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Who Matters for Children's Early Development? Race/Ethnicity and Extended Household Structures in the United States

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Abstract

Taking advantage of recent data that permit an assessment of the importance of extended household members in operationalizing the relationship between family structure and children's early development, this study incorporated coresident grandparents, other kin, and nonkin to investigate the associations between extended household structure and U.S. children's cognitive and behavioral outcomes at age 2. Analyses assessed whether these relationships differed for Latino, African American, and White children and tested four potential explanations for such differences. Nationally representative data came from the Early Childhood Longitudinal Study-Birth Cohort of 2001 (N ≈ 8,450). Extended household structures were much more prevalent in households of young African American and Latino children than among Whites. Nuclear households were beneficial for White children, but living with a grandparent was associated with the highest cognitive scores for African American children. Nuclear, vertically extended, and laterally extended households had similar associations with Latino children's cognitive and behavior scores. Results suggest that expanded indicators of household structure that include grandparents, other kin, and nonkin are useful for understanding children's early development.

Keywords

Family structure; Extended households; Grandparents; Kin support; Early childhood

1 Introduction

Researchers have long recognized that family structure shapes children's health and development (Demo and Cox 2000). In operationalizing family structure, most Western measures have emphasized the presence or absence of biological parents and their partners in a child's household. Typically, children with married, biological parents in stable unions represent the household structure to which other children are compared. This focus on nuclear households has a pragmatic basis, as many nationally representative surveys have not captured extended household members in their data. However, an exclusive focus on nuclear family organization might produce an incomplete account of how family structure is

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related to child development. This may be particularly true in children's first years of life, when extended households are most common in the United States, and for non-White and Hispanic families, which are more frequently characterized by coresidence with extended kin or other adults than non-Hispanic White families. Recent, nationally representative longitudinal data permit a test of the idea that extended household members matter for children's development in the first 2 years of life. This study's analyses include measures of coresidence with grandparents and other nonpartner adults among young children to consider how residing in an extended household structure is associated with children's early cognitive and behavioral development. In particular, we examine whether and why these relationships differ between Latino, African American, and White children in the United States. Past research has frequently documented important racial/ethnic differences on the effects of family structure on children.

Our study uses data from the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B) to address three research questions: First, how common are nonnuclear households in the U.S. in early childhood? Second, is extended household structure related to children's early cognitive and behavioral development? And third, do these associations differ among Whites, African Americans, and Hispanics, and if so, why? We examine the relationship between extended household structure and child development at the end of the critical first 2 years of life, a period that has rarely been studied in the U.S. using nationally representative data with regard to family structure. This study's reliable, objective assessments of children's cognitive and behavioral development at age 2 are an improvement over maternal reports often used in the past.

2 Background and Hypotheses

2.1 Early Child Development and Nuclear Family Structure

The remarkable growth that occurs during the first years of a child's life lays the foundation for future development (Campbell et al. 2001). Early childhood development, such as cognitive growth, verbal ability, and behavior, has important implications for the degree of success children experience when they transition to formal schooling (Baydar et al. 1993). This success in turn predicts academic achievement and educational attainment in later childhood, adolescence, and adulthood (Entwisle et al. 2004; Luster et al. 2004).

Nuclear family structure is strongly associated with the amount and quality of material, emotional, and social resources, which contribute to children's adjustment and well-being (see Demo and Cox 2000 for a review). With regard to many domains of development, older children who live with stably married biological parents fare better than those who live with cohabiting biological parents, a single mother or father, or in stepfamilies. Largely because of limited nationally representative data on early childhood, less is known about how family structure shapes children's early development. Recent research on population-representative U.S. samples suggests that marriage between biological parents is the more advantaged status for young children, although the advantage relative to other family structure types may be smaller than it is for older children (Aronson and Huston 2004; Brown 2008).

2.2 Coresidence with Kin and Other Adults

In analyses of national U.S. data, there has been little attention to the question of how extended household organization affects young children. About 15% of children living with at least one parent coreside with another adult relative or nonrelative (Kreider 2008). While much of the existing literature on extended kin coresidence focuses on specific subpopulations, the prevalence and attributes of different family structures vary dramatically

by race, ethnicity, nativity, and poverty status, warranting investigation using a nationally representative sample.

Empirical research on the effects of extended household structure on children's development has typically focused on specific structures and contexts, such as grandparent coresidence in single-mother families (Dunifon and Kowaleski-Jones 2007) or African-American families (Burton and Dilworth-Anderson 1991; Pearson et al. 1990; Stack 1997), or grandparent coresidence with teenage mothers and their children (Cooley and Unger 1991; Unger and Cooley 1992). These studies found negative developmental consequences of having a coresident grandparent for at least some subgroups and outcomes. Gordon et al. (2004) studied a broad range of extended household structures in their research on a sample of young, primarily African American mothers, but their analyses focused on predictors rather than consequences of extended household coresidence.

2.3 Racial/Ethnic Differences in the Effects of Extended Household Structure

Estimates from the 2006 U.S. Current Population Survey show that coresidence with grandparents or other kin is more frequent among non-White children than among White children (U.S. Census Bureau 2006, own analysis). Coresidence with kin other than grandparents, often in laterally extended households (in which coresident extended kin or nonkin are from the same generation as the household head), is relatively more common among those with immigrant parents compared to U.S.-born parents (U.S. Census Bureau 2006; Van Hook and Glick 2007). The consequences of coresidence with extended kin have also been found to vary by race and ethnicity, but the direction is inconsistent. Dunifon and Kowaleski-Jones (2007) found that for Black children aged 5 to 15, time spent residing with a single mother and a grandparent was associated with lower cognitive stimulation scores compared to Black children who lived with both parents or a single mother, and lower math scores compared to Black children living with both parents. White children who lived with a single mother and a grandparent had higher cognitive stimulation and reading recognition scores than those who lived only with a single mother. In contrast, Unger and Cooley (1992) found that living with a grandmother until middle childhood was associated with more negative outcomes for White children of teenage mothers than for Black children.

These studies highlight racial/ethnic differences in the relationship between extended family coresidence and child development, but they are based on samples of youth in middle childhood and adolescence. The observed racial/ethnic differences in the effects of family structure may be attributable to selection factors associated with remaining in an extended family structure for a long duration or to the sequence of life events leading up to extended kin coresidence. Here, we consider children who are born into extended kin coresidence or who experience that family structure in infancy. We anticipate that extended household structures will be associated with compromised development for young White children more so than for minority children in early childhood, if the potential benefits to coresidence that influence children's early cognition and behavior, which we elaborate below, are more frequent in non-White extended households.

> Hypothesis 1: Compared to nuclear households, extended household structures will decrease cognitive and behavior scores for non-Latino White children.
>
> Hypothesis 2: Compared to nuclear households, extended household structures will be significantly less detrimental for Latino and African American children than for Whites.

Why might the effects on children of extended kin coresidence differ across racial and ethnic groups? Hypotheses 3 through 6 test potential explanations. Coresidence with extended kin or other adults could affect children's development for a variety of reasons, some implying a positive relationship and some a negative one (Apfel and Seitz 1991;

Dunifon and Kowaleski-Jones 2007). The first explanation focuses on racial/ethnic differences in the prevalence of extended household coresidence among single-mother families. Among U.S. children who are living with at least one grandparent, 31% of non-Latino White children, 52% of non-Latino African American children, and 40% of Latino children also reside with a single mother (Kreider 2008). In the majority of these families and for each of these racial/ethnic groups, the grandparent and not the single mother is the household head. Single-mother families are also more prevalent among African Americans and Latinos than among Whites, making it disproportionately likely in these groups that extended households do not include the child's father (Tienda and Angel 1982). Children living with single mothers typically have compromised academic and behavioral outcomes, in part because of limitations on family resources and mothers' time and monitoring of their children (Demo and Cox 2000; McLanahan and Sandefur 1994). The resources and support provided by many extended households (Furstenberg and Crawford 1978; SmithBattle 1996) could buffer the negative consequences of living with a single mother compared to nuclear households. Because of the higher prevalence of single-mother families among African Americans and Latinos, then, we expect that the consequences of living in extended household structures will be more positive for these groups than for Whites. We anticipate that the benefits of single mothers' coresidence with extended kin will be stronger in early childhood, when mothers may be able to leverage contributions from kin into eventual economic and instrumental independence, than in later childhood (Dunifon and Kowaleski-Jones 2007; Unger and Cooley 1992), when extended coresidence may be the residual state in which families find themselves after failure to establish a separate household.

> Hypothesis 3: Racial/ethnic differences in the effects of extended household coresidence will be partially explained by the greater prevalence of single-mother households in Latino and African American extended households.

Second, extended family coresidence is more common among households living in poverty (Kreider 2008; U.S. Census Bureau 2006, own analysis). These findings suggest that low-income families are more likely to select into extended households. U.S. children from low-income families also tend to have compromised behavioral and cognitive development compared to their higher-income peers (Brooks-Gunn and Duncan 1997; Kiernan and Mensah 2009), so their selection into extended households could create a spurious relationship between extended coresidence and child outcomes. Non-Latino White children who live with grandparents are much more likely to live in poverty than those who do not, while Latino and African American children actually have lower poverty rates when they live with grandparents (Kreider 2008). Therefore, the *selection* of low-income families with young children into extended households is expected to account for more of the relationship between extended coresidence and child outcomes for White children than for Latino and African American children.

> Hypothesis 4: Racial/ethnic differences in the effects of extended household coresidence will be partially explained by the selection of low-income White families into extended households.

A third explanation for racial/ethnic differences in the effects of extended household coresidence also involves income, but rather than representing a selection effect it implies a causal relationship. Income pooling through establishing extended households represents a strategy whereby children potentially experience material and environmental gains, as well as additional time with parents or other kin. For example, children who reside with single mothers and grandparents are less likely to be in poverty than children who reside with single mothers alone because of grandparents' financial contributions and a greater likelihood of receiving means-tested benefits (Mutchler and Baker 2009). However, not all extended households are equally likely to share economic resources: In an older nationally representative study, nonnuclear adult members of Latino and African American families

made economic contributions to extended households, but nonnuclear kin in White extended households did not contribute significantly to household income (Angel and Tienda 1982). In Mexican immigrant families, short-term income pooling in laterally extended households represents a strategy to facilitate eventual nuclear household formation, particularly after children are born (Blank 1998; Van Hook and Glick 2007). Therefore, non-Latino White children in extended households may be less likely than African American or Latino children in similar arrangements to experience income gains that would predict improved cognition or behavior.

> Hypothesis 5: Racial/ethnic differences in the effects of extended household coresidence will be partially explained by the greater prevalence of income-pooling extended household strategies in Latino and African American families.

Finally, many coresident grandparents and other adults provide child care and social support, taking on parent-like responsibilities or other meaningful roles and providing monitoring, cognitive stimulation, and feedback on children's behavior (SmithBattle 1996). Extended kin and other coresident adults may also contribute additional resources to the household, including income, material goods, emotional support, or parenting advice (Furstenberg and Crawford 1978). Past research has found that compared to Whites, adult members of African American and Mexican American families provide higher levels of instrumental support like transportation, household help, and child care (Sarkisian et al. 2007; Sarkisian and Gerstel 2004). This support can obviate the need to pay the market rate for housing or for services outside the household, which can increase disposable income substantially. Emotional support from extended household members may also improve mothers' well-being and mental health (Taylor et al. 2008), which is strongly linked to young children's development (Meadows et al. 2007). White children's lower levels of support from extended household members may therefore explain more negative consequences of extended household structures relative to African American and Latino children.

> Hypothesis 6: Racial/ethnic differences in the effects of extended household coresidence will be partially explained by greater provision of social support in Latino and African American extended households.

None of these four hypothesized explanations for racial/ethnic differences in the relationship between extended household coresidence and child development are mutually exclusive; rather, we expect that a combination of them may account for racial/ethnic differences. We test these ideas below.

3 Method

3.1 Data

The current study uses data from the Early Childhood Longitudinal Study-Birth Cohort (ECLS-B), conducted by the National Center for Education Statistics (U.S. Department of Education 2007). A sample of about 10,700 children born in 2001 was followed from infancy through the start of kindergarten. Using parent interviews and direct child and parent assessments, the ECLS-B is the first nationally representative survey in the U.S. to follow children in this early developmental period. ECLS-B sample selection involved a clustered, list frame sampling design based on births registered in the vital statistics system of the National Center for Health Statistics. Births were sampled from 96 core primary sampling units, which were comprised of counties and county groups. Babies born to mothers younger than age 15 at birth were excluded in response to state confidentiality and sensitivity concerns, and thus, findings derived from this study are not representative of children of very young mothers. Because the birth rate for girls aged 10–14 is extremely low, at 0.6

births per 1,000 teens in 2008 compared to 41.5 for girls aged 15–19, the excluded children represent a very small proportion of the population (Hamilton et al. 2010).

This study uses the first two waves of data, collected when the children were about 9 and 24 months old. The first 2 years of life are a time when racial and socioeconomic differences in children's development initially take root, so they are a critical developmental period to study. Nationally representative data including direct child assessments have not previously been available for this age range, making ECLS-B an excellent data source. The primary parent (overwhelmingly the biological mother) was interviewed in person. The wave 1 and wave 2 weighted response rates for the parent interview were 74% (of invited respondents who decided to participate in the study) and 93% (of wave 1 respondents who participated in wave 2), respectively. Replication weights make findings representative of children born in the United States in 2001. The size and representativeness of the sample, together with the thorough and well-tested child assessments, make this an excellent data source for studying social influences on early child development. Our analyses of the restricted ECLS-B data were conducted in a secure data environment with institutional review board approval. The designers of the ECLS-B study took many measures to ensure participants' confidentiality, and the data collection procedures did not impose an undue burden on respondents in normal circumstances.

We restricted the sample to about 8,600 children with completed parent interviews and child assessments at Waves 1 and 2, and whose biological mothers participated in the primary parent interview at both waves.[1] Therefore, we do not include children who were living in extended households without their mother present or in foster care. We included a category of respondents missing data for certain variables (see below), and cases with missing data on the other variables were deleted listwise. Of these eligible respondents, about 8,450, or 98%, were included in the subsample analyzing cognitive scores, and about 8,300, or 97%, were included in the subsample analyzing behavior scores. There were no significant differences in means for either dependent variable when comparing eligible cases that were included in each analysis sample to those that were not.

3.2 Measures

3.2.1 Dependent Variables—This study focuses on children's cognitive and behavioral developmental outcomes at approximately 24 months old (wave 2). A considerable psychometric literature details the advantages and limitations of various ways of measuring development at these ages. The developmental outcomes measured in the ECLS-B data are based on 60 minutes of one-on-one assessment through reputable and widely used child development measures, and they are intended to provide a comprehensive picture of each child's age-appropriate developmental progress (see Nord et al. 2006 for more information on these and other measures). We used two observation-based measures obtained in both waves of the ECLS-B to assess developmental outcomes in children: The Bayley Short Form—Research Edition (BSF-R) mental scales, and the Interviewer Observations of Child Behavior. The BSF-R was developed by ECLS-B based on the Bayley Scales of Infant Development, Second Edition (BSID-II). The mental scale measures children's early cognitive development, including communication skills, expressive and receptive vocabulary, comprehension, and problem-solving skills. Siegel (1979) found that low Bayley test scores in infancy predicted low scores on cognitive, language, perceptual, and visual motor tests later in childhood. The revised Bayley Scale (BSID-II), from which the BSF-R has been developed, has been found to be a valid measure of IQ that correlates

[1]Because of confidentiality concerns, ECLS-B requires that all sample sizes be rounded to the nearest 50. We also excluded about 100 children whose mothers were living with a partner other than the biological father at Wave 1 because there were too few cases to analyze separately.

positively with other IQ measures (Nellis and Gridley 1994). Past research has demonstrated the limitations of early cognitive development measures for predicting later cognitive scores, but a low Bayley score does indicate that a child may struggle to learn later in life (Dockrell and McShane 1993; Niccols and Latchman 2002). See Table 1 for descriptive information about these and all other variables used in analyses.[2]

Problematic behavior in early childhood has been linked to later behavioral and academic outcomes (Brame et al. 2001; Entwisle et al. 2004; Halonen et al. 2006). When administering the BSF-R, interviewers also completed the Interviewer Observations of Child Behavior, which are a subset of the Behavior Rating Scale, a supplement to the BSID-II. Interviewers observed and rated child behaviors such as attentiveness, affect, and interest, for a total of 10 items. We standardized each item (e.g., mean of 0 and standard deviation of 1) and calculated the mean of all items (Cronbach's alpha=0.94). A higher score indicates more positive behavioral adjustment.

3.2.2 Household Structure—The household structure measures were constructed primarily from household roster information collected from the biological mother at wave 1. Respondents were asked to identify "people who normally live here. Please do not include anyone staying here temporarily who usually lives somewhere else." The household roster did not indicate the household head or distinguish between maternal and paternal kin. Indicator variables of partner status measured whether the biological mother lived with no partner, or was married or cohabiting with the biological father. The presence of extended household members was measured by a set of variables indicating whether there were no extended household members present (i.e., the only adults in the household were the biological mother with or without her partner), one or more grandparents but no other adults, one or more other adults but no grandparents, or both grandparent(s) and other adult(s). Unweighted supplemental analyses showed that in 89% of households with at least one other adult, at least one of these adults was related to the focal child. In 14% of extended households, an adult was unrelated to the child (some households included both). Of all households with nongrandparent relatives, 76% included the focal child's aunts or uncles, 11% included adult siblings, 6% included adult cousins, and 13% included other unspecified adult relatives.

3.2.3 Race/Ethnicity—We used ECLS-B-constructed measures of children's race/ethnicity based primarily on mothers' reports. The primary groups included in our analysis were Hispanic, non-Hispanic African American and non-Hispanic White. The remaining racial/ethnic groups, including multiracial children, were combined into an "other race" category because they were too small to examine individually. We do not focus on this group in the hypotheses or findings because its heterogeneity does not permit useful interpretation.

3.2.4 Potential Mediators—To test Hypotheses 3 through 6, we introduced the following set of variables measured at wave 1: nuclear family structure (single mother, cohabiting couple, versus a reference category of married couple; as well as the number of additional children in the household), income-to-needs ratio (household income as a percentage of the 2001 federal poverty threshold which adjusts for household size, with 9% of cases imputed by ECLS-B), two indicators of extended household instrumental support (child care provided by a relative who lives in the household, and the mother and child living with a relative or friend for free), and a measure of maternal mental health to indirectly reflect

[2]Descriptive information in Table 1 uses the age-standardized version of the mental score, which is designed with a mean of 50 and a standard deviation of 10. As recommended by ECLS-B staff, multivariate analyses use the raw score, with a weighted mean of 127 and a weighted standard deviation of 11, and control for age at assessment.

emotional support (modified from the Center for Epidemiologic Studies-Distress Scale or CES-D; Radloff 1977) that asked respondents to report the frequency of experiencing depressive symptoms in the last week, coded into severe, moderate, mild, or no symptoms with an additional category representing missing data.

3.2.5 Control Variables—Analyses controlled for child and household characteristics and family background variables that may be related to household structure and children's development: wave 1 child outcomes, child's age at the wave 2 assessment, child gender, the child's maternal grandmother's education level (coded into categories with an additional category for missing information), whether or not the child's mother lived with both biological parents until age 16, whether or not the mother's household ever received welfare when the mother was between ages 5 and 16 (including a category for missing information), the mother's nativity, the household's primary language (English vs. other), and maternal age (gave birth before age 20 vs. not). Note that analyses included grandmother's education level rather than mother's education level because mother's education may not be complete when her child is born, and her eventual educational attainment may be endogenous with her child's development.

3.3 Analysis Plan

We first present descriptive information about the prevalence of extended households with young children, together and split by the three racial/ethnic groups with sufficient numbers for analysis, African Americans, Whites, and Latinos. Multivariate regression analyses examined the relationships between extended household structure and children's cognitive and behavior scores at age 2. Further analyses introduced interactions to model racial/ethnic differences in the effects of extended household structure. Hypotheses 1 and 2 (about racial/ethnic differences in the effects of extended households) were tested using interactions between extended household structures and race/ethnicity, with reference to supplemental models split by race/ethnicity to illustrate these relationships more intuitively. Subsequent models tested Hypotheses 3 through 6 by introducing blocks of variables into the interaction models and examining the interactions and extended household variables for changes. Supplemental analyses were conducted as needed to document the presence of mediating and spurious relationships (Baron and Kenny 1986). We present marginally significant ($p<.10$) findings in tables for readers' reference, but only discuss findings significant at $p<.05$ or lower in the text. All analyses included probability weights and accounted for complex survey design using replication weights in the Stata software package.

4 Results

4.1 How Common Are Extended Households in the United States?

4.1.1 Overall Sample—Table 1 details nuclear and extended household composition at wave 1. About 78% of the infants in this study lived in nuclear-family households at wave 1, while 10% lived with at least one grandparent, 7% lived with at least one other adult, and 5% lived with both. These percentages are higher than those described above from 2006 Current Population Survey and from Kreider (2008), presumably because extended family coresidence is more prevalent when children are very young.

Do nonnuclear household members contribute to the household, or are they a resource drain? Supplemental analyses of ECLS-B data provided some preliminary information. In the overall sample, 54% of children in households that included coresident grandparents but not other adults received free housing and/or had a relative who contributed child care, suggesting that a grandparent's presence was often helpful to mother and child in these

important ways. In contrast, just 23% of children in households in which only other adult kin coresided received free housing and/or had a relative who contributed child care.

4.1.2 Racial/Ethnic Differences in Household Structures—Table 1 reports significant differences in extended household structures between Latinos, African Americans, and Whites. Just 13% of White infants lived with extended household members, compared to one third of African American and Latino infants. Among extended household structures, African American children lived most commonly with at least one grandparent, with or without other adults. Among Latino children, living with other adults (most often laterally extended kin) was most common, followed by grandparents, then both. The overarching pattern in the descriptive findings is that young White children's households had a single dominant structure, the two-biological-parent nuclear family that is socially normative in the U.S. In contrast, a variety of household structures, often including coresident grandparents or other adults, were prevalent among African Americans and Latinos.

As Hypothesis 3 would predict, single-mother households were almost twice as prevalent among Latino infants, and nearly six times as prevalent among African Americans, compared to Whites. Having a coresident relative who provided child care was more than twice as common among African American and Latino infants compared to Whites, as Hypothesis 6 expected. There was little difference between Latinos and Whites in the percentage of children living with relatives or friends for free, but African Americans were more than twice as likely as Whites to receive this support. Mothers' depressive symptoms did not reflect greater levels of support in non-White families as the hypothesis expected; in contrast, mothers of African American and Latino children reported higher levels of depressive symptoms than mothers of White children.

4.2 What Are the Associations of Extended Household Structures with Child Outcomes?

Table 2 presents bivariate analyses of the relationship between extended household structures at 9 months and children's cognitive and behavior scores at 24 months. Among White children, any kind of extended household structure was associated with significantly lower cognitive scores compared to a nuclear household. Living with non-grandparent "other" adults (usually laterally extended kin) was also associated with significantly lower cognitive scores than living only with grandparents and one or two parents. The difference in cognitive scores between the "other adults only" structure and a nuclear household was about 5 points, or nearly half a weighted standard deviation. White children in "grandparent and other" extended households had significantly lower behavior scores than those in nuclear or grandparent-only households, scoring nearly half a standard deviation lower than children in nuclear households. For African American children, living with at least one grandparent and parent was associated with the highest cognitive and behavior scores (though there were no significant differences in behavior scores across extended household structures). Children in these households had significantly higher cognitive scores than all other household types. Children living in nuclear households also scored more highly than those living with both grandparents and other adults. For Latino children, there were no significant differences in behavior scores by extended household type, and three of the four types had similar cognitive scores. One household type, living only with "other" adults, was associated with significantly lower cognitive scores than both nuclear and grandparent-only extended households.

Tables 3 and 4 summarize multivariate models estimating the association between wave 1 extended household structure and children's cognitive (Table 3) and behavior scores (Table 4) at wave 2 in the full analytic sample. In supplemental analyses that controlled only for

cognitive scores in infancy and age at wave 2 assessment, all extended household types were associated with lower cognitive and behavior scores compared to nuclear households. After introducing controls for race/ethnicity in Model 1, the magnitude of each of the extended household effects for cognitive scores was cut roughly in half but remained significant. Introducing controls for race/ethnicity eliminated the significance of the negative association between both grandparent-only ($p<.10$) and other-only extended households and behavior scores compared to nuclear families. Only the "grandparent plus other" structure had significantly lower behavior scores than nuclear families in Model 1.

4.3 Are There Racial/Ethnic Differences in Extended Household Effects, and Why?

Model 2 in Tables 3 and 4 introduced interactions between race/ethnicity and extended household structure. The main effects of household structures illustrate the associations for White children, providing support for the expectation in *Hypothesis 1* that nuclear households would be most beneficial for them. For cognitive scores, findings were similar to the descriptive analysis in Table 2: All extended household structures were associated with considerably (about 0.2–0.4 standard deviations) lower cognitive scores than nuclear families. For behavior, only the grandparents and others extended structure had significantly (about half a standard deviation) lower scores than nuclear households. Interactions revealed that living in grandparent-only extended households was significantly less detrimental for both African American and Latino children's cognitive scores than for those of Whites. The interactions between Latino ethnicity and the other two extended household types were also positive, but marginally significant ($p<.10$). For behavior, only the interaction between Latino ethnicity and grandparent plus other extended households was positive and significant, indicating that these households were not more detrimental than nuclear families for these children as they were for Whites. Although not every relationship was supported, all of the significant interactions supported *Hypothesis 2*, which expected extended households to be less problematic for non-White than for White children. This pattern of relationships held after introducing control variables in Model 3.[3]

Model 4 introduced nuclear household structure at wave 1 to test *Hypothesis 3*, which expected the higher prevalence of single-mother families in Latino and African American families to partially explain racial/ethnic differences in extended household effects on children by reducing more positive effects relative to White children. This hypothesis was not supported. Although living with a single mother rather than married parents was indeed associated with lower cognitive and behavior scores, the magnitude and significance of the interactions between race/ethnicity and family structure changed little. Accounting for nuclear family structure fully explained the negative relationship between "grandparent plus other" extended household organization and cognitive scores among White children, and partially explained the negative relationship with the other two types of extended households in Table 3 (as evidenced by the main effects of extended households). Nuclear household structure also partially explained the negative association of "grandparent plus other" households and behavior scores for White children. However, the hypothesis predicted that this explanation would pertain to African American and Latino children, not Whites.

Model 5 introduced households' income-to-needs ratios to test Hypotheses 4 and 5. As in subsequent models, it retained wave 1 nuclear household structure as a relevant control. *Hypothesis 4* expected the selection of low-income White families into extended households to partially explain their negative associations between extended households and child outcomes. We assessed this hypothesis by examining whether the main extended household

[3]In split models, introducing nativity and household language into the models altered some relationships for African American and Latino children.

structure effects, which represent the reference group of White children, became less negative after income was controlled. The hypothesis was not supported for behavior scores and received only limited support for cognitive scores. Lower incomes were associated with lower cognitive and behavior scores as expected, but introducing income did not markedly change the significant extended household structure main effects for behavior and only modestly reduced them for cognitive scores. The selection of low-income White families into extended households appears to account for a small portion of the negative associations between cognitive scores and living with either grandparents or other adults.

Hypothesis 5 expected income-pooling strategies among Latino and African American extended households to partially account for their more positive association with child outcomes compared to Whites. We assessed this hypothesis by examining the African American and Latino interactions in Model 5. Again, the hypothesis received only limited support for cognitive scores and none for behavior. For cognitive scores, accounting for income explained a small portion of the significantly more positive (relative to White children) effect of living in a grandparent-only extended household compared to a nuclear household for African American children, and of the significantly more positive effect of living in an other-only extended household for Latino children. The magnitude and significance of the one remaining significant interaction in predicting behavior scores did not change meaningfully.

Finally, supplemental models not shown in the tables introduced direct and indirect measures of social support. *Hypothesis 6* expected greater levels of support from Latino and African American extended household members to account partially for racial/ethnic differences in extended household effects by reducing their more positive effects relative to White children. This hypothesis was not supported because no measures of support were significant for either outcome at the $p<.05$ level. However, compared to Model 4, there were changes in the interaction between being African American or Latino and living with a grandparent that were opposite the expected direction. Living with a grandparent had a modestly more positive association with cognitive scores among African American children after social support was controlled, and the interaction between Latino ethnicity and coresidence with grandparents became significant at $p<.05$. These differences emerged when the child care and housing variables were controlled, although these variables were not significantly related to cognitive scores. For White children (indicated by the main effects of extended household structures), accounting for social and instrumental support strengthened the negative relationships between extended households and cognitive scores. This suggests that for White children, the support provided by extended household members partly buffers the negative consequences of their coresidence for cognitive scores.

Figure 1 shows predicted cognitive scores based on a supplemental full model that included all variables from Table 3, as well as the measures of social support. Similar predictions are not shown for behavior because no extended household relationships remained at $p<.05$ in an equivalent model, except for a positive interaction between Latino and “grandparent plus other” household structures that counterbalanced the negative main effect. These predictions illustrate the associations of the interactions between race/ethnicity and extended household structure at wave 1 with cognitive scores at age 2, once all potential explanations have been controlled. We manipulated respondents’ race/ethnicity and extended household structures, and all other covariates were held at the analytic sample’s mean, median, or mode, as appropriate. The figure compares an otherwise “typical” child in each racial/ethnic group who had no nonnuclear household members with one who had at least one coresident grandparent, another who had at least one coresident “other” adult, and a third who lived with both grandparents and other adults. The findings clarify the significant comparisons based on the interactions that were described above, and they provide support for

Hypotheses 1 and 2. For White children, living in a nuclear household was associated with a significantly higher cognitive score than living with either grandparents or other adults. Among Black children, those living with at least one grandparent had the highest predicted cognitive score. Supplemental split models showed that for African American children, living with both grandparents and other adults was associated with a significantly lower cognitive score than living with grandparents or in a nuclear family. There were no significant differences across household structures for Latino children.

5 Discussion

Using a nationally representative sample of children born in the United States in 2001, this study examined associations between measures of extended household structure and children's directly assessed cognitive and behavioral outcomes at age 2. Taking advantage of the rich ECLS-B data, the analyses broadened the operationalization of household structure to reflect a more inclusive definition of "family," incorporating not only parents and their coresident partners, but also grandparents and other kin and nonkin adults in the household. Other researchers have highlighted the need for research that uses a less culturally specific definition of "family" (Barnett 2008; Demo and Cox 2000).

We found that extended household structures were common in the sample and were more prevalent among African American and Latino families than among Whites. Multivariate analyses showed that extended household members mattered in complex ways for children's cognitive and behavior scores at age 2. Coefficient sizes for significant extended household measures and interactions frequently exceeded coefficient sizes for parent and partner measures in the same models, often by a wide margin when predicting cognitive scores. This suggests that extended households are important to consider when studying family effects on children's early development in the U.S. Interestingly, the same household structures often had very different meanings for children's development depending on their race/ethnicity. Nuclear household structures, which are normative in many U.S. contexts, were protective for White children's early cognitive development. Three-generation households were associated with the highest cognitive scores for African-American children. Once other factors were controlled, Latino children's cognitive and behavioral development were similar across nuclear, vertically, and laterally extended households.

We proposed four potential explanations for racial/ethnic differences in the associations between extended household structures and children's early development. The hypothesis that racial/ethnic differences in parents' marital status would provide a partial explanation was not supported. However, there was evidence that the selection of White single-mother families into extended households influenced White children's cognitive development. The selection of low-income White families into extended households and income-pooling strategies among Latino and African American families received limited support as explanations for cognitive outcomes, but not for behavior. These findings reflect a larger pattern in the study, that the association of household structure with child development was stronger for cognitive measures than for behavioral measures. This is consistent with prior work on the effects of poverty on children, which suggests that residing in a low-income household is more consequential for cognitive than for socioemotional development (Brooks-Gunn and Duncan 1997). Accounting for extended household members' support did not explain racial/ethnic differences in the consequences of extended household structure as predicted, but rather exacerbated these differences for cognitive scores. Once all four explanations were controlled in supplemental models, three racial/ethnic differences remained in the associations between extended households and children's early development: African American children residing with a grandparent and Latino children living with other kin had predicted cognitive scores more than three points higher than

White children in the same household structures, and Latino children living with at least one grandparent and other adults had predicted behavior scores that were about four-tenths of a standard deviation higher than White children in the same situation.

What alternative explanations might there be for these differential associations for children from different racial/ethnic groups? One possibility is differences across groups in social norms regarding appropriate household structures. For example, in a nationally representative study of U.S. adults, Mollborn (2009) found that African Americans reported significantly less embarrassment at the prospect of a nonmarital birth in their family than White respondents, reflecting different social norms about the acceptability of nonmarital family structures between these groups. Similarly, Cherlin and colleagues (2008) found that low-income African American women were more likely than Mexican and Dominican Americans to prefer to have children first and marry later. Less is known about social norms regarding the presence of extended household members. Living in family structures that are more socially acceptable for one's racial/ethnic group could improve children's outcomes because the community might provide more support for normative families and less support for nonnormative ones. For example, a White household consisting of children residing with a single mother, a grandmother, and an uncle would likely be considered nonnormative in that family's racial/ethnic group, and social and institutional supports in the community would probably not be optimized for this household structure. This could lead to compromised child development through various pathways, including lower levels of social, emotional, and instrumental support from outside the household influencing the mother's mental health and her ability to parent effectively.

Additionally or alternatively, selection effects may be at work beyond those we could measure here. Children from more marginalized or disadvantaged families, who were likely to end up with compromised developmental outcomes regardless of their household structure, may be overrepresented in households containing extended household members. One type of selection effect may be that economically disadvantaged families disproportionately form extended or multifamily households. Our analyses controlled for household income and for some aspects of mothers' socioeconomic background, but household economic disadvantage may not have been captured adequately enough to completely net out these selection effects. Another potential selection effect was identified by Gordon and colleagues (2004): Young mothers who had poor parenting skills disproportionately coresided with extended family members. These lower-quality parenting skills, regardless of household structure, would likely translate into lower cognitive scores for such mothers' children. Finally, normative explanations may combine with selection processes to influence outcomes. For example, if extended households are not normative for a particular group, then the families that select into extended household structures may be less "typical" than the families that select into extended households in a group that considers extended family coresidence to be more socially acceptable.

This study was limited in several ways. Importantly, the sample did not include sufficient numbers to study racial/ethnic groups other than Latinos and non-Latino Blacks and Whites, nor was the sample size sufficient to examine diversity within the racial/ethnic groups we studied. For example, even though it is socially meaningful in the U.S. context, the "Hispanic/Latino" label glosses over a wealth of diversity in countries of origin and current circumstances (Portes and Bach 1985). Our sample excluded children of mothers younger than age 15 at their birth, who are an important and marginalized, though small, population. We also lacked rich quantitative or qualitative data that might explain *why* different household structures were associated with different outcomes across racial and ethnic groups. This is an important avenue for future research. Using later waves of ECLS-B data,

we hope to track children's development through kindergarten to introduce multiple household structure transitions and later developmental outcomes.

This study finds that nonnuclear household members are important for understanding children's outcomes. An expanded definition of "family" that includes indicators not only for the presence of parents and their partners, but also extended household members, is recommended for future research on family structure. We recommend that data collection efforts that are measuring household structure in early childhood include indicators for coresident parents (including an indicator of marriage versus cohabitation when both biological parents are present), parents' married versus cohabiting partners, siblings, non-sibling children, grandparents, non-grandparent adult kin, and non-kin adults. To the extent that these indicators are not available in existing data, policymakers and service providers should be aware that important dimensions of family structure are not being captured.

An important theoretical implication is that while the presence or absence of extended household members is often associated with children's early cognitive and behavioral outcomes for Latino, African American, and White children, these relationships differ across racial/ethnic groups. A household structure that is associated with positive developmental outcomes for one toddler may be detrimental for another. Future research should be cognizant of this variation in the composition of families and their meanings for children's development. Policymakers and service providers should be aware that a "one size fits all" view of the merits of one type of household structure over another in early childhood may result in policies and practices that benefit some children at the expense of others.

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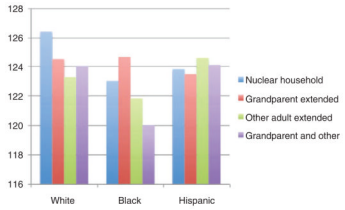

Fig. 1.

Predicted age 2 cognitive scores, by wave 1 extended household structure. Predictions use estimates from a supplemental model predicting cognitive scores from all variables included in analyses from Table 3. Analyses account for sample design effects and probability weights. Predicted values are computed using weighted sample means (if continuous)/ medians (if ordinal)/modes (if dichotomous) for all variables except race/ethnicity and extended household structure

Notes: Source: Early Childhood Longitudinal Study-Birth Cohort, 2001. N ≈ 8,450.

Table 1

Weighted means and proportions, by race/ethnicity

	All Mothers (N ≈ 8,450)	SD	White (N ≈ 3,650)	African American (N ≈ 1,350)	Latino (N ≈ 1,700)
Wave 1 cognitive T-score	50.11	(9.85)	50.60^{ab}	49.36^{a}	49.61^{b}
Wave 2 cognitive T-score	50.07	(9.99)	$52.58^{a,b}$	$47.27^{a,c}$	$46.41^{c,b}$
Wave 1 behavior rating	0.10	(0.97)	$0.15^{a,b}$	0.05^{a}	0.03^{b}
Wave 2 behavior rating	0.09	(0.98)	$0.17^{a,b}$	0.03^{a}	-0.02^{b}
Race/ethnicity					
White	0.54	(0.50)	–	–	–
African American	0.14	(0.35)	–	–	–
Latino	0.25	(0.43)	–	–	–
Other race	0.07	(0.26)	–	–	–
Wave 1 family structure					
Single	0.19	(0.40)	$0.10^{a,b}$	$0.59^{a,c}$	$0.19^{c,b}$
Married to bio dad	0.67	(0.47)	$0.81^{a,b}$	$0.28^{a,c}$	$0.56^{c,b}$
Cohabiting with bio dad	0.14	(0.35)	$0.09^{a,b}$	$0.13^{a,c}$	$0.25^{c,b}$
Nonbio partner	0.01	(0.11)	0.01^{a}	0.01^{a}	0.01
No extended household	0.78	(0.42)	$0.87^{a,b}$	0.66^{a}	0.65^{b}
Grandparent(s) only	0.10	(0.30)	$0.07^{a,b}$	$0.16^{a,c}$	$0.13^{c,b}$
Other adult(s) only	0.07	(0.25)	$0.03^{a,b}$	$0.08^{a,c}$	$0.15^{c,b}$
Grandparent(s) and other(s)	0.05	(0.22)	$0.03^{a,b}$	0.10^{a}	0.08^{b}
Wave 2 assessment age (mos.)	24.38	(1.16)	24.35^{b}	24.39	24.45^{b}
# in household under 18	1.13	(1.18)	$1.01^{a,b}$	$1.41^{a,c}$	$1.24^{c,b}$
Female child	0.49	(0.50)	0.49	0.48	0.49
Grandmother's education					
Less than high school	0.34	(0.47)	$0.21^{a,b}$	$0.35^{a,c}$	$0.61^{c,b}$
High school diploma	0.30	(0.46)	0.35^{b}	0.35^{c}	$0.16^{c,b}$
Some college	0.19	(0.39)	$0.24^{a,b}$	$0.16^{a,c}$	$0.10^{c,b}$

	All Mothers (N ≈ 8,450)	SD	White (N ≈ 3,650)	African American (N ≈ 1,350)	Latino (N ≈ 1,700)
College degree or more	0.14	(0.34)	0.18[a,b]	0.08[a]	0.06[b]
Missing information	0.04	(0.19)	0.02[a,b]	0.06[a]	0.07[b]
Mom live with parents until 16	0.59	(0.49)	0.64[a,b]	0.36[a,c]	0.59[c,b]
Mom on welfare age 5 to 16	0.11	(0.31)	0.08[a,b]	0.24[a,c]	0.10[c,b]
Mom welfare history missing	0.01	(0.11)	0.01	0.02	0.01
Foreign-born mother	0.21	(0.41)	0.05[a,b]	0.11[a,c]	0.57[c,b]
English is household language	0.81	(0.39)	0.97[a,b]	0.95[a,c]	0.42[c,b]
Teenage mother	0.11	(0.31)	0.07[a,b]	0.20[a,c]	0.14[c,b]
Wave 1 household income					
Under 100% of poverty line	0.23	(0.42)	0.12[a,b]	0.47[a,c]	0.35[c,b]
100–199%	0.28	(0.45)	0.23[a,b]	0.29[a,c]	0.39[c,b]
200–299%	0.12	(0.33)	0.14[a,b]	0.09[a]	0.10[b]
300–399%	0.12	(0.33)	0.16[a,b]	0.08[a]	0.06[b]
400% or greater	0.24	(0.43)	0.35[a,b]	0.08[a]	0.09[b]
Coresident kin does child care	0.09	(0.28)	0.05[a,b]	0.14[a]	0.13[b]
Lives with relative/friend free	0.05	(0.21)	0.04[a]	0.09[a,c]	0.05[c]
Mother's depressive symptoms					
None	0.54	(0.50)	0.58[a,b]	0.41[a,c]	0.52[c,b]
Mild	0.23	(0.42)	0.23[a,b]	0.27[a,c]	0.20[c,b]
Moderate	0.09	(0.29)	0.08[a]	0.14[a,c]	0.08[c]
Severe	0.06	(0.24)	0.06[a]	0.10[a,c]	0.06[c]
Missing information	0.08	(0.28)	0.05[a,b]	0.09[a,c]	0.14[c,b]

Early Childhood Longitudinal Study-Birth Cohort, 2001

SD standard deviation

[a]White/Black difference significant at $p<.05$,

[b]White/Hispanic difference significant at $p<.05$,

[c]Black/Hispanic difference significant at $p<.05$

Table 2

Weighted bivariate analyses of extended households and child outcomes

	Cognitive		behavior	
	Mean	**SE**	**Mean**	**SE**
White				
Nuclear household	52.98	0.22	0.20	0.02
Coresident grandparent(s) only	50.69	0.65[a]	0.10	0.07
Coresident other adult(s) only	47.95	1.08[ab]	0.02	0.12
Coresident grandparent(s) and other(s)	49.78	1.44[a]	−0.26	0.15[ab]
African American				
Nuclear household	47.31	0.41	0.05	0.04
Coresident grandparent(s) only	49.57	0.77[a]	0.06	0.08
Coresident other adult(s) only	45.99	0.98[b]	−0.05	0.13
Coresident grandparent(s) and other(s)	44.19	0.86[ab]	−0.16	0.11
Latino				
Nuclear household	46.73	0.36	0.00	0.04
Coresident grandparent(s) only	46.85	0.70	−0.12	0.10
Coresident other adult(s) only	44.63	0.59[ab]	−0.01	0.07
Coresident grandparent(s) and other(s)	46.53	1.05	−0.04	0.10

Early Childhood Longitudinal Study-Birth Cohort, 2001, 9-month wave for household structure and 2-year wave for cognitive and behavior scores. N≈8,450 cognitive, N≈8,300 behavior. *SE* standard error. Analyses include probability and replication weights

No means were significantly different from other adult(s) only at $p<.05$

[a] Different from nuclear household at $p<.05$,

[b] Different from grandparent(s) only at $p<.05$

Child Indic Res. Author manuscript; available in PMC 2012 July 1.

Table 3

Regression of age 2 cognitive scores on extended household structure and race/ethnicity

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Wave 1 cognitive score	0.25****	0.25****	0.23****	0.22****	0.22****
Wave 2 assessment age	1.86****	1.86****	1.92****	1.93****	1.96****
Wave 1 extended household[b]					
Grandparent(s) only	−0.98**	−2.87****	−2.42****	−1.95***	−1.66**
Other adult(s) only	−2.59****	−4.24****	−3.67****	−3.39***	−3.12***
Grandparent(s) and other(s)	−2.27****	−3.53**	−3.09**	−2.39	−2.16
Child's race/ethnicity [c]					
African American	−4.97****	−5.62****	−4.48****	−3.78****	−3.39****
Latino	−5.62****	−6.26****	−3.42****	−3.01****	−2.53****
Other/multiracial	−2.73****	−2.81****	−1.69****	−1.51***	−1.39***
African American* grandparent[a]		4.85****	4.06****	3.87****	3.43***
Latino* grandparent [a]		2.64**	2.05**	2.00*	1.36
African American* other adult [a]		2.14	1.91	2.26	1.89
Latino* other adult [a]		2.67*	3.77***	4.10***	3.89***
African American* both[a]		0.30	−0.04	−0.21	−0.64
Latino* both[a]		3.50*	3.20*	2.93	2.52
Female child [a]			3.26****	3.29****	3.34****
Grandmother's education [d]					
< high school			−1.19***	−1.04***	−0.76**
Some college			1.03**	0.92**	0.75*
College degree			2.17****	1.93****	1.44***
Missing information			−1.74**	−1.51**	−1.04
Mother lived with parents until 16 [a]			0.99****	0.86***	0.63**
Mother on welfare age 5 to 16[a]			−0.72	−0.51	−0.31

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Mother's welfare history missing [a]			0.03	0.30	0.78
Foreign-born mother [a]			−0.81	−1.02*	−1.05*
English is household language[a]			2.88****	2.95****	2.58****
Teenage mother [a]			−0.23	−0.21	0.25
Wave 1 nuclear family structure [e]					
Single mother				−1.19***	−0.32
Two cohabiting parents				−1.69****	−1.03**
Additional children in household				−0.68****	−0.47****
Household income-to-needs ratio [f]					
<100% poverty line					−3.29****
100–199% poverty line					−3.18****
200–299% poverty line					−2.63****
300–399% poverty line					−0.76
Constant	71.94****	72.26****	66.30****	67.38****	68.55****
R-squared	0.17	0.18	0.22	0.23	0.24
Design-based F statistic	103.91****	50.91****	43.05****	39.24****	37.58****
Incremental F statistic		3.33****	28.56****	15.66****	16.85****

Early Childhood Longitudinal Study-Birth Cohort, 2001. N ≈ 8,450 cognitive, N ≈ 8,300 behavior Analyses account for sample design effects. Interactions with "other" race were omitted from the table Incremental F test compared Models 2–4 to the previous model and Model 5 to Model 3

*p<.10,

**p<.05,

***p<.01,

****p<.001,

[a]1=yes

Reference categories:

[b]Nuclear household,

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[c] White,

[d] High school degree,

[e] Two married parents,

[f] ≥400% of poverty line

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Table 4

Regression of age 2 behavior scores on extended household structure and race/ethnicity

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Wave 1 cognitive score	0.19****	0.19****	0.19****	0.19****	0.18****
Wave 2 assessment age	0.05****	0.05****	0.06****	0.06****	0.06****
Wave 1 extended household[b]					
Grandparent(s) only	−0.09*	−0.11	−0.05	0.01	0.02
Other adult(s) only	−0.07	−0.17	−0.11	−0.08	−0.06
Grandparent(s) and other(s)	−0.24****	−0.50***	−0.43***	−0.35**	−0.34**
Child's race/ethnicity [c]					
African American	−0.11***	−0.13***	−0.06	0.01	0.04
Latino	−0.15****	−0.19****	−0.10**	−0.06	−0.04
Other/multiracial	−0.16****	−0.16****	−0.14***	-0.12**	−0.11**
African American* grandparent[a]		0.12	0.09	0.07	0.04
Latino* grandparent [a]		−0.02	−0.04	−0.06	−0.09
African American* other adult [a]		0.07	0.01	0.03	0.00
Latino* other adult [a]		0.19	0.19	0.20	0.18
African American* both[a]		0.29	0.27	0.25	0.23
Latino* both [a]		0.49***	0.46**	0.43**	0.42**
Female child [a]			0.27****	0.27****	0.27****
Grandmother's education [d]					
< high school			−0.08**	−0.07*	−0.05
Some college			−0.02	−0.02	−0.03
College degree			0.08*	0.06	0.03
Missing information			−0.18**	−0.16**	−0.13*
Mother lived with parents to 16 [a]			0.14****	0.13****	0.12****
Mother on welfare age 5 to 16[a]			0.03	0.05	0.06
Mother's welfare info missing[a]			−0.14	−0.13	−0.10

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Foreign-born mother [a]			0.01	−0.01	−0.01
English is household language[a]			0.07	0.08	0.05
Teenage mother [a]			−0.12**	−0.09*	−0.06
Wave 1 nuclear family [e]					
Single mother				−0.14***	−0.08
Two cohabiting parents				−0.15****	−0.11**
Additional children in household				−0.03**	−0.01
Household income-to-needs[f]					
<100% poverty line					−0.22****
100–199% poverty line					−0.19****
200–299% poverty line					−0.09*
300–399% poverty line					−0.08
Constant	−1.05****	−1.04****	−1.46****	−1.45****	−1.38****
R-squared	0.05	0.05	0.08	0.09	0.09
Design-based F statistic	27.30****	13.53****	14.18****	13.77****	13.03****
Incremental F statistic		1.37	14.39****	6.82****	5.80****

Early Childhood Longitudinal Study-Birth Cohort, 2001. N ≈ 8,450 cognitive, N ≈ 8,300 behavior Analyses account for sample design effects. Interactions with “other” race were omitted from the table Incremental F test compared Models 2–4 to the previous model and Model 5 to Model 3

*p<.10,

**p<.05,

***p<.01,

****p<.001,

[a]1=yes

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[b]Nuclear household,

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