



# Harold B. Lee Library

ACCESS SERVICES DEPT.

3445 HBLL, PROVO, UT, 84602

PHONE: (801) 422-8663

FAX: (801) 422-0471

EMAIL: [ill@byu.edu](mailto:ill@byu.edu)

Thank you for using the Harold B. Lee Library! The document you requested is attached. If there is a problem with the content/quality of this document, please contact us with the following info:

ILL Number	
Your OCLC Symbol	
Problem Description	<p><input type="checkbox"/> This is the wrong article/material</p> <p><input type="checkbox"/> The document is unreadable/illegible and should be resent</p> <p><input type="checkbox"/> Some pages were missing: pp. <input type="text"/> to <input type="text"/></p> <p><input type="checkbox"/> Some edges were cutoff: pp. <input type="text"/> to <input type="text"/></p> <p><input type="checkbox"/> Other (explain):</p>

**NOTICE: This material may be protected by copyright law Title 17 U.S. Code**



# The Asian American Advantage in Math among Young Children: The Complex Role of Parenting

Sociological Perspectives

2017, Vol. 60(2) 315–337

© The Author(s) 2016

Reprints and permissions:

[sagepub.com/journalsPermissions.nav](http://sagepub.com/journalsPermissions.nav)

DOI: 10.1177/0731121416641676

[journals.sagepub.com/home/spx](http://journals.sagepub.com/home/spx)

**Benjamin G. Gibbs<sup>1</sup>, Priyank G. Shah<sup>2</sup>,  
Douglas B. Downey<sup>3</sup>, and Jonathan A. Jarvis<sup>1</sup>**

## Abstract

Asian American children exhibit stronger math and reading skills than white children at school entry, a pattern that has motivated scholars to examine early childhood to determine when and why these gaps form. Yet, to date, it has been unclear what parenting practices might explain this “Asian Advantage.” Analyzing more than 4,100 children from the Early Childhood Longitudinal Study–Birth Cohort, we find that the role of parenting is complex. Asian American parents have high educational expectations compared with whites but are less engaged in traditional measures of parenting (e.g., reading to the child, maternal warmth, parent-child relationship), and these differences matter for understanding the Asian American/white math advantage in early childhood. Thus, even by age four, Asian American parents (across ethnic subgroups) play an important but complex role in the development of a child’s cognitive skills in the first few years of life.

## Keywords

achievement gap, Asian Americans, parenting

Unlike most other racial/ethnic minority groups, Asian Americans achieve household incomes above the average and are overrepresented in prestigious occupational careers (Kao and Thompson 2003; Sakamoto, Goyette, and Kim 2009; Xie and Goyette 2004). Because this favorable economic outcome is closely linked to educational success, scholars have turned their attention toward understanding why Asian Americans have performed so well in school. Asian American students excel across several educational measures, such as grade point average (GPA), high school completion rates, college entrance exams, and enrollment rates at prestigious universities (Aud, Fox, and Ramani 2010; Kao and Thompson 2003; Lee and Zhou 2014), prompting the label “model minority.” Most existing research, however, has focused on adolescence, a period when the Asian American advantage is already well established. Scholars know less about when and why the Asian American advantage in schooling emerges.

---

<sup>1</sup>Brigham Young University, Provo, UT, USA

<sup>2</sup>Rochester, MN, USA

<sup>3</sup>The Ohio State University, Columbus, OH, USA

## Corresponding Author:

Benjamin G. Gibbs, Department of Sociology, Brigham Young University, 2032 JFSB, Provo, UT 84602, USA.

Email: [benjamin\\_gibbs@byu.edu](mailto:benjamin_gibbs@byu.edu)

Several recent studies indicate a sizable Asian American advantage at kindergarten entry that does not increase during later school years (Choi, Hsin, and McLanahan 2015; Fryer and Levitt 2004; Han 2008), suggesting that early childhood processes are key to understanding the gap. Yet, as scholars have begun to examine early childhood to understand the origins of the gap, they struggle to evaluate the family's role. Using the high quality Early Childhood Longitudinal Survey–Birth Cohort 2001 data, Yongmin Sun (2011) concluded that “much of the cognitive advantages of East Asian Americans at the ages of two and four are explained by differences in parental resources” (Sun 2011:377), including maternal warmth and parent cognitive support. We broaden the scope of that analysis to include a wider array of parenting indicators. We separate parenting by abstract ideals and tangible behaviors to distinguish among the types of parenting that may matter for understanding the Asian American cognitive skill advantage. In addition, unlike previous work, we go beyond pan-ethnic or regional Asian comparisons to examine specific countries of origin.

### **When and Why Does the Asian American Advantage Develop?**

The Asian American/white academic achievement gap in adolescence is well documented (Aud et al. 2010; Harris, Trujillo, and Jamison 2008; Kao and Thompson 2003; Kao, Tienda, and Schneider 1996; National Center for Education Statistics 2013; Xie and Goyette 2004), but when and why does it emerge? Recent research analyzing the nationally representative Early Childhood Longitudinal Study–Kindergarten Cohort (ECLS-K) indicates that the Asian American advantage over whites in math and reading skills is sizable at kindergarten entry, about .250 standard deviation units, and then changes only slightly (or in some cases appears to decline) during elementary school years (Choi et al. 2015; Fryer and Levitt 2006; Han 2008). This pattern directs our attention to early childhood processes as the source of the gap.

We group previous explanations for the emergence of the Asian American advantage in cognitive skills into three broad and interrelated categories: (1) favorable family socioeconomic characteristics, (2) immigrant drive, and (3) parenting.

#### ***Socioeconomic Status***

Socioeconomic explanations of the Asian American achievement advantage attribute the pattern to better-educated parents with more resources to invest in their children's education (Sakamoto et al. 2009). Several studies find support for this view. For example, Angel L. Harris and colleagues (2008) demonstrate that approximately one-third of the Asian American/white gap in grades is accounted for when controlling for socioeconomic status. And in research examining early childhood, Roland G. Fryer and Steven D. Levitt (2004) explained roughly half the Asian American/white gap in math and reading skills at kindergarten entry with parents' socioeconomic status.

But these patterns supporting the socioeconomic explanation are not without nuance. Some scholars find that parents' socioeconomic status explains a portion of the Asian American advantage in reading and verbal skills but not math (Choi et al. 2015; Han 2008). Research on the Asian American/white gap in early childhood finds that socioeconomic status explains, at best, 18 percent of the gap between whites and East Asians' math skills at age four (Sun 2011).<sup>1</sup> In early childhood years, socioeconomic status may play a role in the gap but it appears to be modest, varies by cognitive skill type, and does not reveal the specific within-home mechanisms that might account for its benefit.

In addition, socioeconomic factors do not operate uniformly across Asian American subgroups. The limitations of the socioeconomic explanation are particularly evident when considering the extraordinary achievement of refugee children from disadvantaged families. Several

researchers have found that students from Southeast Asia, particularly Vietnamese youth, excel academically despite coming from underprivileged backgrounds (Bankston, Caldas, and Zhou 1997; Caplan, Choy, and Whitmore 1992; Han 2008; Lee and Zhou 2014; Portes and Rumbaut 2001).<sup>2</sup> And while parents' socioeconomic status helps explain some of the advantage of Filipino and Japanese Americans, it is less useful for when accounting for the academic success of Chinese, Korean, and Southeast Asian American students (Kao 1995).

### *Immigrant Background*

Relatedly, another key explanation for the academic success of Asian American students is the importance of the immigrant experience. Immigrants are unique in their "educational selectivity" (Feliciano 2005), and scholars argue that as newcomers to the United States, they (and their children) have a strong desire to make a better life in their new homeland (Ogbu 1991b; Portes and Zhou 1993; Schneider and Lee 1990). The desire to improve their family's social and economic circumstances, as well as their comparatively high educational status, prompts immigrant parents to emphasize the socioeconomic advancement of their children via school success (Feliciano 2006; Ogbu 1991b; Schneider and Lee 1990; Sue and Okazaki 1990).

Among immigrant children, this drive to excel is bolstered by the need to justify their parents' sacrifices (Fuligni 1997; Ogbu 1991a). For example, Vivian Louie (2001) found that when Chinese immigrant parents experienced downward mobility as a result of immigration to the United States, their children's academic success was perceived as a validation of this sacrifice. Other immigrant families view the difficulties and disadvantages encountered in the United States (in contrast to their homeland) as temporary and surmountable. For children of these immigrant families, this "immigrant optimism" encourages a focus on academic excellence because they believe it will "payoff" (Fuligni 1997; Ogbu 1991a).

One way to measure the impact of the "immigrant drive" is to examine whether Asian immigrants have higher academic gains than U.S.-born Asian Americans. To date, there is some empirical evidence that immigration is associated with higher scores among Asian adolescents (Fuligni 1997; Kao 2004; Pong, Hao, and Gardner 2005; Sun 1998).<sup>3</sup> Andrew Fuligni (1997) surveyed schoolchildren between sixth and eighth grade and found that, even when accounting for socioeconomic status, Asian adolescents from immigrant families had higher grades than Asian children from nonimmigrant families. Similarly, Suet-Ling Pong and colleagues (2005) found that first-generation Asian Americans in junior and senior high school had higher GPAs than second-generation Asian Americans and white students,<sup>4</sup> even when controlling for a number of covariates (i.e., parenting style, involvement, socioeconomic status). And, most recently, Amy Hsin and Yu Xie (2014) note that as much as 80 percent of the "academic effort" advantage of Asian American tenth-graders could be attributed to immigrant status.<sup>5</sup>

While immigrant status appears to play a meaningful role in understanding the Asian American advantage among adolescents, it is unclear whether the processes at work among adolescents would apply to young children. While there are several studies that examine early childhood while accounting for racial/ethnic variations, they seldom examine immigration status (i.e., Hillemeier et al. 2009; Koury and Votruba-Drzal 2014; Lynch 2011; Mollborn and Lovegrove 2011; Sun 2011). Kate H. Choi and colleagues (2015) focused on mother's English proficiency (a likely correlate with immigrant status) and its link to early math and reading development, and found that it had no relationship to Asian/white gaps in early childhood development at school entry. Likewise, Amanda S. Koury and Elizabeth Votruba-Drzal (2014) found no significant relationship between immigration status and math or reading performance at the start of kindergarten. These studies suggest that immigrant status may play a less significant role in understanding the emergence of the Asian American advantage in early childhood, even if it matters at other developmental periods.

## Parenting

While socioeconomic status (and to a lesser extent immigration status) may explain part of the Asian American advantage, the more proximate mechanisms that produce cognitive skill advantages of very young Asian American children are still not clear. There is a considerable body of research suggesting that Asian Americans' parenting practices differ from those of other racial/ethnic groups. On average, Asian American parents have high educational expectations for their adolescent children and these play a key role in explaining their children's successful school performance (Goyette and Xie 1999; Kao 1995; Kao and Tienda 1998; Qian and Blair 1999; Sakamoto et al. 2009). These "success frames" appear to be an important path by which Asian American adolescents overcome socioeconomic disadvantage (Lee and Zhou 2014). However, we know little about the specific parenting practices among younger children that may be responsible for the *emergence* of the Asian American advantage in cognitive skills.

Sun's (2011) analysis of 7,800 infants and Koury and Votruba-Drzal's (2014) examination of 6,850 infants, both using the Early Childhood Longitudinal Study–Birth Cohort, provide two of the more important studies of parenting across racial/ethnic groups among young children. Sun (2011) found no Asian American advantage in cognitive skills at nine months, but noted that East Asian American (Chinese, Japanese, and Korean) children made greater gains between nine months and two years of age than white children. By age four, East Asian American children outperformed peers from all other racial/ethnic groups in math and literacy by a large margin. Sun concluded that parenting resources explained much of the advantages of East Asian children. Along with socioeconomic status, Sun measured parental resources with indicators of parent-child communication (e.g., reading books together, telling stories, or singing songs), as well as direct observations of maternal care during the interview (e.g., gave the child a toy, kissed or hugged the child, spoke to the child spontaneously twice or more, and kept the child in view).

Sun's study provides important evidence that the Asian American advantage emerges in force between ages two and four, but it raises additional questions about *why* the gap emerges. It is difficult to discern from Sun's study precisely the role that "parenting" plays in explaining the gap in cognitive skills between Asian American and white children because indicators of parenting (i.e., parent-child communication) were entered into the model along with a wide range of other family characteristics (i.e., family income, parents' education, maternal care). While all of these family characteristics together reduced the East Asian American/white gap in a meaningful way (an 18 percent reduction of the East Asian American/white gap from previous models), it is difficult to know the extent to which parent-child communication (as opposed to income and education) was responsible for that reduction. In addition, key measures of parenting identified in Asian families as significant—parental educational expectations—were excluded from analyses.

Compared with Sun (2011), Koury and Votruba-Drzal's (2014) results are hard to reconcile. Using the same measures of parenting, the size of the East Asia/Pacific Islander, Indian Asian, and U.S.-born Asian early math and reading gaps (relative to white children) increase when "parenting" is statistically controlled, suggesting that Asian children outperform white children *despite* the way they are parented. The pattern holds when socioeconomic and other factors are considered. Thus, parenting seems to explain none of the Asian American advantage, a pattern inconsistent with Sun's (2011) study when grouped with socioeconomic status. Neither study, however, examined the role of parental educational expectations or a broader array of parenting indicators.

## Parenting: Abstract Ideals and Tangible Behaviors

Our first contribution is to separate "parenting" into two dimensions: *abstract ideals* and *tangible behaviors*. *Abstract ideals* are *beliefs* parents have about the importance of schooling and the kinds of skills necessary for school success. In contrast, *tangible behaviors* encompass specific

and observable parenting behaviors that reflect how abstract ideals are put into action. These two dimensions of parenting represent what parents think (attitudes) and do (behaviors).

Although these measures can conceptually overlap, they are also distinct in ways that have value for understanding Asian American parenting styles, which appear to be characterized by high levels of abstract ideals but lower levels of tangible behaviors. For example, Asian American parents are more likely than white parents to expect their child to perform well in school (Dornbusch et al. 1987; Lamborn, Steinberg, and Dornbusch 1991; Steinberg, Dornbusch, and Brown 1992), but are *less* likely to engage in a wide variety of parent-child interactions such as helping with homework, participating in academic planning, volunteering at their child's school, participating in Parent Teacher Association/Organization (PTA/PTO), attending school events, and visiting libraries (Hao and Bonstead-Burns 1998; Kao 1995; Massey et al. 2003; Robinson and Harris 2014; Sun 1998).<sup>6</sup> The extent to which Asian American parents exhibit these seemingly contradictory parenting attitudes and behaviors—high expectations with less parental involvement—in early childhood is yet unknown.

### A Subgroup Focus

Our second contribution is to move beyond the examination of parents and their children by Asian regions to focus more specifically on the parents' countries of origin. As pan-Asian categories obscure important nuance, so, too, can groupings by Asian regions (e.g., Koury and Votruba-Drzal 2014; Sun 2011) hide very different advantages as each country has specific cultures and immigration histories that can then shape the home environment for young children. For example, Chinese and Vietnamese immigrants are noteworthy groups. Chinese Americans represent the largest Asian American population, and have the largest academic advantage over other Asians and whites (Blair and Qian 1998; Huntsinger et al. 1997; Pang, Han, and Pang 2011), but, surprisingly, are not as socioeconomically advantaged as other Asian subgroups such as Indian and Filipino (Pew Research Center 2012). Even more puzzling, Vietnamese parents have children who outperform their white counterparts despite considerably lower socioeconomic resources than most Asian subgroups and whites (Lee and Zhou 2014).

We argue for a more country-specific approach. For example, it is likely that the Chinese and Vietnamese advantages are the result of something more than "filial piety." Defined, filial piety is an ideology that focuses on forming interdependence—rather than independence—among children, and is present across East Asian countries (China, Korea, Japan) and in Vietnam (Chao and Tseng 2002). As Vietnamese parents are less likely to value independence and social skills and more likely to value compliance than whites (Wise and da Silva 2007), so, too, do Japanese and Korean parents (Chao and Tseng 2002). Likewise, Chinese parents are less likely to focus on promoting self-esteem than white parents (Chao 1995), but more likely to focus on self-development through learning as a part of moral development (Li 2004). So while filial piety is distinct in comparison with western learning, it is a more common tenet of Confucian-based learning that has heavily influenced many East Asian countries—not just China and Vietnam. Therefore, it is hard to explain differences between various Asian American households with the concept of filial piety.

In support of a more country-specific approach, Min Zhou and Jennifer Lee (2014:8322) argue that unlike other Asian American groups, "Chinese and Vietnamese immigrant communities have developed an elaborate system of supplementary education—private afterschool services, such as tutoring, examination cram and drill classes, college prep courses, and enrichment programs." These forms of supplementary education vary in cost and quality and are available to families with differing resources (Zhou and Lee 2014). Also, Chinese and Vietnamese Americans have some of the lowest intermarriage rates among Asian subgroups—lower than Japanese, Filipinos, and Koreans (Pew Research Center 2012).

To date, most “Asian advantage” studies use more universal pan-Asian cultural themes to account for achievement gaps, primarily in adolescence, while these patterns have yet to be documented in early childhood. Finding specific advantages among Chinese and Vietnamese cases compared to other Asian American groups would suggest that these unique advantages result from practices and behaviors that 1) extend into early childhood and 2) are yet to be articulated as country-specific. Thus, finding large cognitive skill advantages among Chinese and Vietnamese Americans would not only turn attention toward early childhood as a way to understand the source of Asian American advantages, but also further motivate inquiry into the *diverse contexts* of early child development across Asian American homes.

## Data and Measures

We use the Early Childhood Longitudinal Survey–Birth Cohort 2001 (ECLS-B). The ECLS-B is a large nationally representative study of approximately 10,000 children. The data are well suited for studying the origin of racial/ethnic group differences in cognitive skills given that direct child assessments were conducted at five points during the early childhood years. The five waves of the ECLS-B were administered at approximately: nine months (2001–2002), 24 months (2003–2004), 48 months (2005–2006), Kindergarten Fall 2006, and Kindergarten Fall 2007.

Because the primary focus of this research is the origin of the Asian American/white cognitive skills gap, we restrict the analysis to Asian American and white children, resulting in 4,175 cases. Parents reported the child’s race during the parent interview. The Asian group includes all children reported as “Asian.” Only children identified as “Asian” who had either a single mother or both parents from the same country of origin were grouped into country categories. In line with previous studies that have separated Asians into subethnic categories (Choi et al. 2015; Han 2008; Hsin and Xie 2014; Kao 1995), we created subcategories of Indian, Chinese, Filipino, Korean, Vietnamese, and “Other Asian.” The “Other Asian” category includes groups with too few cases to analyze reliably, such as Japanese Americans (fewer than 25 cases). We use multiple-imputation procedures to compensate for missing data for independent and control variables (von Hippel 2007). Missing data range across variables from less than 1 percent to 16 percent.

### *Dependent Variable—Preschool Math Skill*

The ECLS-B children were administered a series of direct cognitive assessments at wave three (otherwise designated as “T3”) when the child was 48 months, or four years of age. The objective of the assessments was to understand the cognitive skills of children before the onset of formal schooling. For the current study, we focus specifically on the math cognitive assessments.<sup>7</sup> Early math skills are a key measure of school readiness and an important predictor of later academic achievement (Duncan et al. 2007). Math skills also are less sensitive to language variations across immigrant backgrounds (Crosnoe 2007). The direct cognitive assessment determined a child’s math skills using an adaptive two-stage approach. The first stage entails the use of a core set of questions, which routed the child to the appropriate difficulty (low or high) for the second stage. Test items included early math skills related to number sense, counting, operations, basic geometry, and pattern understanding.<sup>8</sup> The Item Reponse Theory (IRT) Math scale scores range from 9 to 66.

The IRT Math scale exhibits both validity and reliability. Individual items display concurrent validity within acceptable standards (see Najarian et al. 2010). There is no evidence of ceiling or floor effects, and the IRT score appears to capture a single underlying factor across waves, suggesting reasonable vertical scaling over time. The math scores at 48 months correlate with mathematics assessments at kindergarten entry (.72), and the alpha reliability is high (.89; see Najarian et al. 2010, Table 21). For ease of interpretation, we standardized the measure.

### *Independent Variables—Socioeconomic Status, Immigration Status, and Parenting*

The role of a family's socioeconomic status is of particular importance for the performance of Asian American youth given that many Asian American parents were favorably selected for immigration in terms of education (Feliciano 2005; Kao and Thompson 2003). To gauge the role of socioeconomic status, we use measures of the parents' combined highest level of education, household income, and whether either parent is searching for a job but is currently unemployed.<sup>9</sup>

To assess the extent to which the *immigrant drive* explanation accounts for Asian American performance, we are limited to an indirect measure—the mother's immigrant generation status. Mother's immigrant generation status is specifically used because information about parent's immigration history was captured with wave three parent interviews, which were overwhelmingly completed by mothers. Unfortunately, very limited information was reported about the father's immigration history. Mother's immigrant generation status is determined using information about the mother's country of birth (United States or abroad) and the age at which the mother immigrated.

We divided immigration status into three subgroups (Rumbaut 1994, 2004). Mothers who were born abroad and were 13 years of age or older when they came to the United States were categorized as "1st Generation." Mothers who were born abroad and came to the United States prior to the age of 13 were categorized as "1.5 Generation" immigrants. As the term suggests, individuals that are part of the 1.5 Generation straddle the first- and second-generation immigrant groups. They immigrate so early in life that their life experiences are very similar to children of immigrant parents that were born and raised in the United States (Glick, Bates, and Yabiku 2009). Last, the category of the "2nd+ Generation" are mothers who were born in the United States. Second-generation immigrants cannot be distinguished from third and higher generations because no country of birth information about the mother's parents is available.

The third major explanation for Asian American academic advantage focuses on *parenting*. As discussed earlier, *abstract ideals* are aspects of parent's attitudes about learning and education, as well as ideas about the appropriate behaviors for children. We gauge abstract ideals with two measures: "Parent's Educational Expectations" and "Importance of Academic Skills." Parent's educational expectations measure the level of formal education a parent expects their child to achieve. Responses ranged from 1 to 6, where 1 = *child will receive less than high school education* and 6 = *finish a PhD, MD, or other advanced degree*. The *importance of academic skills* is a factor derived from two measures—parents' attitudes about the importance of knowing the alphabet and counting numbers at the start of kindergarten. These measures reflect the importance parents place on key skills and abilities salient for cognitive development and learning in the classroom. Response categories originally ranged from 1 = *essential* to 5 = *not at all important*, and were then reverse coded so that higher values represented higher levels of *importance of academic skills*. We created a factor of both measures with an alpha score of .75.

We constructed the second major dimension of parenting, *tangible behaviors*, with five stand-alone variables and two indices. These measures represent several facets of parenting, including: learning resources provided to the child, parent-child interactions, and the quality of the parent-child relationship. Learning resources include the number of children's books and whether or not the parent provides a computer for child use. We include a measure of how often the parent (or adult in the household) reads to the child, with response categories ranging from 1 = *not at all* to 4 = *every day*. We created a factor of library-related activities from three variables (visited library: 1 = *yes*, 0 = *no*; borrowed books to read to child: 1 = *yes*, 0 = *no*; and attended library children's programs: 1 = *yes*, 0 = *no*) with an alpha score of .76. We also include an indicator of whether parents *placed their child in music lessons* (1 = *yes*, 0 = *no*; e.g., piano, instrumental music,

singing lessons) and *organized athletic activities* (1 = yes, 0 = no; e.g., basketball, soccer, baseball, or gymnastics).

We also used measures derived from the Home Observation for Measurement of the Environment (HOME) scale. These include maternal warmth—whether the interviewer witnessed the parent caressing, kissing, or hugging the child; responding verbally to the child’s speech; or spontaneously speaking to the child during the interview. These measures are consistent with the conceptualization and measurement of maternal warmth elsewhere (Bradley and Caldwell 1981; Caldwell and Bradley 2001; Guo and Harris 2000). These measures combine for an alpha score of .68.

Our final parenting measure is an assessment based on a *task* that required the parent and child to interact. The assessment is designed from the “Three Bags Task” used in the Early Head Start Research and Evaluation Project and revised as the “Two Bags Task” to allow for shorter assessment time. Christine Nord and colleagues (2006:23) describe the assessment in detail:

During this 10-minute task, the parent and child were asked to play with two different sets of toys, each placed within a separate numbered bag. Bag number 1 contained a set of dishes, and bag number 2 contained a children’s picture book, *Good Night, Gorilla*, by P. Rathmann (1994). Both parent and child were told that they had 10 minutes to play with the two bags, the only restriction being that they had to play with the bags in numerical order.

Specifically, we include ratings of *parental stimulation of the child’s cognitive development*, *child’s engagement with the parent*, and *parental sensitivity* developed from this assessment. These measures focus on how the parent observes and responds to the child’s cues (including gestures, expressions, and signals), the parent’s effort in teaching the child with the intent to enhance perceptual, cognitive, and language development, and how much the child is engaged in the learning activity (Nord et al. 2006). A high-scoring parent is aware of the child’s developmental level and aims to bring the child to the next level. If the parent’s actions are not matched to or slightly above the child’s developmental level or interest, then the parent’s behavior is not seen as stimulating cognitive development. We factored these measures with an alpha score of .80. Of all the parenting measures, this assessment appears to be the most promising “tangible parenting behavior” that could account for any Asian American advantage.

### Control Variables

We also include several other predictors of cognitive development as controls in analyses. First, to isolate the growth of early math advantage from 10 months of age to age four (when the Math IRT measure was collected), we control for prior cognitive skill. We use the *Bayley Short Form—Research Edition* (BSF-R), administered when children in the sample were 10 months of age. The BSF-R assesses child development in terms of exploring objects (e.g., reaching for and holding objects), exploring objects with a purpose (e.g., attempting to determine what makes the ringing sound in a bell), babbling, early problem solving (e.g., using an object to retrieve an out-of-reach toy), and communicating with words. Trained assessors visited each child’s home and administered the standardized assessment during a 25 to 30 minute period (see Mulligan and Flanagan 2006).

As assessment times varied slightly across race/ethnic groups, we include a measure of the child’s age in months at the time of the assessment. We consider gender of the child, coded 1 = *female* and 0 = *male*. We account for whether the child lives with both biological parents, coded as 1 = *both biological parents in home*, 0 = *other*. In addition, we include the number of children living in the household, given that increases in sibship may strain the parent’s ability to nurture their child and encourage cognitive development (Downey 2001).

Because language is an important part of the immigrant experience and the child's preparation for school, we also account for the primary language spoken in the child's home, given that a sizable portion of Asian American parents are immigrants from non-English speaking countries. Lack of familiarity with English can influence cognitive development and acquisition of skills important for learning (Mouw and Xie 1999). The primary home language is gauged using a dichotomous measure of whether the primary language spoken in the home is English or a non-English language.

Last, a control for the child's weight at birth is included given that lower birth weight is associated with slower cognitive development, and is often higher for Asian groups compared with whites (Lynch 2011). Child's birth weight is measured using three dichotomous categories for weight: *normal* (5.5 pounds and above), *moderately low* (3.5 to 5.5 pounds) and *very low* (below 3.5 pounds).

## Analytic Strategy

We first present descriptive results for all measures for the sample, then across Asian subgroups in Tables 1 and 2. We report multivariate analyses of standardized IRT early math scores using ordinary least squares (OLS) regression. The OLS models assess the relationship of family socioeconomic status, immigration status, and parenting for children's early math-related achievement (Table 3). As Sun (2011) did not separate the impact of income, education, and parent-child communication in his analyses (making it unclear which factor best accounts for the Asian American advantage in early childhood), we are careful to isolate parenting from other resources and to distinguish between parenting as abstract ideals and parenting as tangible behaviors.<sup>10</sup>

## Results

Table 1 presents the descriptive results for the ECLS-B sample of Asian American and white children and by specific subgroups within the Asian category. At 48 months, Asian Americans are estimated to be .42 (.35 vs. -.07) standard deviation units ahead of white children. Within the Asian category itself, respondents of Chinese origin scored the highest in math, more than a full standard deviation higher than white children (.95 vs. -.07).

Looking at the independent variables, Asian American families have higher standardized parent education levels than whites (.20 as compared with -.12), yet the household measures of socioeconomic status vary in important ways across the Asian subcategories. Vietnamese parent education levels, for example, are lower than the average at -.75, as is Vietnamese household income (-.58). Chinese parent education levels are similar to that of Indian parents, and, at least as this stage, Chinese parents have more income than any other group.

Parenting measures also reveal important variation between white and Asian American parents, and across Asian subgroups (see Table 2). With respect to *abstract ideals*, Asian American parents generally have higher expectations for their children's educational attainment than whites. The educational expectation value of 4.88 indicates that Asian American parents, on average, expect their children to earn at least a college degree, and complete some graduate education (5 = *earn a master's degree or equivalent*). For white parents, the average educational expectation of 3.95 indicates that their children are expected to complete college (4 = *finish a 4- or 5-year college degree*). When comparing white respondents with specific Asian ethnic subgroups, these differences amount to a large gap, approximately one standard deviation, between the expectations of both Indian and Chinese parents and their white counterparts.

Asian American parents' higher educational expectations suggest that they place great value on learning, *even in early childhood*. To a lesser extent, this emphasis on learning is also borne out in the difference between Asian American and white parents' average score on the importance

**Table 1.** Mean Estimates of Measures by White, Asian American, and Asian Subethnic Groups, ECLS-B 2001.

Variables	Total	White	Asian	Chinese	Indian	Vietnamese	Filipino	Korean	Other Asian
<b>Cognitive skills</b>									
Early IRT Math Score (T3)	-0.05 (0.03)	-0.07 (0.03)	0.35 (0.04)	0.95 (0.07)	0.25 (0.07)	0.02 (0.08)	0.23 (0.08)	0.39 (0.09)	-0.17 (0.06)
Bayley Mental Score (T1)	77.02 (0.37)	77.04 (0.38)	76.56 (0.58)	76.03 (0.61)	77.18 (1.28)	74.72 (0.64)	77.79 (0.81)	78.31 (1.26)	75.74 (0.97)
<b>Independent variables</b>									
Family socioeconomic status									
Highest parent education level	-0.11 (0.03)	-0.12 (0.03)	0.20 (0.07)	0.66 (0.08)	0.40 (0.08)	-0.75 (0.12)	-0.03 (0.03)	0.42 (0.05)	-0.29 (0.09)
Household income	-0.07 (0.04)	-0.08 (0.04)	0.07 (0.06)	0.41 (0.07)	0.06 (0.07)	-0.58 (0.14)	0.04 (0.05)	0.30 (0.05)	-0.09 (0.12)
Unemployment	0.04 (0.01)	0.04 (0.01)	0.03 (0.01)	0.01 (0.01)	0.04 (0.01)	0.07 (0.03)	0.02 (0.00)	0.07 (0.00)	0.03 (0.02)
Mother immigrant generation status									
1st Generation (%)	0.06 (0.00)	0.03 (0.00)	0.74 (0.02)	0.85 (0.02)	0.83 (0.03)	0.80 (0.04)	0.64 (0.03)	0.55 (0.03)	0.45 (0.04)
1.5 Generation (%)	0.02 (0.00)	0.01 (0.00)	0.15 (0.02)	0.10 (0.02)	0.15 (0.03)	0.17 (0.04)	0.05 (0.01)	0.21 (0.00)	0.31 (0.04)
2nd Generation (%)	0.92 (0.01)	0.96 (0.00)	0.11 (0.01)	0.05 (0.01)	0.03 (0.01)	0.03 (0.00)	0.32 (0.03)	0.24 (0.03)	0.24 (0.03)
Birth weight									
Normal (%)	0.94 (0.00)	0.94 (0.00)	0.94 (0.01)	0.96 (0.01)	0.92 (0.01)	0.95 (0.01)	0.93 (0.02)	0.99 (0.00)	0.93 (0.02)
Moderately low (%)	0.05 (0.00)	0.05 (0.00)	0.06 (0.01)	0.04 (0.01)	0.07 (0.01)	0.05 (0.01)	0.07 (0.02)	0.01 (0.00)	0.07 (0.02)
Very low (%)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00)	0.01 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
<b>Control variables</b>									
Child's age	52.27 (0.09)	52.23 (0.09)	53.16 (0.16)	53.63 (0.24)	52.40 (0.19)	53.65 (0.41)	54.02 (0.38)	53.21 (0.08)	52.85 (0.24)
Child's gender—girl (%)	0.49 (0.01)	0.49 (0.01)	0.49 (0.02)	0.49 (0.04)	0.51 (0.04)	0.43 (0.04)	0.39 (0.04)	0.51 (0.05)	0.57 (0.03)
Home language non-English (%)	0.06 (0.01)	0.03 (0.00)	0.74 (0.02)	0.85 (0.02)	0.80 (0.03)	0.95 (0.01)	0.37 (0.04)	0.69 (0.02)	0.56 (0.03)
Two parent (%)	0.86 (0.01)	0.85 (0.01)	0.92 (0.02)	0.97 (0.01)	0.95 (0.01)	0.84 (0.03)	0.84 (0.01)	0.93 (0.00)	0.91 (0.02)
Sibship	1.35 (0.03)	1.36 (0.03)	1.17 (0.04)	0.93 (0.06)	1.08 (0.06)	1.19 (0.07)	1.21 (0.05)	1.18 (0.08)	1.81 (0.18)
<i>n</i>	4,175	3,450	750	300	200	75	75	25	75

Note. Estimates derived from multiple-imputation data. Sample sizes are rounded as required for use of NCES restricted data. Data weighted for complex sample design and oversampling. Standard errors in parentheses. ECLS-B = Early Childhood Longitudinal Study—Birth Cohort; NCES = National Center for Education Statistics; T1–T3 = wave 1, 2, or 3 of ECLS-B.

of academic skills. Asian American parents have an average score of .18 standard deviation units, which measures the importance parents place on their child's knowledge of the alphabet and ability to count, as compared with -.04 for white parents. This indicates that Asian American parents place more importance on their child's acquisition of fundamental skills salient for learning (about one-fifth of a standard deviation higher than whites). Taken together, the bivariate evidence for the two indicators of *abstract ideals* suggests that Asian American parents, regardless of subgroup, place a higher emphasis on educational outcomes than their white counterparts.

**Table 2.** Mean Estimates of Parenting Measures by White, Asian American and Asian Subethnic Groups, ECLS-B 2001.

Variables	Total	White	Asian	Chinese	Indian	Vietnamese	Filipino	Korean	Other Asian
<b>Abstract ideals</b>									
Parent's educational expectations (T3)	3.99 (0.03)	3.95 (0.03)	4.88 (0.05)	5.07 (0.05)	5.26 (0.07)	4.35 (0.05)	4.33 (0.05)	4.91 (0.06)	4.51 (0.09)
Importance of Academic Skills Index (T3; $\alpha = .746$ )	-0.03 (0.02)	-0.04 (0.03)	0.18 (0.05)	0.15 (0.06)	0.29 (0.10)	0.23 (0.10)	0.17 (0.09)	0.01 (0.05)	-0.03 (0.07)
<b>Tangible behaviors (%)</b>									
<b>Resources—home environment</b>									
Number of children's books (T3)	96.29 (2.36)	98.47 (2.54)	49.99 (2.85)	68.23 (4.74)	41.10 (3.77)	25.79 (1.94)	56.17 (2.93)	78.71 (5.59)	39.76 (3.64)
Computer that child uses (%; T3)	0.69 (0.01)	0.69 (0.01)	0.76 (0.02)	0.76 (0.03)	0.80 (0.02)	0.68 (0.06)	0.83 (0.04)	0.88 (0.04)	0.58 (0.04)
<b>Parent reports</b>									
Library related parenting behaviors (T2; $\alpha = .758$ )	0.00 (0.03)	-0.01 (0.03)	0.11 (0.05)	0.38 (0.09)	0.23 (0.11)	-0.11 (0.04)	-0.25 (0.06)	0.11 (0.05)	-0.20 (0.07)
Read to child (T2)	3.40 (0.03)	3.42 (0.03)	3.05 (0.05)	3.27 (0.06)	3.18 (0.11)	2.38 (0.07)	2.89 (0.07)	3.16 (0.07)	3.02 (0.07)
Music lessons (%; T3)	0.06 (0.00)	0.06 (0.00)	0.12 (0.01)	0.18 (0.02)	0.14 (0.02)	0.05 (0.00)	0.07 (0.01)	0.12 (0.02)	0.06 (0.02)
Organized activities (%; T3)	0.38 (0.01)	0.39 (0.01)	0.26 (0.02)	0.32 (0.02)	0.26 (0.03)	0.20 (0.03)	0.21 (0.03)	0.28 (0.02)	0.27 (0.04)
<b>Observation measures</b>									
Maternal warmth (T2; $\alpha = .677$ )	0.05 (0.02)	0.06 (0.02)	-0.28 (0.09)	-0.33 (0.08)	-0.35 (0.19)	-0.48 (0.25)	-0.01 (0.06)	-0.22 (0.20)	-0.10 (0.05)
Parent-child relationship (T2; $\alpha = .796$ )	0.09 (0.03)	0.11 (0.03)	-0.41 (0.05)	-0.31 (0.07)	-0.42 (0.08)	-0.67 (0.09)	-0.50 (0.07)	0.02 (0.09)	-0.46 (0.08)
<i>n</i>	4,175	3,450	750	300	200	75	75	25	75

Note. Estimates derived from multiple-imputation data. Sample sizes are rounded as required for use of NCES restricted data. Data weighted for complex sample design and oversampling. Standard errors in parentheses. ECLS-B = Early Childhood Longitudinal Study—Birth Cohort; T2–T3 = wave 2 or 3 of ECLS-B; NCES = National Center for Education Statistics.

There are also discernible differences across Asian American and white parents with respect to their *tangible behaviors*, although these show a more mixed pattern. With regard to the presence of learning-related resources in the child's home, Asian American parents surprisingly provide their children with considerably fewer children's books than whites (approximately 50 books compared with 98 books) yet a greater proportion of Asian Americans (76 percent) have a computer in their home that the child uses compared with whites (69 percent). The use of the library is mixed across Asian subcategories, with only Chinese, Indian, and Korean parents reporting more library-related behaviors than whites. Other Asian groups are more similar. Also, more than twice the proportion of Asian American parents (12 percent) place their child in music lessons as compared with whites (6 percent), Chinese, Indian, and Korean parents have the highest rates (18 percent, 14 percent, and 12 percent, respectively). Conversely, white parents have considerably higher rates of child participation in organized activities (Chinese are the exception), with 39 percent of white children involved compared with an Asian average of 26 percent.

An examination of tangible parenting behaviors—likely key mechanisms for a child's successful cognitive development—reveals a critical puzzle. Despite Asian American parents' high educational expectations for their children, we find that across all Asian groups, the frequency

**Table 3.** OLS Regression Results for Early IRT Math Skills (Standardized) at 48 Months with Control Variables, Family SES, and Parenting, ECLS-B 2001 (N = 4,175.).

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Asian (Reference = White)	.257** (.076)	.208* (.080)	.228* (.087)	.152† (.080)	.336*** (.061)	.230** (.078)
Mental score (T1)	.004* (.002)	.005** (.002)	.004* (.002)	.004† (.002)	.004* (.002)	.004* (.002)
Socioeconomic status						
Highest parent education level		.277*** (.022)				.184*** (.023)
Household income		.178*** (.021)				.119*** (.021)
Unemployment		-.132 (.100)				-.081 (.097)
Mom's immigrant status (Ref = 2nd+)						
Mom First Generation			.132 (.089)			.052 (.091)
Mom 1.5 Generation			.000 (.154)			-.079 (.113)
Abstract ideals						
Parent's educational expectations (T3)				.205*** (.024)		.045* (.020)
Importance of Academic Skills Index (T3)				.049* (.019)		.074*** (.017)
Tangible behaviors						
Resources—home environment						
Number of children's books (T3)					.001** (.000)	.000 (.000)
Computer that child uses (%; T3)					.239*** (.037)	.149*** (.035)
Parent reports						
Library related parenting behaviors (T2)					.055** (.019)	.036* (.016)
Read to child (T2)					.178*** (.018)	.116*** (.017)
Music lessons (%; T3)					.220** (.064)	.134* (.057)
Organized activities (%;T3)					.148*** (.034)	.040 (.032)
Observation measures						
Maternal warmth (T2)					-.018 (.020)	-.021 (.018)
Parent-child relationship (T2)					.175*** (.020)	.121*** (.018)
Constant	-4.885*** (.282)	-4.642*** (.256)	-4.880*** (.281)	-5.569*** (.273)	-5.465*** (.285)	-5.177*** (.278)
R <sup>2</sup>	.160	.318	.160	.213	.307	.370

Note. Sample from multiple-imputation dataset. Sample is rounded as required for use of NCES restricted data. Data weighted for complex sample design and oversampling. All models include the following control variables: child's age, child's gender, home language non-English, birth weight, two parent household, and sibship. Standard errors in parentheses. ECLS-B = Early Childhood Longitudinal Study–Birth Cohort; OLS = ordinary least squares; SES = socioeconomic status; T1–T3 = wave 1, 2, or 3 of ECLS-B; NCES = National Center for Education Statistics.

† $p < .10$ . \* $p < .05$ . \*\* $p < .01$  \*\*\* $p < .001$  (two-tailed tests).

that parents read to their child is not as high compared with white parents. Also, ranging from  $-.01$  (Filipino) to  $-.48$  (Vietnamese) standard deviations below the average, Asian American parents

appear less warm in their parent/child interactions during the home observation compared with white parents. Likewise, the videotaped task we call the *parent-child relationship* reveals an even greater disparity. Asian American parents scored lower on this index generally at .41 standard deviations below the average, with Vietnamese, Filipino, and Indian scoring the lowest (−.67, −.50, and −.42 standard deviations, respectively).

These bivariate results suggest that understanding Asian American parenting is indeed complex.<sup>11</sup> On one hand, Asian Americans exhibit higher expectations and direct more resources toward computer use and music lessons than do white parents. But these patterns are countered by lower frequencies of reading to the child, less maternal warmth, and lower scores on the parent-child relationship factor. Next, we use multivariate analysis to account for other factors that might condition these differences, particularly how socioeconomic status and immigration status might mediate the observed patterns in Tables 1 and 2.

### **Multivariate Analysis Results**

We report results of multivariate models predicting math skills at 48 months in Table 3 and 4.<sup>12</sup> Table 3, model 1 shows that, after accounting for controls in the model (child's age, gender, home language, and family structure), the Asian American respondents scored about one-fourth of a standard deviation higher than white children at age four. About 19 percent of this advantage is accounted for by socioeconomic variables (model 2). Model 3 reveals that the immigrant status reduces the advantage only slightly.

Parents' educational expectations and the importance of academic skills (model 4) account for nearly half of the original advantage, even without accounting for socioeconomic factors, or immigration status. That parent educational expectations account for much of the Asian American advantage in early childhood is surprising, especially given its exclusion from other important studies that also examined early childhood.

Model 5 examines various parenting measures unique to ECLS-B data. Including a wide array of indicators of tangible parenting behaviors in the model *increases the size* of the original Asian American advantage for math skills by 130 percent. This contradicts Sun (2011) but is consistent with Koury and Votruba-Drzal's (2014) results for a simple reason. Sun's (2011) study did not isolate these parenting measures from socioeconomic status, and when they are isolated, as Koury and Votruba-Drzal (2014) show, the Asian American advantage only grows. Thus, model 4 suggests that part of the reason Asian children enjoy better math skills is due to their parents' greater abstract ideals. But model 5 indicates that the Asian advantage in math *would be even greater if Asian parents provided the same level of tangible behaviors as white parents*.<sup>13,14</sup>

### **Asian Subgroup Analyses**

In Table 4, we present the regression results for the math assessment scores by Asian subgroup. In model 1, only children of Indian (.214) and Chinese origin (.783) score higher than whites at  $p < .05$ . When family socioeconomic measures are accounted for in model 2, the math advantage for children of Chinese origin is reduced by nearly 30 percent and the advantage of respondents of Indian origin is reduced by almost half. Parent educational expectations reduce the initial Chinese advantage by 16 percent. And as was found in Table 3, accounting for other parenting factors only increases the size of the Chinese advantage and all other Asian subgroups (with some coefficients approaching statistical significance).

Also, like Vietnamese children at older ages (Bankston et al. 1997; Caplan et al. 1992; Han 2008; Lee and Zhou 2014; Portes and Rumbaut 2001), we find similar patterns in early childhood. When Vietnamese parents have similar family socioeconomic status, parenting, and other factors, their children are nearly one-third of a standard deviation ahead of white children in early math skills (model 6).

**Table 4.** OLS Regression Results for Early IRT Math Skills (Standardized) at 48 Months with Control Variables, Family SES, and Parenting by Ethnic Subgroup, ECLS-B 2001 ( $n = 4,175$ ).

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Asian subethnic groups (Reference = U.S. Born White)						
Chinese	.783*** (.112)	.574*** (.106)	.753*** (.124)	.658*** (.117)	.755*** (.093)	.578*** (.110)
Indian	.214* (.094)	.124 (.097)	.180† (.098)	.034 (.096)	.246*** (.090)	.099 (.091)
Vietnamese	-.054 (.147)	.254 (.166)	-.072 (.152)	-.038 (.154)	.199 (.128)	.290† (.150)
Filipino	.145 (.113)	.104 (.108)	.102 (.120)	.101 (.112)	.320*** (.109)	.184† (.109)
Korean	.287 (.197)	.137 (.182)	.276 (.204)	.177 (.203)	.221 (.187)	.120 (.183)
Other Asian	-.157 (.106)	-.064 (.100)	-.170 (.123)	-.210† (.109)	.030 (.098)	.013 (.103)
Mental score (T1)	.004* (.002)	.005*** (.002)	.004* (.002)	.004† (.002)	.004* (.002)	.004* (.002)
Socioeconomic status						
Highest parent education level		.275*** (.022)				.183*** (.023)
Household income		.178*** (.021)				.118*** (.021)
Unemployment		-.132 (.100)				-.080 (.098)
Mom's immigrant status (Ref = 2nd+)						
Mom First Generation			.115 (.088)			.048 (.090)
Mom 1.5 Generation			.029 (.157)			-.060 (.116)
Abstract ideals						
Parent's educational expectations (T3)				.204*** (.024)		.046* (.020)
Importance of Academic Skills Index (T3)				.049* (.019)		.074*** (.017)
Tangible behaviors						
Resources—home environment						
Number of children's books (T3)					.001** (.000)	.000 (.000)
Computer that child uses (%; T3)					.240*** (.037)	.151*** (.035)
Parent reports						
Library related parenting behaviors (T2)					.053** (.019)	.035* (.016)
Read to child (T2)					.177*** (.018)	.116*** (.017)
Music lessons (%; T3)					.215** (.064)	.132* (.057)
Organized activities (%;T3)					.149*** (.034)	.041 (.032)
Observation measures						
Maternal warmth (T2)					-.018 (.020)	-.021 (.018)
Parent-child relationship (T2)					.175*** (.020)	.121*** (.018)

(continued)

**Table 4. (continued)**

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	-4.877*** (.281)	-4.638*** (.255)	-4.875*** (.281)	-5.554*** (.273)	-5.450*** (.284)	-5.175*** (.277)
R <sup>2</sup>	.165	.321	.165	.217	.310	.372

Note. Sample from multiple-imputation dataset. Sample is rounded as required for use of NCES restricted data. Data weighted for complex sample design and oversampling. All models include the following control variables: child's age, child's gender, home language non-English, birth weight, two parent household, and sibship. Standard errors in parentheses. ECLS-B = Early Childhood Longitudinal Study–Birth Cohort; OLS = Ordinary Least Squares; SES = Socioeconomic Status; T2–T3 = wave 2 or 3 of ECLS-B; NCES = National Center for Education Statistics.

†*p* < .10. \**p* < .05. \*\**p* < .01. \*\*\**p* < .001 (two-tailed tests).

At this point, our analyses reveal the value of a subgroup approach—we can identify the degree to which subgroups have different forms of advantage in much the same way that Jennifer Lee and Min Zhou (2014) find later in the life course. For example, Chinese parents have children with a .783 advantage in early math skills, which is distinct from Filipino children (.145) and Korean children (.287) in our results but are often grouped together as “Asian” or “East Asia/Pacific Islands” in other studies (e.g., Koury and Votruba-Drzal 2014). Likewise, the evidence for an emergent Vietnamese advantage, when socioeconomic and parenting advantages are accounted for (.290), would go unnoticed if classified under “Other Asians” (e.g., Sun 2011). Overall, however, across Asian subgroups, advantages are at least partly explained by abstract ideals but only grow with the inclusion of tangible parenting behaviors.

These results suggest that especially for children of Chinese and Vietnamese origins, the achievement gap cannot be explained by traditional measures of parenting, *despite* a uniquely rich dataset that includes extensive measures of parenting in early childhood across key critical periods of time.<sup>15</sup> Thus, our models still lack other important factors affecting cognitive outcomes. And if parents from these Asian subgroups were to engage further in parenting behaviors that our measures gauge (parental sensitivity and cognitive development), their children would have *an even greater advantage in early math skills*.

Taken together, these results document an important pattern in early childhood. For many Asian subgroups, most of their early childhood advantage in cognitive skills stems from socioeconomic advantage and parents' high educational expectations. The kinds of parenting practices that can be observed in large-scale data, however comprehensive, only reveal a new puzzle in early childhood—the Asian American/white gap (specifically the Chinese/white and Vietnamese/white gap) would be larger if all parents exhibited equal levels of *parent-child interactions* and scored similarly on the *parent-child relationship* measure.

To understand these parenting patterns further, we explored how socioeconomic status is associated with parenting attitudes and behaviors between white and Asian American parents, and across Asian subgroups.<sup>16,17</sup> In Figures 1 to 4, we show parenting levels across the class gradient. In Figure 1, Asian Americans have remarkably high levels of educational expectations for their children across socioeconomic status—expecting their children to earn, on average, a master's degree (5 = *master's degree*) even when many Asian American parents are of low socioeconomic status. In contrast, white parents' expectations are more class contingent, with parents with low socioeconomic status expecting their children to have some college (3 = *high school graduate* and 4 = *2 years of college*) and parents with high socioeconomic status expecting their children to obtain a college degree and perhaps attend graduate school (4 = *college graduate*, 5 = *master's*).

In Figures 2 and 3, the patterns are more in line with the social class and parenting literature (e.g., Lareau 2011), both Asian American's and white's parenting are more sensitive to socioeconomic resources. Also, in all cases, as demonstrated in Tables 2 to 4, white parents score higher

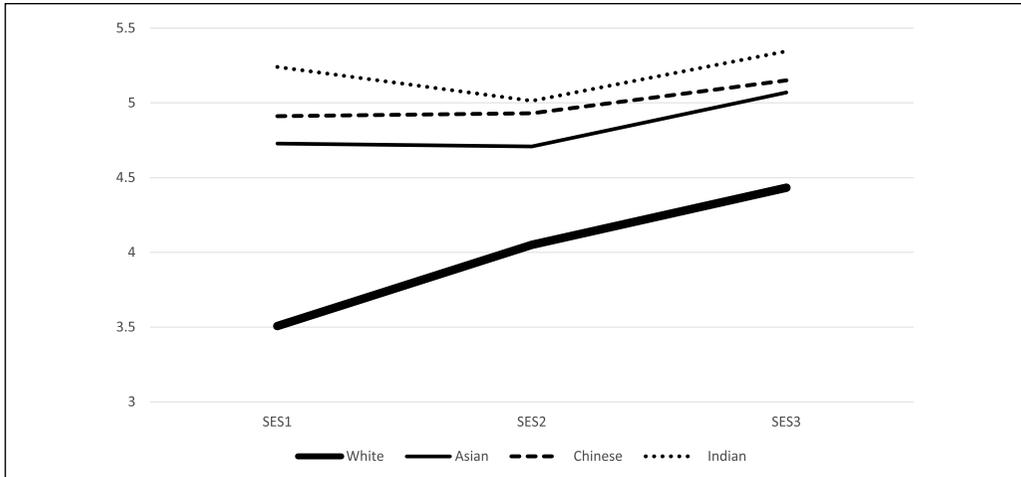


Figure 1. Parent's educational expectations (1 = low, 6 = high).

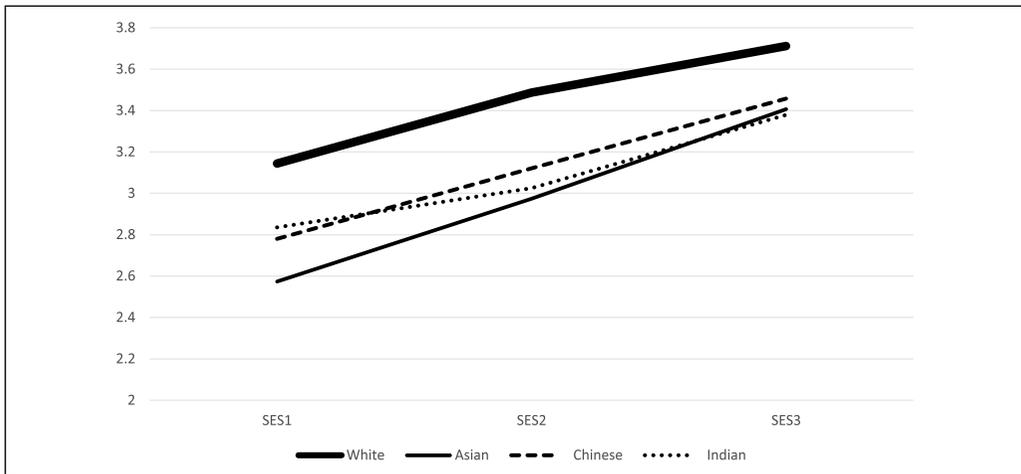


Figure 2. Read to child (1 = seldom, 4 = frequently).

on conventional measures of observable parenting behaviors. Interestingly, we find an inverse maternal warmth pattern from Figure 4. While nearly all white parents show high levels of maternal warmth regardless of socioeconomic status, this measure is especially sensitive to socioeconomic status for Asian Americans, particularly parents in the bottom category.

### Conclusion

One of our goals was to employ the impressive measures of “parenting” available in the ECLS-B to explain Asian subgroup’s advantage over whites, but the success of this approach depended heavily on how parenting is modeled and the subgroup examined. If we focus on parents’ abstract ideals (operationalized as educational expectations and the importance of academic skills), then our parenting measures were moderately useful for explaining part of why Chinese American and Vietnamese American children outperform white children. But when we measured parents’

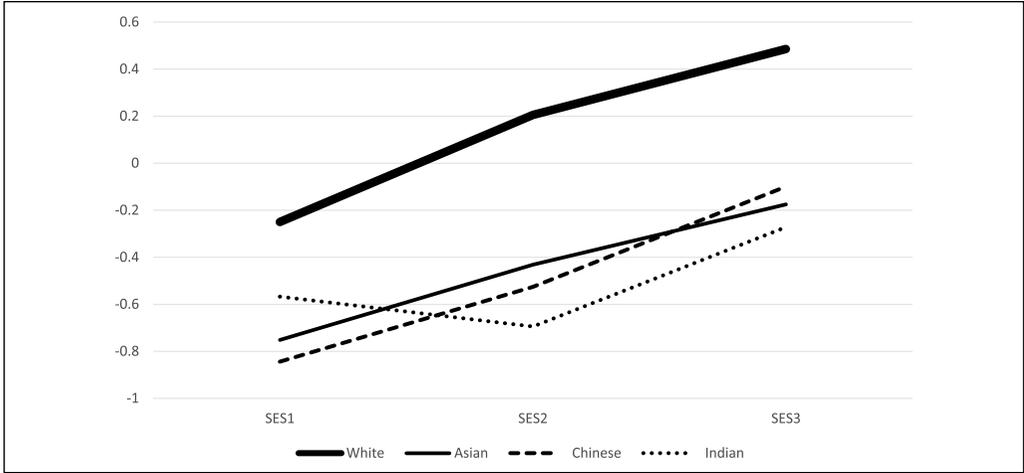


Figure 3. Parent-child relationship (SD).

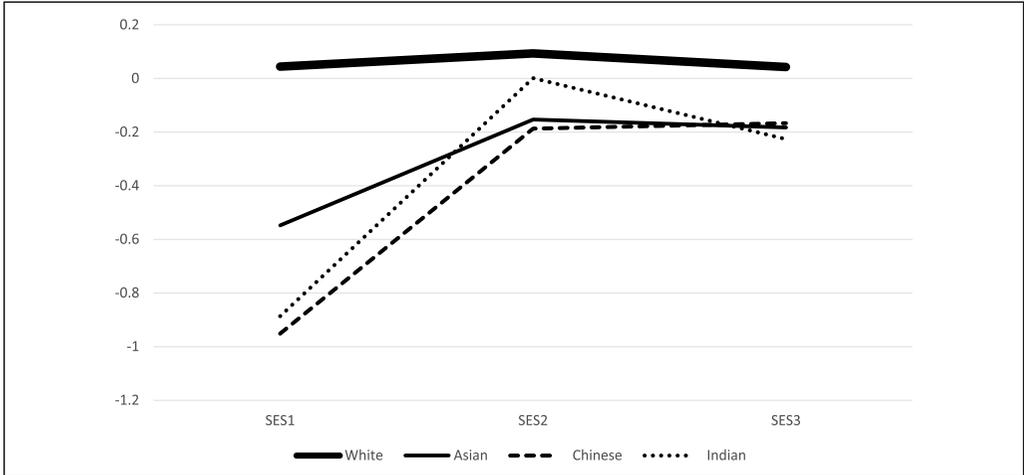


Figure 4. Maternal warmth (SD).

tangible behaviors (e.g., read to child, maternal warmth, etc.), we had little success identifying the precise behaviors Asian American parents employ that promote their children’s cognitive advantage. This illustrates that even in early childhood, parenting patterns among Asian Americans are complex and difficult to pin down with large surveys.

We also reveal the value of a subgroup focus. For some Asian subgroups, traditional explanations operate reasonably well. For example, Indian American children enjoy sizable advantages in math skills over white children at 48 months, and these are largely explained by their parents’ socioeconomic standing, a pattern consistent with previous literature in later childhood and adolescence (Harris et al. 2008). But for other Asian subgroups, the traditional explanations offer less value. Asian American children of Chinese descent, for example, enjoy greater math skills than white children, and their advantage is especially difficult for our models to explain. Although socioeconomic controls account for about 30 percent of the advantage, other factors aside from abstract parenting measures did not contribute meaningfully to understanding the advantage.

This nuance was not evident in previous research on the Asian American educational advantage, which in some cases group Chinese, Korean, and other Asian Americans together (Choi et al. 2015; Han 2008; Koury and Votruba-Drzal 2014; Sun 2011).

In addition, our models suggest that if Vietnamese and white children enjoyed similar socioeconomic status, gaps in math skills would be even greater. This pattern is consistent with other studies that find students from Southeast Asia, particularly Vietnamese youth, excel academically despite coming from underprivileged backgrounds (Bankston et al. 1997; Caplan et al. 1992; Han 2008; Lee and Zhou 2014; Portes and Rumbaut 2001). The proper explanation for Asian American children's advantage in cognitive skills over whites, therefore, depends heavily on the subgroup of focus.

So what parenting practices do Chinese and Vietnamese parents employ that promote their children's cognitive skill advantage and yet apparently go unmeasured by the ECLS-B? This is difficult to answer. We suggest conceptualizing parenting in new ways. First, "parenting efficacy" (Bandura et al. 1996)—the ability of a parent to persist and succeed in a child-centered task despite significant social stress, socioeconomic setback, or other barriers—may help explain how Chinese and Vietnamese children of immigrants achieved educational success despite disadvantaged family backgrounds. In this way, tangible parenting behaviors are latent, activated only when a child struggles to meet parents' expectations. Second, considering the wider role of the community in providing "ethnic capital" (Lee and Zhou 2014), folding in spatial indicators of community and neighborhood resources into early childhood models of the Asian American achievement could illuminate how parental expectations translate to gains in child development. Finally, collecting indicators of child time-on-task may be fruitful. Video observations of a given activity (much like the assessments employed in the ECLS-B) could be coded (or recoded) to capture time-on-task learning.

Overall, more work is needed to understand expectations at young ages, or what some call "parental socialization goals" (Koury and Votruba-Drzal 2014:282). It appears that some parents (notably Chinese and Vietnamese Americans) successfully create normative environments that promote children's cognitive development by using rigid and narrow definitions of academic success (e.g., straight A's, admission to the most prestigious schools, and aspirations toward well-paid and high-status professions; Zhou and Lee 2014). This relates to several important concepts already prevalent in the literature—Asian parenting as a form of "training" (Chao 1995), a kind of *interdependent* relationship with the child focused on learning as a moral objective (Li 2004; Sakamoto, Kim, and Takei 2012), which then facilitates a child's persistence in learning (Li 2004; Sakamoto et al. 2012). And while previous research demonstrates that Asian advantages partly stem from social networks once children begin to interact more with neighbors and attend school (Lareau 2011; Lee and Zhou 2014; Zhou 2007), our study demonstrates that parents are *well on their way to creating this normative environment before the ecology of childhood extends much beyond the home*. Our study suggests that scholars should focus on the complexities of Asian American parenting during a period when achievement gaps are forming and growing most—early childhood.

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

### Notes

1. It is difficult to discern from Sun's model exactly the role of socioeconomic status because it was entered into his model along with other parenting characteristics (e.g., maternal communication).

2. Grace Kao (1995) finds that because differences in parental resources between white parents and Asian American parents are small, a more important distinction may be how Asian American parents use their money. For example, Asian American parents reported having saved more money for their children's education than white parents, and plan to save more in the future for educational investment, than white parents.
3. Some scholars suggest this effect may be less about immigration and more about Asian culture (Caplan et al. 1992; Zhou and Bankston 1994). It is difficult, however, to differentiate between the two explanations. Facets of the immigrant argument often overlap with those of the cultural explanation (Sakamoto, Goyette, and Kim 2009). Do first-generation immigrants, for example, have a more salient "culture" than their second-generation peers, which accounts for the immigrant drive, or is it the immigration experience itself?
4. First-generation Asian Americans scored 0.5 grade point average (GPA) points higher than whites, second generation scored 0.3 points higher than whites.
5. Grace Kao (2004) found that among first and second-generation immigrants, Asian American youth had higher GPAs than whites, and first-generation Asian American youth achieved, on average, GPAs 0.5 points higher than third generation Asian American youth. Interestingly, in a number of these studies, the immigrant advantage for Asian American students weakens across generations. Often, by the third generation, Asian American students are not significantly different from their white counterparts (see Fuligni 1997; Kao 2004; Pong, Hao, and Gardner 2005).
6. Asian American parents' lack of involvement in some parenting practices that are found to be advantageous for academic development is puzzling. Stanford M. Dornbusch et al. (1987) posited that the Asian American parenting style is best characterized as authoritarian, where parents are highly demanding of their child's academic performance and obedience but relatively disengaged from their child's learning. Kao (1995:152) explains, ". . . it is not that Asian parents score lower on measures of parental involvement because they are less concerned with their children's academic outcomes, but that their styles of involvement differ from that of the mainstream."
7. Reading outcomes were similar to math outcomes and are available on request.
8. The direct cognitive assessment of reading skills assessed a child's abilities in several areas of early literacy such as recognition of letters and simple words; the reading scale ranges from 11 to 80.
9. The Early Childhood Longitudinal Study–Birth Cohort (ECLS-B) also provides a composite measure for parents' household socioeconomic status, which is comprised of parents' education, parents' occupation rating, and household income. Although we use this measure in unreported analyses with similar results, our disaggregated measure allows us to see particular relationships with each component.
10. And although Amanda S. Koury and Elizabeth Votruba-Drzal (2014) do consider the isolated role of parenting, they do not measure parental educational expectations (e.g., abstract ideals).
11. This could also be considered a "paradox" as commonly referred to in the immigrant literature. As there are many instances of this terminology applied to various patterns in research, we instead use the more neutral terms "complex" and "puzzle" to discuss findings.
12. Results closely follow the results for reading skills (not reported).
13. Although we appear to know less about the Asian American/white advantages when considering parenting factors, there are several questions that ask mothers how they feel about parenting. While all parents, on average, disagree with the following statements, Asian American parents were more likely than their white counterparts to agree with the following: "Being a parent is harder than I thought it would be," "I feel trapped by my responsibilities as a parent," "I find that taking care of a child is more work than pleasure," and "I find myself giving up more of my life to meet my child's needs than I ever expected." In other words, Asian American women in the sample appear to feel a burden and stress of parenting that may be more poignant than the burden and stress of parenting for white mothers. Interestingly, Asian American parents report having more energy to take on these tasks than their white counterparts. They are less likely to report feeling "tired, worn out, or exhausted from raising a family." Although these findings do not provide, in themselves, the mechanisms that might account for the Asian American advantage, they suggest a sociocultural burden that is greater for Asian American compared with white mothers.
14. To assess whether Asian American children of various backgrounds benefit more from family resources and parenting behaviors, we created a series of interactions with Asian Americans and with sub-Asian

categories compared with whites. We found no meaningful interactions across seven parenting measures and five Asian subgroups with math outcomes.

15. These two groups, interestingly, share similar abilities to overcome socioeconomic disadvantage (see Jennifer Lee and Min Zhou 2014).
16. We are grateful for an anonymous reviewer for suggesting these analyses.
17. Results are averaged means across imputed datasets, weighted and adjusted from complex survey design. There is no evidence of heteroscedasticity, therefore, robust standard errors were not used. Results were similar with and without the use of robust standard errors. Socioeconomic status is an index created by the National Center for Education Statistics (NCES) of parent's highest level of education, household income, and occupational prestige. We use this measure to simplify the analysis, as there were too few cases by subgroup using more discrete categories. Analyses beyond Chinese and Indian subgroups had too few cases to report reliable means.

## References

- Aud, Susan, Mary Ann Fox, and Angelina Kewal Ramani. 2010. *Status and Trends in the Education of Racial and Ethnic Groups*. NCES 2010–015, U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.
- Bandura, Albert, Claudio Barbaranelli, Gian Vittorio Caprara, and Cocetta Pastorelli. 1996. "Multifaceted Impact of Self-efficacy Beliefs on Academic Functioning." *Child Development* 67(3):1206–22.
- Bankston, Carl L., III, Stephen J. Caldas, and Min Zhou. 1997. "The Academic Achievement of Vietnamese American Students: Ethnicity as Social Capital." *Sociological Focus* 30:1–16.
- Blair, Sampson Lee and Zhenchao Qian. 1998. "Family and Asian Students' Educational Performance: A Consideration of Diversity." *Journal of Family Issues* 19:355–74.
- Bradley, Robert H. and Bettye M. Caldwell. 1981. "The HOME Inventory: A Validation of the Preschool Scale for Black Children." *Child Development* 52:708–10.
- Caldwell, Bettye M. and Robert H. Bradley. 2001. *HOME Inventory and Administration Manual*. 3rd ed. Little Rock, AR: University of Arkansas for Medical Sciences.
- Caplan, Nathan, Marcella H. Choy, and John K. Whitmore. 1992. *Children of the Boat People: A Study of Educational Success*. Ann Arbor, MI: University of Michigan Press.
- Chao, Ruth 1995. "Chinese and European American Cultural Models of the Self Reflected in Mothers' Childrearing Beliefs." *Ethos* 23:328–54.
- Chao, Ruth and Vivian Tseng. 2002. "Parenting of Asians." Pp. 59–93 in *Handbook of Parenting. Vol. 4, Social Conditions and Applied Parenting*, 2nd ed., edited by Marc H. Bornstein. Mahwah, NJ: Lawrence Erlbaum.
- Choi, Kate H., Amy Hsin, and Sara S. McLanahan. 2015. "Asian Children's Verbal Development: A Comparison of the United States and Australia." *Social Science Research* 52:389–407. doi:10.1016/j.ssresearch.2015.02.010.
- Crosnoe, Robert. 2007. "Early Child Care and the School Readiness of Children from Mexican Immigrant Families." *International Migration Review* 41:152–81.
- Dornbusch, Stanford M., Phillip L. Ritter, P. Herbert Leiderman, Donald F. Roberts, and Michael J. Fraleigh. 1987. "The Relation of Parenting Style to Adolescent School Performance." *Child Development* 58:1244–57.
- Downey, Douglas B. 2001. "Number of Siblings and Intellectual Development: The Resource Dilution Explanation." *American Psychologist* 56:497–504.
- Duncan, Greg J., Chantelle J. Dowsett, Amy Claessens, Katherine Mgunson, Aletha C. Huston, Pamela Klebanov, Linda S. Pagani, Leon Feinstein, Mimi Engel, Jeanne Brooks-Gunn, Holly Sexton, Kathryn Duckworth, and Crista Japel. 2007. "School Readiness and Later Achievement." *Developmental Psychology* 43:1428–46.
- Feliciano, Cynthia. 2005. "Does Selective Migration Matter? Explaining Ethnic Disparities in Educational Attainment among Immigrants' Children." *International Migration Review* 39:841–71.
- Feliciano, Cynthia. 2006. "Beyond the Family: The Influence of Premigration Group Status on the Educational Expectations of Immigrants' Children." *Sociology of Education* 79:281–303.
- Fryer, Roland G. and Steven D. Levitt. 2004. "Understanding the Black-white Test Score Gap in the First Two Years of School." *Review of Economics and Statistics* 86:447–64.

- Fryer, Roland G. and Steven D. Levitt. 2006. "The Black-white Test Score Gap through Third Grade." *American Law and Economics Review* 8:249–81.
- Fuligni, Andrew J. 1997. "The Academic Achievement of Adolescents from Immigrant Families: The Role of Family Background, Attitudes, and Behavior." *Child Development* 68:351–63.
- Glick, Jennifer E., Littisha Bates, and Scott Yabiku. 2009. "Mother's Age at Arrival in the United States and Children's Early Cognitive Development." *Early Childhood Research Quarterly* 24:367–80.
- Goyette, Kimberly and Yu Xie. 1999. "Educational Expectations of Asian-American Youth: Determinants and Ethnic Differences." *Sociology of Education* 72:22–36.
- Guo, Guang and Kathleen M. Harris. 2000. "The Mechanisms Mediating the Effects of Poverty on Children's Intellectual Development." *Demography* 37:431–47.
- Han, Wen-Jui. 2008. "The Academic Trajectories of Children of Immigrants and Their School Environments." *Developmental Psychology* 44:1572–90.
- Hao, Lingxin and Melissa Bonstead-Burns. 1998. "Parent-child Difference in Educational Expectations and the Academic Achievement of Immigrant and Native Students." *Sociology of Education* 71:175–98.
- Harris, Angel L., Monica Trujillo, and Kenneth Jamison. 2008. "Academic Outcomes among Latino/a and Asian Americans: An Assessment of the Immigration Effect." *The Annals of the American Academy of Political and Social Science* 620:90–114.
- Hillemeier, Mirianne M., George Farkas, Paul L. Morgan, Molly A. Martin, and Steven A. Maczuga. 2009. "Disparities in the Prevalence of Cognitive Delay: How Early Do They Appear?" *Paediatric and Perinatal Epidemiology* 23:186–98.
- Hsin, Amy and Yu Xie. 2014. "Explaining Asian Americans' Academic Advantage over Whites." *Proceedings of the National Academy of Sciences of the United States* 23:8416–21.
- Huntsinger, Carol, Paul E. Jose, Fong-Ruey Liaw, and Wei-Di Ching. 1997. "Cultural Differences in Early Mathematics Learning: A Comparison of Euro-American, Chinese-American, and Taiwan-Chinese Families." *International Journal of Behavioral Development* 21:371–88.
- Kao, Grace. 1995. "Asian Americans as Model Minorities? A Look at Their Academic Performance." *American Journal of Education* 103:121–59.
- Kao, Grace. 2004. "Parental Influences on the Educational Outcomes of Immigrant Youth." *International Migration Review* 38:427–49.
- Kao, Grace and Jennifer S. Thompson. 2003. "Racial and Ethnic Stratification Educational Achievement and Attainment." *Annual Review of Sociology* 29:417–42.
- Kao, Grace and Marta Tienda. 1998. "Educational Aspiration of Minority Youth." *American Journal of Education* 106:349–84.
- Kao, Grace, Marta Tienda, and Barbara Schneider. 1996. "Racial and Ethnic Variation in Academic Performance." *Research in Sociology of Education and Socialization* 11:263–97.
- Koury, Amanda S. and Elizabeth Votruba-Drzal. 2014. "School Readiness of Children from Immigrant Families: Contributions of Region of Origin, Home, and Childcare." *Journal of Educational Psychology* 106:268–88.
- Lamborn, Susie D., Laurence Steinberg, and Sanford M. Dornbusch. 1991. "Patterns of Competence and Adjustment among Adolescents from Authoritative, Authoritarian, Indulgent, and Neglectful Families." *Child Development* 62:1049–65.
- Lareau, Annette. 2011. *Unequal Childhoods: Class, Race, and Family Life*. 2nd ed. Berkeley, CA: University of California Press.
- Lee, Jennifer and Min Zhou. 2014. "The Success Frame and Achievement Paradox: The Costs and Consequences for Asian Americans." *Race and Social Problems* 6:38–55.
- Li, Jin. 2004. "Learning as a Task or a Virtue: U.S. and Chinese Preschoolers Explain Learning." *Developmental Psychology* 40:595–605.
- Louie, Vivian. 2001. "Parents' Aspirations and Investment: The Role of Social Class in the Educational Experiences of 1.5- and Second-generation Chinese Americans." *Harvard Educational Review* 71:438–74.
- Lynch, Jamie L. 2011. "Infant Health, Race/Ethnicity, and Early Educational Outcomes Using the ECLS-B." *Sociological Inquiry* 81:499–526.
- Massey, Douglas S., Camille Z. Charles, Garvey F. Lundy, and Mary J. Fischer. 2003. *The Source of the River: The Social Origins of Freshmen at America's Selective Colleges and Universities*. Princeton, NJ: Princeton University Press.

- Mollborn, Stefanie and Peter J. Lovegrove. 2011. "How Teenage Fathers Matter for Children: Evidence from the ECLS-B." *Journal of Family Issues* 32:3–30.
- Mouw, Ted and Yu Xie. 1999. "Bilingualism and the Academic Achievement of First- and Second-generation Asian Americans: Accommodation with or without Assimilation." *American Sociological Review* 64:232–52.
- Mulligan, Gail M. and Kristin D. Flanagan. 2006. *Age 2: Findings from the 2-year-old Follow-up of the Early Childhood Longitudinal Study, Birth Cohort (ECLS-B)*. NCES 2006–043. Washington, DC: National Center for Education Statistics, U.S. Department of Education.
- Najarian, Michelle, Kyle Snow, Jean Lennon, and Susan Kinsey. 2010. *Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), Preschool–Kindergarten 2007 Psychometric Report*. NCES 2010–009. Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.
- National Center for Education Statistics. 2013. "U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), Various Years, 1990–2013 Mathematics and Reading Assessments." Retrieved March 14, 2015 ([http://www.nationsreportcard.gov/reading\\_math\\_2013/#/gains-by-group](http://www.nationsreportcard.gov/reading_math_2013/#/gains-by-group)).
- Nord, Christine, Brad Edwards, Carol Andreassen, James L. Green, and Kathleen Wallner-Allen. 2006. *Early Childhood Longitudinal Study, Birth Cohort (ECLS-B), 2-year Data File User's Manual (2005–06)*. NCES 2006–046. Washington, DC: National Center for Education Statistics, U.S. Department of Education.
- Ogbu, John U. 1991a. "Immigrant and Involuntary Minorities in Comparative Perspective." Pp. 3–33 in *Minority Status and Schooling: A Comparative Study of Immigrant and Involuntary Minorities*, edited by Margaret A. Gibson and John U. Ogbu. New York: Garland.
- Ogbu, John U. 1991b. "Minority Coping Responses and School Experiences." *Journal of Psychohistory* 18:433–56.
- Pang, Valerie Ooka, Peggy P. Han, and Jennifer M. Pang. 2011. "Asian American and Pacific Islander Students: Equity and the Achievement Gap." *Educational Researcher* 40:378–89.
- Pew Research Center. 2012. "The Rise of Asian Americans." Pew Research Center, Social & Demographic Trends. Retrieved March 14, 2015 (<http://www.pewsocialtrends.org/2012/06/19/the-rise-of-asian-americans/>).
- Pong, Suet-Ling, Lingxin Hao, and Erica Gardner. 2005. "The Roles of Parenting Styles and Social Capital in the School Performance of Immigrant Asian and Hispanic Adolescents." *Social Science Quarterly* 86:928–50.
- Portes, Alejandro and Rubén G. Rumbaut. 2001. *Legacies: The Story of the Immigrant Second Generation*. Berkeley, CA: University of California Press.
- Portes, Alejandro and Min Zhou. 1993. "The New Second Generation: Segmented Assimilation and Its Variants." *The Annals of the American Academy of Political and Social Science* 530:74–96.
- Qian, Zhenchao and Sampson Lee Blair. 1999. "Racial Differences in Educational Aspirations of High School Seniors." *Sociological Perspectives* 42:605–25.
- Rathmann, Peggy. 1994. *Good Night, Gorilla*. New York: Putnam Publishing Group.
- Robinson, Keith and Angel L. Harris. 2014. *The Broken Compass: Parental Involvement with Children's Education*. Cambridge, MA: Harvard University Press.
- Rumbaut, Ruben G. 1994. "The Crucible Within: Ethnic Identity, Self-esteem, and Segmented Assimilation among Children of Immigrants." *International Migration Review* 28:748–94.
- Rumbaut, Ruben G. 2004. "Ages, Life Stages, and Generational Cohorts: Decomposing the Immigrant First and Second Generations in the United States." *International Migration Review* 38:1160–205.
- Sakamoto, Arthur, Kimberly A. Goyette, and ChangHwan Kim. 2009. "Socioeconomic Attainments of Asian Americans." *Annual Review of Sociology* 35:255–76.
- Sakamoto, Arthur, ChangHwan Kim, and Isao Takei. 2012. "The Japanese-American Family." Pp. 252–76 in *Ethnic Families in America: Patterns and Variations*, 5th ed., edited by Roosevelt Wright, Charles H. Mindel, Robert W. Habenstein, and Thanh Van Tran. New York: Pearson-Prentice Hall.
- Schneider, Barbara and Yongsook Lee. 1990. "A Model for Academic Success: The School and Home Environment of East Asian Students." *Anthropology & Education Quarterly* 21:358–77.
- Steinberg, Laurence, Sanford M. Dornbusch, and B. Bradford Brown. 1992. "Ethnic Differences in Adolescent Achievement: An Ecological Perspective." *American Psychologist* 47:723–29.

- Sue, Stanley and Sumie Okazaki. 1990. "Asian-American Educational Achievements: A Phenomenon in Search of an Explanation." *American Psychologist* 45:913–20.
- Sun, Yongmin. 1998. "The Academic Success of East-Asian-American Students: An Investment Model." *Social Science Research* 27:432–56.
- Sun, Yongmin. 2011. "Cognitive Advantages of East Asian American Children: When Do Such Advantages Emerge and What Explains Them?" *Sociological Perspectives* 54:377–402.
- von Hippel, Paul T. 2007. "Regression with Missing Y's: An Improved Method for Analyzing Multiply-imputed Data." *Sociological Methodology* 37:83–117.
- Wise, Sarah and Lisa da Silva. 2007. "Differential Parenting of Children from Diverse Cultural Backgrounds Attending Child Care." *Australian Institute of Family Studies* 39:1–22.
- Xie, Yu and Kimberly Goyette. 2004. *A Demographic Portrait of Asian Americans*. New York: Russell Sage.
- Zhou, Min, 2007. "Divergent Origins and Destinies: Children of Asian Immigrants." Pp. 109–28 in *Narrowing the Achievement Gap: Strategies for Educating Latino, Black, and Asian Students*, edited by Susan J. Paik and Herb Walberg. New York: Springer.
- Zhou, Min and Carl L. Bankston, III. 1994. "Social Capital and the Adaptation of the Second Generation: The Case of Vietnamese Youth in New Orleans." *International Migration Review* 28:821–45.
- Zhou, Min and Jennifer Lee. 2014. "Assessing What Is Cultural about Asian Americans' Academic Advantage." *Proceedings of the National Academy of Sciences of the United States* 23:8321–22.

### Author Biographies

**Benjamin G. Gibbs** is Assistant Professor of Sociology at Brigham Young University. His research is focused on how non-school environments shape educational and health outcomes across the life course. His most recent work is published in *Demography*, *Social Science Research*, *Journal of Pediatrics*, and *Pediatric Obesity*.

**Priyank G. Shah** is consultant and survey researcher for Knowledge Forward, LLC. His research focuses on the educational outcomes and socioeconomic integration patterns of ethnic and immigrant groups. His recent work examines the factors shaping the ethnic identity of second- and third-generation Asian Americans.

**Douglas B. Downey** is Professor of Sociology at Ohio State University. His research focuses on questions of stratification, including how family structure influences children's well-being, and the relationship between schools and inequality. He recently published papers on these topics in *Demography* and *Sociology of Education*.

**Jonathan A. Jarvis** is Assistant Professor of Sociology at Brigham Young University. He examines how globalization shapes educational strategies of Asian families in their home country and abroad. His most recent work explores international variations in how family background and structure shape educational outcomes.