Published in final edited form as:

J Pediatr. 2012 February ; 160(2): 331–336.e1. doi:10.1016/j.jpeds.2011.08.005.

Physical and Mental Health Disparities among Young Children of Asian Immigrants

Keng-Yen Huang, PhD, MPH, Esther Calzada, PhD, Sabrina Cheng, BA, and Laurie Miller Brotman, PhD

NYU Child Study Center, Department of Child and Adolescent Psychiatry, New York University School of Medicine, New York, NY

Abstract

Objective—To examine physical and mental health functioning among Asian-American children of US-born and immigrant parents.

Study design—We used data from the Early Childhood Longitudinal Study-Kindergarten Class of 1998–1999 base-year public data file. The sample was restricted to 7726 Asian and US-born white children. Asian subgroups were created based on parents' country of birth. Child physical and mental health was assessed based on multiple sources of data and measures. Analyses included multivariate linear and logistic regression.

Results—After adjusting for demographic and contextual differences, disparities were found for physical and mental health indicators. Children of foreign-born Asian families (from east, southeast, and south Asia) were at greater risk for poor physical health, internalizing problems, and inadequate interpersonal relationships compared with children of US-born white families.

Conclusion—There is little support for the “model minority” myth with regard to physical and mental health. Evidence of physical and mental health disparities among young Asian-American children and differing risk based on region of origin of immigrant parents suggests the need for culturally informed prevention efforts during early childhood.

The reduction of health disparities in minority children has been a major public health challenge in the United States. Most existing research focuses on disparities in health care and health status among Hispanic and African-American children.^{1–5} Given that Asian-Americans are one of the fastest-growing ethnic minority populations in the United States, with a projected population of more than 40 million (or 9% of the total US population) by the year 2050,⁶ understanding the health status and service needs of this population is imperative.

There is a widely held misconception that Asian-American children are the “model minority,”⁷ experiencing fewer physical and mental health problems compared with children from other ethnic backgrounds. In part, this view is perpetuated by the documented high academic achievement of Asian-American youth.^{8,9} Although some studies of older Asian-American children found lower rates of behavioral problems^{10–12} and physical health problems (eg, overweight, illness, injury),^{13,14} other studies reported higher rates of clinically impairing internalizing problems (eg, depression, anxiety disorder, suicide).^{12,15–19}

Copyright © 2012 Mosby Inc. All rights reserved.

Reprint requests: Keng-Yen Huang, PhD, MPH, NYU Child Study Center, 215 Lexington Ave, 16 FL, New York, NY 10016. Huangk01@nyumc.org.

The authors declare no conflicts of interest.

The few studies that have examined subgroups of Asian-American children have suggested that some groups may be at higher risk than others. For example, there is some support for higher rates of depression in east Asian (eg, Korean) youth compared with southeast Asian (eg, Filipino, Vietnamese) youth,¹⁰ and higher levels of anxiety among southeast Asian (eg, Filipino) youth compared with east Asian (eg, Chinese, Japanese) youth.¹⁵ Studies of Asian-American subgroups have focused primarily on youth from east Asia (eg, China, Korea) or southeast Asia (eg, Vietnam, Philippines),^{10,16,20–22} with relatively little attention given to children from south Asia (eg, India, Pakistan). In addition, studies with Asian subgroups have not fully considered the ecological context relative to the development of Asian-American children from different regions.

Our aim in the present study was to consider physical and mental health disparities among young Asian children relative to white children in the United States. Specifically, we examined differences in physical and mental health status among subgroups of Asian-American kindergarten children (age 5 years) based on the country of origin of their parents, considering financial, social, and human capital differences that might account for health disparities using a nationally representative US sample.

Methods

Data were drawn from the Early Childhood Longitudinal Study-Kindergarten Class (ECLS-K) of 1998–1999 base-year public use data file. The ECLS-K study is a longitudinal study sponsored by the US Department of Education's National Center for Education Statistics. The study followed a nationally representative cohort of children from kindergarten through grade 5, using a multistage probability sample design to select a nationally representative sample of children attending kindergarten in 1998–1999.²³ A total of 21 260 children throughout the country participated during their kindergarten year. Of these, 1586 parents self-identified as Asian or reported their child's ethnicity as Asian, and 6140 parents were US-born non-Hispanic white (ie, both parents were US born). The US-born non-Hispanic white group is defined as the reference group. To study the Asian subgroups, we created an *Asian family group* variable based on the parents' country of birth information collected in grade 1 (all other data were collected in kindergarten). Of the 1586 Asian families, 802 (51%) families provided information on country of birth for both parents (compared with 17% families with information for 1 parent only and 32% families with no information), and these families were considered in subgroup analyses.

To understand the potential bias of subgroup analyses that might contribute to missing data or exclusion, we compared the Asian families that were included in the subgroup analyses ($n = 748$) with those that were not included ($n = 838$). There were no between-group differences in terms of child sex, child nativity status, child physical health, parent employment and marital status, or child care arrangements ($P > .05$). Families that were not included were more likely to be disadvantaged (ie, headed by a single parent, live below the poverty line, and rely on social programs). In addition, children of the excluded families had higher externalizing problems based on teacher report ($P < .05$).

Five Asian subgroups were created. The *east Asian* group was defined as both parents born in east Asian countries (ie, China/Hong Kong, Japan, Korea, and Taiwan). The *southeast Asian* group was defined as both parents born in southeast Asian countries (ie, Burma, Cambodia, Indonesia, Laos, Malaysia, Philippines, Thailand, and Vietnam). The *south Asian* group was defined as both parents born in south Asian countries (ie, Bangladesh, India, Nepal, Pakistan, Sri Lanka, and Afghanistan). The *mixed Asian* group was defined as either only 1 parent born in an Asian country or both parents born in an Asian country but in different Asian regions. The *US-born Asian group* was defined as both parents born in the

US and self-identifying as Asian. The remaining 54 Asian families (7%) were Asian parents born in countries other than the US or Asia; these families were excluded from the subgroup analyses because of the relatively small size of this subgroup.

Characteristics of the full sample and the Asian subsamples are compared in Table I. The weighted percentages of the subgroup samples were 10% east Asian, 29% southeast Asian, 16% south Asian, 21% mixed Asian, and 24% US-born. Except for the east Asian sample, which is underrepresented (40%), all subsamples were somewhat representative of the US Asian population according to the 2000 US Census, which estimated that 32% of this population comes from southeast Asia and 18% comes from south Asia.²⁴ The study was approved by New York University Institutional Review Board.

Measures

Children's physical and mental health was assessed in the fall of the kindergarten year. Demographic data and all capital factors were derived from parent interview data in the fall or spring of the kindergarten year. Parent interviews were conducted primarily in English. For parents who did not speak English (approximately 7% in the larger ECLS-K sample), trained bilingual interviewers conducted the interview in the parent's native language (eg, Chinese, Hmong, Lakota).

Child Physical Health

A *poor health status* (0 = fair/poor health; 1 = excellent/very good health) variable was derived from parent interview data, which asked parents about their overall perception of their child's health on a 5-point scale (5 = excellent health; 1 = poor health). Body mass index (BMI) was calculated based on standardized measurements of height and weight obtained by research staff. BMI percentiles were obtained based on age- and sex-specific norms, and children were coded as overweight (BMI ≥ 95%) or not overweight.²⁵

Child Mental Health Functioning

Teacher- and parent-reported social rating scales (adapted from the scales of Gresham and Elliott²⁶) were used to assess child mental health functioning. The *self-control* scale (parent: 5 items, $\alpha = 0.74$; teacher: 4 items, $\alpha = 0.79$) assesses the frequency with which a child fights, argues, throws tantrums, gets angry, respects the property rights of others, and responds appropriately to pressure from peers. The *interpersonal relationship skills* scale (parent: 3 items, $\alpha = 0.70$; teacher: 5 items, $\alpha = 0.89$) assesses a child's ease in joining play, ability to make and keep friends, amount of positive interaction with peers, and showing sensitivity to the feelings of others. The *externalizing problem* scale (parent: 2 items, $\alpha = 0.46$; teacher: 5 items, $\alpha = 0.90$) assesses a child's impulsivity, activity level, and disruptive behaviors. The *internalizing problem* scale (parent: 4 items, $\alpha = 0.60$; teacher: 4 items, $\alpha = 0.80$) assesses a child's sadness, loneliness, anxiety, and low self-esteem.

Financial Capital

Financial capital, referring to the wealth and physical resources available to parents and children, was assessed using 4 indicators: family poverty, parental employment, social service utilization (ie, Women, Infants, and Children, food stamps, Aid to Families with Dependent Children/Temporary Assistance for Needy Families) and child health insurance coverage. *Family poverty* was calculated based on household income relative to size of household, and was compared with Census poverty thresholds for 1998; families were coded as living in poverty (income to need < 1.0) or not living in poverty.

Social Capital

Social capital, referring to the resources within social structures (eg, among a group of people),^{27,28} was assessed based on *household composition* (eg, 2-parent home, number of siblings, number of people in household), *parental well being* (ie, parental depression), and *neighborhood safety*. *Parental depression* (12 items; $\alpha = 0.86$) was assessed based on self-reported depressive symptoms on a scale of 1–4 (1 = never; 4 = most of the time). *Neighborhood safety* (6 items; $\alpha = 0.76$) included burglary, violent crime, selling/using drugs, vacant houses, garbage/litter in the neighborhood, and safety for playing outside. These items were assessed on a scale of 1–3 (1 = big problem/not at all safe; 3 = no problem/very safe).

Human Capital

Human capital, referring to the potential nonmaterial resources that parents provide to children (such as cognitive stimulation, transmission of parental values, and parenting practices) to help children master developmental skills for future success,^{27,29} was assessed through 4 indicators. *Parental education* was rated as 0 = more than high school or 1 = high school or less. *Language use* assessed the language (eg, English, Asian languages) the child speaks with his or her parents and the language parents speak with the child. *Home environment* was assessed based on the number of children's books in the home and the amount of time that parent and child spent together in various activities (eg, reading, singing, playing; 9 items; $\alpha = 0.72$) on a scale of 1–4 (1 = not at all; 4 = every day). *Child care arrangement* assessed the type of kindergarten program that the child attended and the type of child care arrangements before and during kindergarten.

Statistical Analyses

To examine disparities, we conducted a series of linear regression and logistic regression analyses to compare Asian-American children ($n = 1586$) as a whole and by Asian subgroup with white children ($n = 6140$) across domains of physical and mental health. Comparisons between the 2 groups were analyzed using SAS (SAS Institute, Cary, North Carolina) PROC SURVEY procedure (eg, SURVEYREG, SURVEYLOGISTIC) and the Taylor series method, which accounted for the complex sampling design, provided exact estimates of the standard errors, and adjusted for differential selection probabilities. In the subgroup analyses, similar weighted analyses were conducted. Five dummy-coded group variables (*US-born Asian*, *east Asian*, *southeast Asian*, *south Asian*, and *mixed Asian*) were entered as predictors, with US-born white children as the reference group. Analyses were conducted both with and without adjustment of social, financial, and human capital variables.

Results

Group Differences in Financial, Social, and Human Capital

Table II (available at www.jpeds.com) presents group comparison results. In general, compared with the US-born white reference group, Asian families had relatively low financial capital. Asian families were more likely to be poor and to use social services, with these differences mostly accounted for by the south Asian and southeast Asian groups. In contrast, east Asian, US-born Asian, and mixed Asian families were not significantly different than US-born white families on most indicators of financial capital.

In the domain of social capital, Asian and US-born white families differed in terms of household composition. Asian families were more likely to live in an unsafe neighborhood.

In the domain of human capital, south Asian parents were more educated and southeast Asian parents were less educated than US-born white parents. Asian immigrant parents and

their children also were less likely to speak English, with the lowest rates of parent and child English language use seen in east Asians. Finally, southeast Asian parents were less likely to engage in parent–child activities, to have books available for their children, and to use child care services (ie, out-of-home child care before kindergarten). Notably, US-born Asian families did not differ from white families on child care arrangements and home environment measures.

Physical and Mental Health Disparities in Asian and Asian Subgroups

We performed regression analyses to examine health disparities, including Asian subgroup as a predictor of health functioning, adjusting for sex. We conducted analyses with and without adjustments for financial, social, and human capital factors. In the nonadjusted full sample comparisons (Table III), we found disparities on both physical and mental health. Specifically, relative to white children, Asian children had worse physical health, fewer interpersonal relationship skills, and higher parent-reported internalizing problems, but had greater self-control and were less likely to have externalizing problems at school (teacher report). After adjusting for financial, social, and human capital (Table IV), Asian children still had worse physical health, fewer interpersonal relationship skills, and higher internalizing problems.

Important subgroup differences were identified. Without adjusting for capital factors (Table III), southeast Asian children were the most likely to be overweight and were at greater risk for mental health problems (ie, fewer interpersonal relationship skills and more parent-reported externalizing and internalizing problems). East Asian children had fewer interpersonal relationship skills and greater internalizing problems (parent report). In general, these findings held even after adjusting for financial, human, and social capital (Table IV). Children of US-born Asian parents did not differ from US-born white children in physical health or internalizing problems (teacher or parent report).

Discussion

This study examined the physical and mental health of young Asian children to identify areas of disparities, while taking into account the financial, social, and human capital of families. In the domain of mental health, Asian children had greater self-control and were less likely to have externalizing problems at school compared with US-born white children. Given their cultural values of respect and social harmony,³⁰ it is possible that Asian parents socialize their children with a greater emphasis on obedience and self-control. It also is possible that when Asian children are doing well academically, teacher perceptions of their behavioral functioning may be positively biased.

Despite the lower rate of externalizing problems in the Asian children, our findings provide several important exceptions to the “model minority” myth. Specifically, the Asian children had higher levels of internalizing problems and lower levels of interpersonal relationship skills relative to white children. In addition, the Asian children were less likely to be in good physical health compared with the white children. Importantly, these health disparities were found in children of Asian immigrant parents, but not in children of US-born Asian parents.

Our findings underscore the importance of considering the effect of contextual factors on children’s health.^{31,32} Indeed, after adjusting for financial, social, and human capital, some of the group differences (eg, parent-rated self-control, teacher-rated interpersonal relationship skills) disappeared, but other group differences remained in the domains of physical health and internalizing problems. In some (but not all) cases, important subgroup differences could be attributed to variations in financial, social, and human capital. On the whole, southeast Asian families were the most likely to live in disadvantaged contexts (eg,

poverty, greater use of social services, lower parental education), and their children had the worst physical and mental health outcomes (ie, internalizing and interpersonal problems). These findings are consistent with previous studies of Asian adolescents,¹⁰ and the occurrence of problems at this young age is cause for concern about the well being of southeast Asian immigrant families. It is possible that these immigrants' premigration experiences (eg, political instability, exceptionally limited educational opportunities, extreme poverty) or characteristics of the postmigration communities into which they settle (eg, disproportionately limited work opportunities, extreme poverty) contribute to these disparities. Future studies should focus specifically on the migration and acculturation experiences of southeast Asian immigrant families to help guide policy makers and service providers in developing strategies to meet the needs of this growing population of high-risk children. Future studies also should consider other factors, such as family health service utilization, which may contribute to the group differences documented in the present study.

Several limitations of this study must be noted. We used data from a large national survey that is representative of the US population. Using this representative sample, study findings specific to US-born white versus Asian families can be generalized to the larger population. However, the subgroup analyses were based on a sample of families with relatively better social, financial, and human capital compared with the larger Asian survey sample, which likely resulted in underestimation of true health disparities in Asian subgroups. In addition, the east Asian sample was underrepresented based on census estimates of the size of the east Asian population in the United States, and thus, results specific to this subgroup should be interpreted with caution. Another limitation of our sample is the aggregation of immigrant groups by region (eg, east Asian, south Asian) rather than by country of immigration (eg, India, China, Cambodia). Given the number of unique countries and cultures within Asia and the heterogeneity among Asian countries, future studies should examine subgroup differences by country of origin.

A third limitation is that this study focused on a limited number of factors mapping onto the broader domains of financial, social, and human capital. The dataset did not allow for an investigation of other key variables within these domains (eg, parenting practices, school experiences) or for an investigation of the underlying processes through which these contextual factors impact health outcomes. Future studies should consider a broader array of factors and mechanisms in developing a more comprehensive model of health disparities among Asian-American children. We are currently exploring the health and mental health trajectories (from kindergarten to grade 5) of the ECLS-K Asian sample to consider health disparity patterns throughout development and to explore how contextual factors (ie, financial, human, and social capital) may contribute to changes in these patterns. For example, it is possible that internalizing problems diminish over time as children of immigrants adjust to and experience success in the school setting.

This study provides an important first step in addressing health disparities in Asian children of immigrant parents. Several research and practical implications can be drawn from our results. Although Asian children tend to have better behavioral functioning at school, several important physical and mental health disparities were identified. These disparities were evident in early childhood, suggesting that prevention efforts before school entry (kindergarten), with a specific focus on physical health and internalizing problems, especially for southeast Asian children, are warranted. Partnering with Asian communities to further develop culturally appropriate and engaging strategies may be particularly effective in addressing health disparities. For example, providing interventions within pediatric or child care settings may be useful, given that Asian communities have unique health-seeking behaviors and views regarding physical and mental health problems.

Glossary

BMI	Body mass index
ECLS-K	Early Childhood Longitudinal Study-Kindergarten Class

References

1. Betancourt JR, Green AR, Carrillo JE, Ananeh-Firempong O. Defining cultural competence: a practical framework for addressing racial/ethnic disparities in health and health care. *Public Health Rep.* 2003; 118:293–302. [PubMed: 12815076]
2. Brach C, Fraser I. Can cultural competency reduce racial and ethnic health disparities: a review and conceptual model. *Med Care Res Rev.* 2000; 57:181–217. [PubMed: 11092163]
3. Lara M, Gamboa C, Kahramanian MI, Morales LS, Bautista DE. Acculturation and Latino health in the United States: a review of the literature and its sociopolitical context. *Annu Rev Public Health.* 2005; 26:367–397. [PubMed: 15760294]
4. Brotman LM, Calzada EJ, Huang K-Y, Kingston S, Dawson-McClure S, Kamboukos D, et al. Promoting effective parenting practices and preventing child behavior problems in school among ethnically diverse families from underserved, urban communities. *Child Dev.* 2011; 82:258–276. [PubMed: 21291441]
5. Huang K-Y, Caughy MO, Genevro JL, Miller I. Maternal knowledge of child development and quality of parenting among white, African-American and Hispanic mothers. *J Appl Dev Psychol.* 2005; 26:149–170.
6. US Census Bureau. [Accessed May 1, 2011] An older and more diverse nation by mid-century. Available from: <http://www.census.gov/newsroom/releases/archives/population/cb08-123.html>.
7. Yu, SM.; Vyas, AN. The health of children and adolescents. In: Trinh-Shevrin, C.; Islam, NS.; Rey, MJ., editors. *Asian American communities and health: Context, research, policy and action*. San Francisco, CA: John Wiley & Sons, Inc.; 2009. p. 107-131.
8. National Center for Education Statistics. *Digest of Education Statistics 2000*. Washington DC: National Center for Education Statistics; 2001. NCES No. 2001-034.
9. Schneider B, Lee Y. A model for academic success: the school and home environment of east Asian students. *Anthropol Educ Quart.* 1990; 21:358–377.
10. Kim LS, Chun C. Ethnic differences in psychiatric diagnosis among Asian-American adolescents. *J Nerv Ment Dis.* 1993; 181:612–617. [PubMed: 8409959]
11. Yeh M, McCabe K, Hurlburt M, Hough R, Hazen A, Culver S, et al. Referral sources, diagnoses, and service types of youth in public outpatient mental health care: a focus on ethnic minorities. *J Behav Health Serv Res.* 2002; 29:45–60. [PubMed: 11840904]
12. Nguyen L, Arganza GF, Huang LN, Liao Q, Nguyen HT, Santiago R. Psychiatric diagnoses and clinical characteristics of Asian American youth in children's services. *J Child Fam Stud.* 2004; 13:483–495.
13. Wang Y, Monteiro C, Popkin BM. Trends of obesity and underweight in older children and adolescents in the United States, Brazil, China, and Russia. *Am J Clin Nutr.* 2002; 75:971–977. [PubMed: 12036801]
14. Yu SM, Huang ZJ, Singh GK. Health status and health services utilization among US Chinese, Asian Indian, Filipino, and other Asian/Pacific Islander children. *Pediatrics.* 2004; 113:101–107. [PubMed: 14702456]
15. Austin AA, Chorpita BF. Temperament, anxiety, and depression: comparisons across five ethnic groups of children. *J Clin Child Adolesc Psychol.* 2004; 33:216–226. [PubMed: 15136185]
16. Chang L, Morrissey RF, Koplewicz HS. Prevalence of psychiatric symptoms and their relation to adjustment Chinese-American youth. *J Am Acad Child Adolesc Psychiatry.* 1995; 34:91–99. [PubMed: 7860464]
17. Lee J, Lei A, Sue S. The current state of mental health research on Asian Americans. *J Hum Behav Soc Environ.* 2001; 3:159–178.

18. Okazaki S. Asian American and white American differences on affective distress symptoms: do symptom reports differ across reporting methods? *J Cross Cult Psychol.* 2000; 31:603–625.
19. Choi H, Meininger JC, Roberts RE. Ethnic differences in adolescents' mental distress, social stress, and resources. *Adolescence.* 2006; 41:263–283. [PubMed: 16981616]
20. Cheng SH, Kuo WH. Family socialization of ethnic identity among Chinese-American pre-adolescents. *J Comp Fam Stud.* 2000; 31:463–484.
21. Lauderdale DS, Rathouz PJ. Body mass index in a US national sample of Asian Americans: effects of nativity, years since immigration and socioeconomic status. *Int J Obes Relat Metab Disord.* 2000; 24:1188–1194. [PubMed: 11033989]
22. Trickett EJ, Jones CJ. Adolescent culture brokering and family functioning: a study of families from Vietnam. *Cult Divers Ethnic Minor Psychol.* 2007; 13:143–150.
23. National Center for Education Statistics. User's Manual for the ECLS-K Base-Year Public-Use Data Files and Electronic Codebook. Washington, DC: National Center for Education Statistics and Education Statistics Services Institute; 2001.
24. US Bureau of the Census. [Accessed March 1, 2010] The Asian population: 2000. Available from: <http://landview.census.gov/prod/2002pubs/c2kbr01-16.pdf>.
25. Ogden CL, Carroll MD, Curtin LR, McDowell MA, Tabak CJ, Flegal KM. Prevalence of overweight and obesity in the United States, 1999–2004. *JAMA.* 2008; 295:1549–1555. [PubMed: 16595758]
26. Gresham, FM.; Elliot, SN. Social Skills Rating System Manual. Circle Pines, MN: American Guidance Service; 1990.
27. Coleman JS. Social capital in the creation of human capital. *The American Journal of Sociology.* 1988; 94:S95–S120. (Supplement: Organizations and Institutions: Sociological and Economic Approaches to the Analysis of Social Structure).
28. Portes A. Social capital: its origins and applications in modern sociology. *Annu Rev Sociol.* 1998; 24:1–24.
29. Bryant BK, Zvonkovic AM, Reynolds P. Parenting in relation to child and adolescent vocational development. *J Voc Behav.* 2006; 69:149–175.
30. Lim LL, Chang WC. Role of collective self-esteem on youth violence in a collective culture. *Int J Psychol.* 2009; 44:71–78. [PubMed: 22029444]
31. Bronfenbrenner U. Ecology of the family as a context for human development: research perspectives. *Dev Psychol.* 1986; 22:723–742.
32. Bronfenbrenner, U.; Morris, PA. The ecology of developmental processes. In: Damon, W., editor. *Handbook of Child Psychology.* 4th ed.. New York: Wiley; 1998.

Sample characteristics

Table 1

	Full-sample comparisons		Asian subgroup comparisons				
	Asian total	US-born white (reference)	US-born Asian	East Asian	Southeast Asian	South Asian	Mixed Asian
Sample size, n	1586	6140	141	101	263	113	130
Male sex, %	51.86	51.72	60.63	54.15	52.56	51.35	42.59
Child US born, %	89.08	99.47	85.62	94.23	93.47	76.70	94.67
Child's age, years, mean (SE)	5.64 (0.01)	5.73 (0.01)	5.61 (0.03)	5.60 (0.03)	5.66 (0.03)	5.62 (0.04)	5.67 (0.03)
Mother's age, years, mean (SE)	34.69 (0.22)	34.35 (0.16)	36.56 (0.62)	36.26 (0.43)	34.72 (0.60)	33.33 (0.47)	34.87 (0.49)
Father's age, years, mean (SE)	38.00 (0.25)	36.76 (0.15)	38.16 (0.57)	39.59 (0.62)	37.78 (0.59)	38.16 (0.69)	37.69 (0.60)
Mother's years in the US, mean (SE)	-	-	-	13.15 (0.66)	13.01 (0.41)	10.19 (0.90)	17.86 (1.23)
Father's years in the US, mean (SE)	-	-	-	15.27 (0.95)	14.52 (0.50)	13.41 (0.79)	17.94 (1.29)

Demographic data were collected in kindergarten. Mother's and father's years in the United States were not reported for the full Asian sample because of a high proportion of missing data. All analyses were weighted.

Table II
Financial, social, and human capital background among Asian families in the United States

	Full-sample comparisons		Asian subgroups comparisons				
	Asian total	US-born white (reference)	US-born Asian	East Asian	Southeast Asian	South Asian	Mixed Asian
Financial capital							
Family poverty and employment, %							
Family poverty	16.96 [‡]	5.24	7.67	9.77	25.38 [‡]	10.90	5.14
Mother employed	64.03 [‡]	69.37	64.47	53.85 [*]	69.35	53.58 [*]	63.25
Father employed	93.40 [‡]	97.09	98.77	96.77	87.72 [‡]	100.00 [‡]	95.67
Mother worked between child's birth and entry into K	65.28 [‡]	76.57	71.94	46.16 [‡]	59.60 [‡]	56.81 [‡]	72.76
Social services and insurance, %							
WIC for pregnant mother	28.17 [‡]	20.95	18.01	16.29	45.22 [‡]	3.02 [‡]	18.10
WIC for child	30.92 [*]	25.05	22.53	19.16	47.94 [‡]	4.13 [‡]	21.36
Food stamps in last 12 months	10.69 [‡]	5.21	1.76	4.09	23.82 [‡]	4.36	3.75
AFDC/TANF in last 12 months	7.27 [‡]	2.27	1.88	0.00	14.99 [‡]	1.17	2.16
Child health insurance coverage	93.63	95.00	96.61	92.37	92.04	91.26	96.39
Social capital							
Household composition							
Two-parent home, %	89.66 (1.39) [‡]	94.07 (0.41)	97.69	98.52	93.05	96.86	99.41 [*]
Number of siblings, mean (SE)	1.53 (0.09)	1.41 (0.02)	1.35 (0.09)	1.15 (0.13) [*]	2.16 (0.21) [‡]	1.18 (0.12)	1.39 (.10)
Number of people in household, mean (SE)	4.79 (0.09) [‡]	4.45 (0.03)	4.41 (0.07)	4.46 (0.12)	5.58 (0.21) [‡]	4.57 (0.11)	4.70 (.11) [*]
Parental well-being: parental depression, mean (SE)	1.39 (0.02)	1.41 (0.01)	1.40 (0.04)	1.34 (0.05)	1.36 (0.03)	1.31 (0.04) [*]	1.37 (0.03)
Neighborhood safety, mean (SE)	2.85 (0.01) [‡]	2.93 (0.00)	2.89 (0.02)	2.87 (0.03) [*]	2.85 (0.02) [‡]	2.88 (0.02) [*]	2.90 (0.01) [*]
Human capital							
Parental education high school or less, %	19.23	21.18	13.08 [*]	14.12	32.51 [‡]	10.42 [*]	14.77 [*]
Language use, %							
Parents speak only English to child	51.21	99.13	92.03 [‡]	5.38 [‡]	29.59 [‡]	31.76 [‡]	71.53 [‡]
Child language use English only	40.17 [‡]	97.74	76.43 [‡]	5.04 [‡]	25.82 [‡]	19.13 [‡]	53.72 [‡]

	Full-sample comparisons		Asian subgroups comparisons				
	Asian total	US-born white (reference)	US-born Asian	East Asian	Southeast Asian	South Asian	Mixed Asian
Home environment, mean (SE)							
Parent-child interaction frequency	2.69 (0.02) [‡]	2.83 (0.01)	2.82 (0.04)	2.61 (0.06) [‡]	2.70 (0.05) [‡]	2.78 (0.04)	2.80 (0.05)
Number of children's books	56.07 (2.19) [‡]	98.62 (1.37)	90.48 (4.66)	56.44 (5.46) [‡]	33.92 (2.88) [‡]	44.85 (5.85) [‡]	75.56 (5.27) [‡]
Child care arrangement at kindergarten, %							
Attend private school	18.56	19.21	20.21	8.16 [‡]	17.00	15.32	24.92
Full day class	48.05	50.12	49.12	41.40	46.57	51.32	49.85
Primary type of nonparental care							
No nonparental care	54.27	54.37	52.16	54.27	55.87	60.03	58.48
Relative care	20.79 [‡]	12.15	14.37	20.86	26.39 [‡]	19.97	24.06 [‡]
Nonrelative care	5.93 [‡]	13.68	11.44	2.86 [*]	3.35 [‡]	3.65 [*]	3.00 [‡]
Center care	17.43	17.90	21.45	21.51	12.43	14.99	13.27
Two or more/varies	1.58	1.90	0.57	0.50 [‡]	1.97	1.35	1.20
Child care arrangement before kindergarten							
Use nonparental care, %	79.21 [‡]	83.78	81.64	86.93	70.17 [‡]	70.11 [*]	81.19
Age at first nonparental care, months, mean (SE)	24.71 (0.83) [‡]	19.98 (0.36)	22.27 (1.80)	26.55 (2.16)	26.67 (2.42)	25.74 (2.56)	22.64 (1.88)
Hours in child care (if using care), mean (SE)	30.21 (0.85) [‡]	27.08 (0.50)	26.29 (2.25)	32.33 (2.98) [‡]	32.54 (2.03) [*]	29.90 (1.64) [*]	25.24 (1.52)

AFDC/TANF, Aid to Families with Dependent Children/Temporary Assistance for Needy Families; *WIC*, Women, Infants, and Children.

^{*} $P < .05$.

[‡] $P < .01$.

^{‡‡} $P < .001$.

Table III

Child physical health and mental health functioning

	Full-sample comparisons		Asian subgroups comparisons				
	Asian total	US-born white (reference)	US-born Asian	East Asian	Southeast Asian	South Asian	Mixed Asian
Health at K, %							
Overweight (BMI ≥ 95%)	11.44	9.29	5.46	11.23	13.51 [*]	8.91	8.43
Excellent/good health	77.89 [‡]	88.80	86.58	73.39 [‡]	68.76 [‡]	68.25 [‡]	80.32 [*]
Child mental health functioning at K (teacher), mean (SE)							
Self-control	3.16 (0.02)	3.18 (0.01)	3.37 (0.05) [‡]	3.12 (0.07)	3.13 (0.03)	3.23 (0.08)	3.19 (0.04)
Interpersonal relationship skills	3.00 (0.03) [*]	3.07 (0.01)	3.18 (0.05) [*]	2.98 (0.09)	2.87 (0.05) [‡]	3.09 (0.09)	3.08 (0.04)
Externalizing problems	1.48 (0.02) [‡]	1.56 (0.01)	1.38 (0.05) [‡]	1.41 (0.05) [‡]	1.46 (0.04) [*]	1.40 (0.08) [*]	1.45 (0.04)
Internalizing problems	1.48 (0.02)	1.50 (0.01)	1.46 (0.04)	1.41 (0.05)	1.53 (0.03)	1.47 (0.06)	1.42 (0.04) [*]
Child mental health functioning at K (parent), mean (SE)							
Self-control	2.90 (0.02) [*]	2.86 (0.01)	2.95 (0.04) [*]	2.77 (0.05)	2.88 (0.04)	3.04 (0.07) [*]	2.94 (0.04)
Interpersonal relationship skills	3.12 (0.02) [‡]	3.39 (0.01)	3.27 (0.06)	2.89 (0.06) [‡]	3.10 (0.05) [‡]	3.12 (0.07) [‡]	3.22 (0.05) [‡]
Externalizing problems	1.92 (0.03)	1.87 (0.01)	1.83 (0.07)	1.91 (0.06)	2.07 (0.07) [*]	1.82 (0.08)	1.89 (0.05)
Internalizing problems	1.61 (0.02) [‡]	1.53 (0.01)	1.54 (0.05)	1.69 (0.05) [‡]	1.67 (0.04) [‡]	1.63 (0.06)	1.56 (0.03)

Overweight (1 = yes) and excellent/good health (1 = yes) were dichotomized variables. All analyses were weighted and controlled for child sex. No adjustment was made for capital factors.

^{*} $P < .05$.[‡] $P < .01$.[‡] $P < .001$.

Table IV

Child physical health and mental health functioning

	Full-sample comparisons		Asian subgroups comparisons				
	Asian total	US-born white (reference)	US-born Asian	East Asian	Southeast Asian	South Asian	Mixed Asian
Health at K, OR (95% CI)							
Overweight	1.16 (0.81–1.64)	1.0	.64 (0.30–1.40)	1.17 (0.47–2.93)	1.40 (0.75–2.60)	0.96 (0.34–2.71)	0.92 (0.50–1.68)
Excellent/good health	0.56 (0.41–0.75) [‡]	1.0	.72 (0.37–1.42)	0.32 (0.16–0.65) [‡]	0.27 (0.17–0.42) [‡]	0.21 (0.11–0.41) [‡]	0.45 (0.24–0.83) [‡]
Social-emotion at K (teacher), <i>b</i> (SE)							
Self-control	0.03 (0.04)	0	0.22 (0.06) [‡]	–0.002 (0.09)	–0.07 (0.05)	0.13 (0.10)	–0.01 (0.06)
Interpersonal relationship skills	–0.03 (0.04)	0	0.15 (0.06) [*]	–0.07 (0.11)	–0.19 (0.06) [‡]	0.05 (0.11)	–0.03 (0.05)
Externalizing problems	–0.11 (0.03) [‡]	0	–0.21 (0.06) [‡]	–0.18 (0.06) [‡]	–0.07 (0.05)	–0.23 (0.08) [‡]	–0.06 (0.05)
Internalizing problems	–0.04 (0.03)	0	–0.02 (0.05)	–0.05 (0.08)	0.02 (0.04)	–0.05 (0.06)	–0.05 (0.05)
Social-emotion at K (parent), <i>b</i> (SE)							
Self-control	0.01 (0.03)	0	0.04 (0.04)	–0.14 (0.06) [*]	0.03 (0.06)	0.16 (0.07) [*]	0.04 (0.04)
Interpersonal relationship skills	–0.19 (0.03) [‡]	0	–0.09 (0.07)	–0.43 (0.08) [‡]	–0.21 (0.05) [‡]	–0.21 (0.08) [‡]	–0.15 (0.06) [*]
Externalizing problems	0.11 (0.04) [‡]	0	–0.02 (0.07)	0.17 (0.08) [*]	0.23 (0.09) [‡]	0.01 (0.08)	0.08 (0.06)
Internalizing problems	0.06 (0.03) [*]	0	0.01 (0.05)	0.17 (0.06) [‡]	0.16 (0.05) [‡]	0.09 (0.06)	0.03 (0.04)

b (SE), unstandardized weighted results.

Results control for contextual factors from 4 domains: demographic (sex, child US born, caregiver age), financial capital (family poverty status), social capital (total number household members, neighborhood safety), and human capital (education, parent–child interaction frequency, number of books at home, child speaking language other than English), with a total of 10 covariates.

^{*} $P < .05$.

[‡] $P < .01$.

^{‡‡} $P < .001$.