of Health and Human Services, 2016) direct centers to "recognize parents' role as children's lifelong educators (p. 31)," and outline various standards for developing a home-school partnership. In this sense, it may be that "partnership" is emphasized more among parents in this

community, and this idea may lend itself more to the idea of home-classroom complementarity. Whether teachers and parents are aware of these different perspectives on home-classroom differences as being compensatory versus complementary was not clear. Further understanding how the difference in parents' and teachers' perspectives helps or hinders Head Start's aims towards parent-teacher partnerships may be an area of interest for future practice- and policy-oriented research at the local and, potentially, national level.

Discontinuity and children's adaptability. Some discussions about home-classroom discontinuity among both parents and teachers indicated that participants viewed inconsistency as an important life experience for children. Parents and teachers expressed the need for children to learn about unpredictability as an aspect of "real life" and therefore home-classroom discontinuity as an opportunity to build their resiliency, adaptability, and flexibility. Children's ability to adapt was seen as an important life skill. Similarly, the idea that home-classroom differences may not really matter too much for children, or is a somewhat neutral experience *because* they are able to easily switch contexts (i.e., children are already resilient, adaptable, and flexible) also was raised. This is congruent with the study of family childcare providers and parents by Nelson and Garduque (1991). Their qualitative study indicated that providers and parents both felt home-childcare differences were allowable due to children's adaptability, provided these differences stemmed from the same overall intention (Nelson & Garduque, 1991). Interestingly, this specific perspective about the relative neutrality of home-classroom discontinuity was raised by more Head Start teachers than parents in the current study. Home-classroom discontinuity itself has rarely been implicated as a potential benefit for children's development (though see Erwin, Sanson, Amos, & Bradley, 1993) except for when considering home-classroom discontinuity from a compensatory perspective. How the perception that home-

classroom discontinuity is beneficial (or unimportant) for children's development influences parents' and teachers' proximal processes with and planning for children in this community is less clear. For example, does the notion that home-classroom discontinuity is unimportant for children's development (because children can easily adapt) lead to less effort to provide home-classroom continuity? This could be an important follow up investigation.

Lack of male role models: an aspect of unhelpful continuity. There was one aspect of unhelpful home-classroom continuity raised in the current study by both parents (i.e., mothers and grandmothers) and teachers: Head Start children have very limited opportunities for interacting with male role models across both contexts. In other words, a lack of male role models was expressed as an aspect of home-classroom continuity separately by parents and teachers that was seen as unbeneficial for children's development. Father involvement in children's early care and education settings is a long-standing challenge and ongoing aim of Head Start programs (for review see Henrich & Gadaire, 2008). Parents and teachers in the current study sample report that their Head Start centers regularly hold "Father Figure Night" where father figures are invited to come to the center with their child to engage in play-based learning activities. These father-focused events have long been implemented in Head Start programs (Levin & Pitt, 1995). However, as reported by teachers in the current study, it continues to be a challenge to fill these events with male role models, and sometimes mothers or grandmothers attend due to a lack of available male father figures.

Some studies suggest that while father-figures of Head Start children may be very involved in their children's lives (especially residential fathers; Gorvine, 2010), this level of involvement may not extend to the child's Head Start classroom (e.g., Fagan, Newash, & Schloesser, 2000). Parents in the current study confirmed that they see very few father figures

volunteering in Head Start. This is seen to be compounded by a lack of male teachers in the classroom. Indeed, the early childhood workforce has been and remains almost exclusively female (Whitebook, McLean, & Austin, 2016). Parents and teachers in the current study take notice of this ongoing challenge as the only aspect of home-classroom continuity seen as a deficit for young children's experiences. As such, continued efforts and novel approaches to both engaging father-figures in Head Start children's classroom experiences and enticing male educators in the community to consider teaching in Head Start classrooms could help address this deficit and, from the perspective of parents and teachers, positively impact children's lives. Further, given parents and teachers share this concern, this may be a novel opportunity for parents and teachers to partner in advocating for increased male involvement in Head Start and to initiate a positive change in their Head Start community. Parents serving as advocates and leaders in their community is encompassed in Head Start's Family and Community Engagement Program Services (45 CFR § 1302.50 Subpart E; U.S. Department of Health and Human Services, 2016)

Carry-over: A shift from discontinuity to continuity. Parents and teachers both indicated that over time, some aspects of home-classroom discontinuity shift towards continuity due to "carry-over." Carry-over was explained as when one person (i.e., the parent, teacher, or child) brings a desired behavior from one environment (most often reported as the classroom) to the other environment (i.e., the home). Research on the impact of childcare on children's experiences in the home suggests that children's experiences in the early childcare classroom modify parent-child interactions due to changes in the child as well as in the parent (for review, see Shpancer, 2002). Indeed, in the current study parents were most often reported as being the initiators of carry-over. Head Start, as a two-generation approach, rests on the importance of

providing supports to parents as an added layer of intervention that ultimately benefits children by positively impacting their experiences in the home context (U.S. Department of Health and Human Services, 2016). Providing opportunities for parents to observe and learn about strategies for supporting their child's development is one aspect of that support. Thus, this local Head Start's implementation of the Head Start Performance Standards focused on Family Engagement (U.S. Department of Health and Human Services, 2016) may reinforce a shift toward home-classroom continuity.

What might be less obvious is the role children play in carry-over. Children were reported as being frequent initiators of carry-over among parents and teachers in the current study. From a theoretical standpoint, children's interactions with their environments are considered bidirectional, and thus children are active agents in their own development (Bronfenbrenner & Morris, 2007). As such, Shpancer (2002) states that "continuity, thus, may be conceptualized as something provided to the child by the environment, something that the child brings to the environment, or a combination of both (p. 385)." Therefore, children may play a role in increasing home-classroom continuity over time. Research on the processes underlying children's role in carry-over may be important for better understanding home-classroom (dis)continuity and children's role in shaping their early contexts in this community and, potentially, nationwide.

Limitations

The current study does have some limitations. For example, data come from a local targeted Head Start sample in a southwestern U.S. state, and therefore current study results may be specific to participants in the specific region and may not reflect the perceptions and experiences of all Head Start parents and teachers. Though Head Start programming is federally

funded and implemented based on national Head Start Performance Standards (U.S. Department of Health and Human Services, 2016), implementation is led by local regional Head Start grantees. Implementation may vary based on community demographics, assets, and needs. Collecting data from a local targeted sample is a strength for informing the policies and practices at a local level; other regions may consider conducting similar qualitative studies to learn about perceptions of home-classroom (dis)continuity in other areas.

Another limitation to consider is that of selection factors. Given the current study used convenience sampling, the results may be reflective of individuals interested in and available for participating in this particular study. These participants may be a subsample with shared characteristics, and participants who chose not to participate or were unable to participate may reflect a subsample with different shared characteristics. It is unknown how these subsamples might differ in characteristics, but these differences could be based on program experiences and satisfaction, participation availability, and transportation or child care limitations, among others. Future studies may consider investing time and resources towards recruitment strategies that allow for larger and more representative samples to obtain a broader and more representative picture.

Finally, focus groups often resulted in "no-shows" or cancellations, especially among parents. Therefore, focus group size did not meet the recommendation for an average of eight participants per focus group (Guest et al., 2017; Krueger & Casey, 2014). Relatedly, the sample size was somewhat low for parents and for teachers which may have limited the ability to collect and report on a wider range of perspectives and experiences.

Conclusions & Implications

This study investigated the importance of (dis)continuity between children's early home and classroom environments from the perspectives of Head Start parents and teachers. Focus group discussions among parents and teachers emphasized home-classroom discontinuity overall. This may be due to Head Start's role as compensatory preschool programming for families in poverty with limited resources. Indeed, home-classroom discontinuity for children in Head Start was most often seen as helpful for children. However, the vast majority of home-classroom differences identified by parents were seen as complementary, while teachers also described differences as compensatory such that experiences in the classroom addressed deficits in experiences in the home. Though parents and teachers noted that experiences with home-classroom continuity were generally supportive for children, one distinct aspect of home-classroom continuity was seen as a deficit: a consistent lack of male role models across both contexts. This is a worthwhile area for continued research and intervention efforts to find ways to support father-figures' roles in Head Start children's daily experiences in and out of the classroom. Further, considering ways to create a professional context that is welcoming to and supportive of male early care and education teachers may be particularly important for children in Head Start. Finally, parents and teachers in this local Head Start community sample also shared experiences with "carry-over" (i.e., one person brings a behavior or practice from one environment to the other environment) which causes a shift from initial home-classroom discontinuity towards home-classroom continuity for children. This "carry-over" was reported to not only be initiated by adults (i.e., children's parents and teachers), but also by children themselves. Further exploring ways that children serve as agents of carry-over and, therefore, of the shift towards home-classroom continuity has implications for early education research, and

may provide for novel investigation into ways young children in poverty shape (as opposed to only being shaped by) their early contexts.

Table 1

Participant Demographic Characteristics

	Parents (*n* = 13)		Teachers (*n* = 19)	
Characteristics	*n*	%	*n*	%
Age				
Range (in years)	24 – 74	-	21 – 67	-
Mean (in years)	36	-	43	-
Gender (female)	13	100	19	100
Hispanic	10	77	18	95
Race				
American Indian/Alaskan Native	0	0	1	5
Black/African American	0	0	1	5
White, Hispanic	8	62	1	5
White, Non-Hispanic	3	23	13	68
Other race	2	15	2	11
Nonresponse	0	0	1	5
Estimated annual household income				
less than $20,000	8	62	1	5
$20,000-$34,999	5	38	4	21
$35,000-$49,999	0	0	7	37
$50,000-$74,999	0	0	4	21
$75,000 or more	0	0	3	16
Relationship to child in Head Start				
Mother	11	85	-	-
Grandmother	2	15	-	-
Head Start enrollment				
Part-day	11	85	-	-
Full-day	2	15	-	-
Head Start role				
Lead Teacher	-	-	12	63
Co-Teacher	-	-	7	37
Years taught in Head Start				
Range	-	-	0 – 29	-
Mean	-	-	11	-
Teachers who are/were also Head Start parents	-	-	12	63

Table 2

Main Themes and Representative Quotes Related to Parent and Teacher Perceptions of Home-Classroom (Dis)Continuity

Identified Themes	Parent Quotes	Teacher Quotes
Discontinuity: Helpful		
Differences are complementary	"And I feel like, I don't know, it's good to have different modeling."	"It's different when you're dealing with your sibling that's older than you whereas when you're dealing with somebody the same age, that conflict resolution is different and they learn from their peers and then as teachers we model for them how that is to go."
Differences are compensatory	"As one who grew up in a very abusive environment, I think having at least one positive thing really helps you stay on track."	"They might feel more safe at school with us because we're consistent, we have a routine. And when they go home sometimes, with the family dynamics, it could make them feel like, 'Who's here? Who's going to pick me up?"
Differences build children's resiliency, adaptability, and flexibility	"...because they got to learn that not everything is always going to be the same. They've got to learn how to roll with new and different."	"It builds resilience I think. I think it just builds resilience because life isn't just one path. There's many ways to get from point A to point B…"
Discontinuity: Unhelpful		
Inconsistency works against what is being taught and/or valued	"Sometimes it can kind of be tough because when I go back to when he picks up certain behaviors [from other children in the classroom] and I try to teach him differently, and then I notice certain outbursts [at home] and they're just different [from what I'm teaching him]."	"That's especially if they miss school. If they miss school and they come back, there's that resistance again and you're starting all over again. It's just unfortunate… Take a couple of steps forward and they take five steps back when they miss school."
Discontinuity: Context-Switching		
Differences are neither helpful nor unhelpful because	"I think it's okay because as kids, you constantly have to repeat, repeat, repeat until they finally	"I do think that it's just different, it's different, but it doesn't really hurt them. It's just that they

children can easily switch contexts	understand it and they say, okay, this is when it's okay and this is when it's not okay."	know that at home or at school, they're one way and at home they're another way."
Continuity: Helpful		
Consistency reinforces what is being taught and/or valued	"With my eldest, I try to keep it as same as school and it helped her a lot. We would go home and we would do some activities that she would do here. We would take a break, eat a snack, and then teeth and all of that. It helped us stay in a routine for kindergarten."	"Let's just say we're learning colors and shapes in a classroom and parents go home with them and practice the colors and shapes. That's similarity and that's helpful because speaking as a preschool teacher, when they get to kindergarten they'll be ready for that. It won't be new for them."
Consistency is comforting for children	"I think it helps with adjusting through transitions with the kids. It can be harsh if they go from a very strict environment at school, and then all of a sudden they get home and things are completely different. It can be really upsetting for them emotionally. They can't keep up."	"We're trying to keep our classroom environment similar to the home environment. When we think about it, we're trying to keep our materials with the [specific philosophy and curriculum] approach, where we try to keep the children feel more at home [and] in the classroom, so that they can feel comfortable."
Continuity: Unhelpful		
Similarities that are actually not helpful: lack of male role models	"The main thing is that they have interactions later in life [with males] and they are going to be interacting with males all through life. In the business, in homes, with relationships who are close, and so I would hope that they can see how they should - males should be treated and how they should treat the males and how they're great people, too."	"It's interesting how the children really want to bond with them, though, they really want to connect with male figures."
Carry-over: Shifts from Discontinuity to Continuity		
Parents implement behaviors or practices from the classroom in the home	"My expectations for my four-year-old were a little lower before she started class, and then I started realizing she's capable of much more than	"[Parents] would ask, 'What are you guys doing that? He's never done that at home,' or whatever. Then you share some of those things (what's in the handbook), or you share your own classroom

	I thought. Just because I don't have experience with kids, so I don't know developmentally."	strategies, or whatever. I think that helps with the crossover. I think the parents see a change in their kids and then they are curious like, 'Wait a minute. What are you doing that's so different?' It's not always, but definitely it does happen."
Children implement behaviors or practices from the classroom in the home	"When my eldest started to come to Head Start, she was showing her little sister how to pick up her plate, push in her chair and throw away her food. Now, I got them doing that. It's really nice that it's the same…. She was like teaching us to do it. I felt like she wanted us to keep that same for her."	"Yes, and families do share, 'Oh my gosh. The routine that you do - even on Fridays when there's no class -they want to do it! They want to be able to clean the table. They want to be able to set up the table for lunch."
Teachers implement behaviors or practices from the home in the classroom	"…my son has a hard time sitting and paying attention and everything. [The teachers were] like, 'What works for you guys at home?' I was like, 'Sometimes I give him just something to hold while he's doing it and then he can sit there and pay attention.' They gave him a ball and he sits there the whole time. I feel the teachers are very open to see what works for [parents] and then implement it, because they want it to work, too."	"I think a lot of those things - even though they're differences - there is always carry-over. Sometimes there's carry-over this way [home-to-classroom], even going back with your support: if we are at a loss (I don't know how to calm the kid) then the parent would say, 'Oh, this is what we do at home,' or 'this is how they like this done.' Then it helps us, too."

CHAPTER V: CONCLUSIONS

Overview of the Three Papers

Integrating two theories of child development, bioecological systems theory (Bronfenbrenner & Morris, 2007) and psychosocial acceleration theory (Belsky et al., 1991), this dissertation investigated home-classroom (dis)continuity for children attending Head Start across three papers. According to this theoretical integration, children's proximal processes in their home and classroom microsystems are conceptualized as early cues regarding levels of support and harshness in the anticipated adult environment. These cues aim to maximize outcomes by directing developmental trajectories in adaptive, context-specific ways. Preschool children attending Head Start are largely from impoverished home environments (U.S. Department of Health and Human Services, 2016) with early experiences reflecting higher levels of harshness and lower levels of support in comparison to their more affluent peers. Head Start preschool classrooms aim to provide environments high in support and thus have been conceptualized as providing experiences and opportunities that are compensatory for children growing up in the context of poverty (Carneiro & Ginja, 2014; U.S. Department of Health and Human Services, 2016). Therefore, children who attend Head Start may have qualitative differences in the early cues they encounter across this dual-ecology. How discontinuity in early cues across home and classroom contexts are reconciled to adaptively direct development thus far remains unclear (see Belsky, 1980; Bradley, 2010; Nelson & Garduque, 1991; Shpancer, 2002; Watamura et al., 2011), and may have important implications for Head Start research, policy, and practice.

The first paper used person-centered analyses to examine profiles of home-classroom (dis)continuity in early cues for children attending Head Start. This paper expanded on previous work (e.g., Watamura et al., 2011) by investigating the interrelationships of home-classroom

experiences in a sample of low-income children and families. A novel approach to investigating (dis)continuity across children's home and classroom contexts was applied that accounted for the complex interacting factors and complicated interrelationships among children's early cues (Bergman & Magnusson, 2006). A total of five mutually exclusive and exhaustive profiles emerged among a nationally representative sample of Head Start preschool children and their families and teachers. Results suggest that most children in Head Start experience home-classroom continuity, with the majority experiencing profiles representing double-protection, such that their home and classroom environments confer cues higher in support and lower in harshness as compared to mean-level Head Start experiences. In comparison to profiles representing double-protection, results suggest fewer Head Start children experience profiles of double-jeopardy (i.e., cues of high harshness and low support across home and classroom contexts) and compensatory care (i.e., high harshness and low support at home, low harshness and high support in the classroom). Further, cues of unpredictability (via parent-child separations) played a distinct role in children's profiles of home-classroom (dis)continuity. Overall, this study indicates that Head Start preschool children's early home-classroom experiences with cues of harshness and support are not homogenous.

The second paper expanded on the first paper by using the home-classroom profiles identified in the first paper from the nationally representative Head Start sample to predict children's SR. Based on the current integration of theories, children experiencing early cues higher in harshness and lower in support across home and classroom contexts were expected to have lower SR given its expected adaptive value in harsh contexts (Blair, 2010; Blair et al., 2011; Del Giudice, 2015; Hackman & Farah, 2009; Noble et al., 2007), with the inverse expected for children with cues higher in support and lower in harshness. However, results did not support

these hypotheses. Children's SR did not statistically significantly differ between profiles. One possible explanation for null results was that there was not a lot of variability in SR in the study sample; children in contexts of poverty overall have significantly lower SR in comparison to their more affluent peers (Blair et al., 2011; Hackman & Farah, 2009; Noble et al., 2007). Another explanation concerns whether the measured cues from the preschool classroom of environmental harshness and support used in the study were in fact salient cues for adaptive SR development (i.e., not predictive of adaptive SR strategies), an area of research that is underexplored under psychosocial acceleration theory during early childhood. Finally, it is possible that these results actually reflect effects of Head Starts' two-generational approach and family engagement practices (U.S. Department of Health and Human Services, 2016) that aim to positively influence children's home environments (and thus, cues from home).

The third paper offered a complementary view of home-classroom (dis)continuity by investigating Head Start parents' and teachers' perceptions of the importance of home-classroom (dis)continuity for children's proximal processes and development within a targeted southwest U.S. community. Limited prior research indicates that continuity may be seen as beneficial for children by researchers and practitioners (Bradley, 2010; van Ijzendoorn et al., 1998), though others indicate there may be benefits to differences (i.e., discontinuity) in home-classroom experiences (Shpancer, 2002), such as in the case of compensatory education provided by Head Start (e.g., Carneiro & Ginja, 2014). Results from the current study's focus group data highlight the lived experiences with home-classroom (dis)continuity and provide insights not afforded by the quantitative analyses presented in papers 1 and 2. Despite acknowledging home-classroom continuity overall as beneficial for children, both Head Start parents and teachers emphasized more aspects of home-classroom discontinuity that were seen as helpful. While parents most

often expressed home-classroom discontinuity as being complementary (i.e., experiences in one environment built upon or added to experiences in the other environment), teachers expressed some aspects as complementary but others as compensatory (i.e., experiences in the classroom compensated for deficits in experiences in the home). Further, parents and teachers indicated that sometimes there is a shift over time from home-classroom discontinuity towards continuity. This shift was referred to as "carry-over" and was seen as driven but not only by parents and (less often) by teachers, but by children who were also seen as agents of carry-over. One aspect of continuity that was described as unhelpful or a deficit for children was the overall lack of opportunities for children to interact with male role models across both home and classroom contexts. This aspect of unhelpful continuity presents an opportunity for parents and teachers to partner in advocating for and initiating change in their Head Start community.

Summary and Future Directions

The integrated results of this mixed methods research project offer several contributions to inform research, policy, and practice, particularly in regards to Head Start. The majority of children in Head Start appear to be experiencing continuity in cues from the home and classroom (as measured in the current study) that reflects double-protection (i.e., higher support and lower harshness across both home and classroom compared to mean-level Head Start experiences). This may be a testament to Head Start as a compensatory preschool program aimed to provide positive experiences in the classroom while also having a positive impact on children's family contexts (U.S. Department of Health and Human Services, 2016). At a local level, Head Start parents and teachers indicated that home-classroom continuity is important for children because it reinforces learning across contexts, and because consistency across contexts provides comfort for children. They also indicated that some of children's positive experiences with home-

classroom continuity may come from a process referred to as "carry-over," a novel and complementary contribution of the qualitative aspect of this dissertation project. This process indicates that while home-classroom continuity may not be evident initially for children in Head Start, it may evolve over time. Children were seen as frequent initiators of carry-over, reinforcing children's role as agents in their own development (Bronfenbrenner & Morris, 2007). While current Head Start policy on family engagement practices aim to impact the parent's role in creating supportive environments for their children, it does not overtly acknowledge children's own role as agents of change. Future research at a national level could confirm whether similar carry-over processes are evident across regions, and help further explain and highlight children's active role in these processes.

Despite shared experiential characteristics that come from living in the context of poverty, results indicate that children in Head Start do not have homogenous experiences in how early cues co-occur across their home and classroom environments. While the majority of children in Head Start appear to be experiencing continuity in early environmental cues (as measured in the current dissertation study), some of those children are experiencing home-classroom environments reflecting double-jeopardy (i.e., higher harshness and lower support across both home and classroom contexts), and therefore continuity in disadvantage. Covariate analyses implicated children's race/ethnicity as a predictor of profile membership, reinforcing that further research on racial/ethnic disparities across home and Head Start classroom environments is of interest (e.g., Schmit & Walker, 2016). From a policy level, efforts such as the Head Start Designation Renewal System (U.S. Department of Health and Human Services, 2016) aimed at increasing consistent high quality implementation of Head Start programming across regions should continue to be pursued and informed by updated research to minimize such

disparities. Further, providing additional supports to regions where disparities exist (e.g., extra screening for family support services, increased parent engagement, and professional development for raising classroom quality) to positively impact Head Start practice could help improve children's early environments (Henrich & Gadaire, 2008).

An aspect of home-classroom continuity seen as a disadvantage was identified by Head Start parents and teachers: a lack of male role models for children across both home and classroom contexts. This aspect of disadvantageous home-classroom continuity may be considered double-jeopardy from the perspective of parents and teachers, and was a unique contribution of the qualitative data collection in this project. While not a new topic in early childhood development (e.g., Fagan et al., 2000; Gorvine, 2010; Henrich & Gadaire, 2008; Whitebook, McLean, & Austin, 2016), this expressed concern regarding children's lack of interactions with male role models serves as an opportunity to re-evaluate father-figure engagement efforts and reinforces the need for innovation in the recruitment of male early education teachers, particularly within this local community. This may be a novel opportunity for parent-teacher partnership and for parents (mothers and grandmothers, specifically) to serve as advocates in initiating positive change in their Head Start community (45 CFR §1302.50 Subpart E; U.S. Department of Health and Human Services, 2016).

Despite the focus here on home-classroom continuity, Head Start parent and teacher focus groups most often discussed children's experiences with discontinuity. Further, most often these experiences were seen as beneficial for children, including because discontinuity promoted children's development of resiliency, adaptability, and flexibility. One interesting difference between parents and teachers in this local community was that teachers described home-classroom discontinuity as being compensatory (i.e., practices in the classroom make up for

deficits in the home environment) far more frequently than parents, who mainly described discontinuity as being complementary (i.e., practices at home and in the classroom complement one another). Though this aligns with previous research among family home care providers (Nelson & Garduque, 1991), how this difference in perspective impacts proximal processes (i.e., interactions) for children or between parents and teachers is unclear. Further investigation into this difference in perspective may have important implications for this local Head Start's practices, while investigation at a national level would help surface whether this parent-teacher difference in perspective is evident across Head Start regions.

Finally, this dissertation project makes important contributions to future research, namely regarding the integration of bioecological systems theory (Bronfenbrenner & Morris, 2007) and psychosocial acceleration theory (Belsky et al., 1991). The integration of the two theories of child development allowed for a clear framework for investigating children's experiences with (dis)continuity in environmental cues across two important microsystems, the home and preschool classroom environments. Despite theoretical reasoning to expect children's profiles of early home-classroom cues to be predictive of adaptive SR (Blair, 2010; Blair et al., 2011; Del Giudice, 2015; Hackman & Farah, 2009; Noble et al., 2007), results indicate there is still more work to be done to clarify which cues in the early childhood in particular are most salient for SR, especially among low-income populations. Further, the qualitative aspect of this project reinforces the bidirectional nature of children and their early contexts: children are not simply passive recipients of early environmental cues via their experiences across home and classroom contexts, but they also play an active role in shaping their early environments, and thus serve as agents in their experiences of home-classroom (dis)continuity and in their development.

Appendix A. Focus Group Bilingual Recruitment Flyer Example

Home-Classroom Connections Project

We want to learn about the experiences children have at home and in their classroom.

How to help: Come to one small group conversation. Earn $20 just for participating!

Who can come?
Head Start parents group: You must have a child age 3-5 going to Head Start now in Pima County. Only one parent per child can participate.

Head Start teachers group: You must work as a Lead Teacher or Co-Teacher now in a Head Start classroom i[redacted] County.

To register, go to https://tinyurl.com/y47g89q5

Or, for more information, please call us at (520) 621-8933, or email us at ConnectionsProject@Arizona.edu.

THE UNIVERSITY OF ARIZONA

An Institutional Review Board responsible for human subjects research at The University of Arizona reviewed this research project and found it to be acceptable, according to applicable state and federal regulations and University policies designed to protect the rights and welfare of participants in research.

Home-Classroom Connections Project

Queremos aprender sobre los tipos de experiencias que los niños tienen en casa y en el salón de clase

Cómo ayudar: Partícipe en una conversación de grupo pequeño. ¡Puede ganarse $ 20 solo por participar!

¿Quién puede venir?
Head Start grupo de padres: El niño/a debe tener entre 3-5 años de edad y inscrito en el programa de Head Start ubicado en el condado de Pima County. Solo un padre por niño puede participar.

Head Start grupo de maestros: Tendría que trabajar como Maestra Principal o Asistente de Maestra ahora en una clase de Head Start en el condado d[redacted].

Para registrarse, ve a https://tinyurl.com/y47g89q5

Para obtener más información, contáctenos al (520) 621-8933, o al ConnectionsProject@Arizona.edu.

THE UNIVERSITY OF ARIZONA

Una Junta de Revisión Institucional responsable de la investigación con seres humanos en la Universidad de Arizona examinó este proyecto de investigación y encontró que era aceptable, de acuerdo con las disposiciones estatales y federales, así como las políticas universitarias destinadas a proteger los derechos y el bienestar de los participantes en la investigación.

Appendix B. Qualtrics Screening, Registration, and Survey

[Institution-specific header omitted]

English ▾

Screening Questions

Thank you for your interest in the Home-Classroom Connections Project!

We want to learn about the experiences children have at home and in their classroom.

You can help by coming to one small group conversation that will be held in the community. This small group conversation will last no longer than one and half hours.

This study has been reviewed and approved by an Institutional Review Board responsible for protecting the rights of human participants research at UA.

To find out if you are eligible to participate, please answer a few questions... This should take only about 5 minutes.

Are you a Head Start teacher or parent? (If both, please select Teacher.)

- ○ Teacher (Lead Teacher or Co-Teacher)
- ○ Parent, grandparent, or legal guardian

Do you have a child who goes to school in a Head Start classroom located in [specific county]?

- ○ Yes
- ○ No
- ○ My child used to go to Head Start but not anymore.

Does the child in Head Start live with you?

- ○ Yes
- ○ No

What is your role in the Head Start classroom?

- ○ Lead Teacher
- ○ Co-Teacher
- ○ I am not a Head Start classroom teacher

Scheduling Questions

Congratulations, you are eligible to participate in this project!

Next, we would like to get your contact information and find out when you can go to the small group conversation.

This information will be kept confidential, will only be accessed by the research team, and will not be linked to your responses during the small group conversation...

Note: You will go to the small group conversation without your child.

Please provide your name so that we may contact you for scheduling.

First name	
Last name	

Phone number (XXX-XXX-XXXX):

Email address:

Which is your preferred contact for scheduling? (check all)

- ☐ phone call
- ☐ email
- ☐ text

For text messages we need to know your service provider. Please click:

- ○ AT&T
- ○ Boost Mobile
- ○ C-Spire
- ○ Consumer Cellular
- ○ Cricket
- ○ Google Fi
- ○ Metro PCS
- ○ Page Plus
- ○ Republic Wireless
- ○ Sprint
- ○ T-Mobile
- ○ Ting
- ○ Tracfone
- ○ US Cellular
- ○ Verizon
- ○ Virgin Mobile
- ○ XFinity Mobile

Which language do you prefer to participate in during the small group conversation?

- ○ English
- ○ Spanish

We have the following choices already scheduled.

Which of the following small group conversations would you like to go to?

[Day, Date, Time]
[Location]
[Time]

None of these choices work for me.

☐ ☐

When could you go to a small group conversation? (check all)

	Mornings	Afternoons	Evenings
Mondays	☐	☐	☐
Tuesdays	☐	☐	☐
Wednesdays	☐	☐	☐
Thursdays	☐	☐	☐
Fridays	☐	☐	☐
Saturdays	☐	☐	☐
Sundays	☐	☐	☐

Where could you go to a small group conversation? (check all)

- ☐ Near [school district]
- ☐ Near [school district]
- ☐ Near [university]
- ☐ Near [school district]
- ☐ Near [local hospital]
- ☐ Near [local neighborhood]

Demographic questions

Great, almost done!

Just a few questions to help us understand who will be participating...

What is your gender?

- ○ Female
- ○ Male

- ○ Other (please specify)
- ○ _____
  Prefer not to answer

How old are you (in years)?

_____

Are you Hispanic or Latino?

- ○ Yes
- ○ No

What race do you consider yourself?

- ☐ White
- ☐ Black or African American
- ☐ American Indian or Alaska Native
- ☐ Asian
- ☐ Native Hawaiian or Pacific Islander
- ☐ Other (please specify)
  _____
- ☐ Prefer not to answer / Does not apply

What is your estimated household income per year?

- ○ less than $20,000
- ○ $20,000 - $34,999
- ○ $35,000 - $49,999
- ○ $50,000 - $74,999
- ○ $75,000 - $99,999
- ○ $100,000 or more

What is your relationship to the child in Head Start?

- ○ Mother
- ○ Father
- ○ Grandmother
- ○ Grandfather
- ○ Other legal guardian

What type of Head Start program does your child go to?

- ○ Part-Day
- ○ Full-Day

About how many years have you taught in Head Start preschool classrooms?

This number of years,	
plus this number of months:	

Have you been a Head Start parent?

- ○ Yes, my child goes to Head Start now.
- ○ Yes, my child or children used to go to Head Start.
- ○ No

Appendix C. Focus Group Question Route

1. Opening questions as an icebreaker

Parents: *Tell us your name* [will later be exchanged for a pseudonym] *and how many of your children have gone to Head Start*.

Teachers: *Tell us your name* [will later be exchanged for a pseudonym] *and how many years you have lived in [metropolitan area]*.

2. Introductory questions to introduce the topic and induce reflection

Parents: *What is one thing you really enjoy or appreciate about your child's classroom*?

Teachers: *What is one thing you really enjoy or appreciate about teaching in your classroom*?

10 min

3. Transition questions to move conversation to key topics

Today we are going to talk about how children's experiences in the classroom and home might be the same and different.

[Assistant's Name] is going to help us here by writing down our ideas on paper.

Let's brainstorm together: What are some ways children's classrooms are different from their home?...

[If needed: *What about the things they see in the classroom – are these different than what they see in the home?… What about the things they hear in the classroom – are these different than what they hear at home?... What about how they feel in the classroom – is this different than how they feel at home?*]

Did we miss anything here?...

Ok, what are some ways children's classrooms are similar to their home?...

[If needed: *What about things they see in the classroom that they also see at home?… What about things they hear in the classroom that they also hear at home?... What about feelings they have in the classroom that is the same at home?*]

Did we miss anything here?...

[If needed: *So it sounds like sometimes it depends. _____ could be similar in the home and classroom, or it could be different. Is this right?*]

10 min

4. Key questions – 40 min total

So, let's talk about a few of these things on our list more. We'll look at the home-classroom differences first.

When you look at the list of home-classroom differences, which do you think are helpful for children? [If needed: *Which of these differences seem to help children learn and grow?]*

How does it help children?

Why do you think it helps them?

Is it always helpful?

When you look at the list of home-classroom differences, which do you think are not very helpful for children?

How is it not helpful for children?

Why do you think it is not helpful for children?

Is it ever helpful?

20 min

[Summarize discussion. Ask if they want to say anything different or more.]

Now let's look at the home-classroom similarities.

When you look at the list of home-classroom similarities, which do you think are helpful for children? [If needed: *Which of these help children learn and grow?]*

How does it help children?

Why do you think it helps them?

Is it always helpful?

When you look at the list of home-classroom similarities, which do you think are not very helpful for children?

How is it unhelpful for children?

Why do you think it is unhelpful for children?

Is it ever helpful?

20 min

[Summarize discussion. Ask if they want to say anything different or more.]

Ending questions to bring closure to the discussion

Ok, of all the things we discussed, which feels most important to you?...

[Provide a broad 1-2 minute summary.] *Does this capture our conversation well?*

10 min

Appendix D. Codebook

Keep the research question in mind:

What are Head Start parents' and teachers' perceptions about the importance of home-classroom (dis)continuity for children?

TOPICS	CODES	DESCRIPTIONS	NOTES/EXAMPLES
	Facilitator Summaries	Use when facilitators do recaps/summaries along with participant responses to summaries.	If participants respond with more info, responses will need to be coded in other nodes as well.
	Context-Switching	Children can switch between home & classroom contexts easily so it's ok that it is different or is neutral (not helpful/unhelpful).	(Explicitly stated or obvious.)
	Difference, Does Not Matter	A difference but says it is okay, or neutral (not helpful/unhelpful).	Includes because children are resilient, adaptable, or flexible. **NOT** context-switching.
	Similarity, Does Not Matter	A similarity but says it is okay, or neutral (not helpful/unhelpful).	
HELPFUL DIFFERENCES	Compensatory	A difference that helps compensate or make up for something unhelpful or a missing need in the other environment.	(Explicitly stated or obvious.) **NOT** providing variety in or exposure to other experiences.
	Builds Resiliency, Adaptability, Flexibility	A difference that is helpful for building children's resiliency, adaptability, and/or flexibility.	**NOT** that children *already are* resilient, etc., but that this helps build their resiliency, etc.

TOPICS	CODES	DESCRIPTIONS	NOTES/EXAMPLES
	Self-Regulation	A difference that is helpful for children's management or control of their own behaviors, responses, reactions, attention, or emotions.	(Explicitly stated or obvious.)
	Helps with Specific	A difference that is helpful for another specific area of children's development or experience.	Does **NOT** include self-regulation.
	Unspecified	A difference that is helpful for children but does not say what it helps with.	
UNHELPFUL DIFFERENCES (UNHELPFUL DIFFERENCES, continued)	Lost Resources – Undermining, Disadvantage	A difference that is unhelpful because it undermines, works against, or disadvantages experiences from the other helpful environment.	(Explicitly stated or obvious.) **NOT** simply because it is causes inconsistency, unpredictability, and/or instability.
	Self-Regulation	A difference that is unhelpful for children's management or control of their own behaviors, responses, reactions, attention, or emotions.	(Explicitly stated or obvious.)
	Helps with Specific	A difference that is helpful for another specific area of children's development or experience.	
	Unspecified	A difference that is helpful for children but does not say what it helps with.	
HELPFUL SIMILARITIES	Double-Protection, Advantage	A similarity that is helpful because it is a positive aspect of both environments that provides protection or advantage.	(Explicitly stated or obvious.) **NOT** simply because it provides consistency, predictability, and/or stability.
	Self-Regulation	A similarity that is helpful for children's management or control of their own behaviors, responses, reactions, attention, or emotions.	(Explicitly stated or obvious.)

TOPICS	CODES	DESCRIPTIONS	NOTES/EXAMPLES
	Helps with Specific	A difference that is helpful for another specific area of children's development or experience.	
	Unspecified	A similarity that is helpful by does not say what it helps.	
UNHELPFUL SIMILARITIES	Double-Jeopardy	A similarity that is unhelpful because it is a negative aspect of both environments that is a double-risk or double-disadvantage.	(Explicitly stated or obvious.)
	Self-Regulation	A similarity that is unhelpful for children's management or control of their own behaviors, responses, reactions, attention, or emotions.	(Explicitly stated or obvious.)
	Helps with Specific	A difference that is helpful for another specific area of children's development or experience.	
	Unspecified	A similarity that is unhelpful but does not say what for.	
CARRY-OVER/ SPILLOVER/ TRANSFER	Home to classroom - by teacher	When teachers implement strategies, skills, or behaviors from children's homes into the classroom.	
	Home to classroom - by child	When children implement strategies, skills, or behaviors from their homes into the classroom.	
CARRY-OVER/ SPILLOVER/ TRANSFER (continued)	Classroom to home - by parent	When parents implement strategies, skills, or behaviors from children's classrooms into the home.	
	Classroom to home - by child	When children implement strategies, skills, or behaviors from classroom into the home.	
HOLD FOR CODING	Unsure	Code when you feel like the passage is important and relevant, but it does not seem to fit under any available codes.	Come back to these and apply code once reconciled.

TOPICS	CODES	DESCRIPTIONS	NOTES/EXAMPLES
	Propose Code	Code when you feel like this justifies considering of a new code.	Come back to these and apply code once reconciled.

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