

ORIGINAL RESEARCH ARTICLE

How we live: Characteristics of multigenerational households among Asian Americans (2006–2018)

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Introduction: Household structure is an important social determinant of health. Asian Americans are the race/ethnic group most likely to live in multigenerational households, but little is known about which characteristics are associated with living in a multigenerational household among Asian Americans as a whole or as disaggregated subgroups.

Methods: A cross-sectional study design using National Health Interview Survey data (2006–2018) was conducted to compare the characteristics associated with living in a multigenerational household among Asian Americans compared to non-Hispanic Whites. The sample included 572,783 adults: 515,420 non-Hispanic Whites, 11,113 Asian Indians, 11,864 Chinese, 13,000 Filipino, and 21,386 other Asians. Binary logistic regression to examine how living in multigenerational households (outcome) was associated with race and sociodemographic characteristics among the entire population and by race/ethnic subgroup

Results: Approximately 15% of the study population (12.4% and 24% of non-Hispanic Whites and Asians, respectively) lived in multigenerational households. Filipinos had the highest (30.5%) and Asian Indians had the lowest (19.5%) proportion of people living in multigenerational households. Aggregated Asians had twice the odds compared to non-Hispanic Whites of living in multigenerational households (OR = 2.32, 95% CI: [2.17–2.49]). Foreign-born Asian Indians compared to US-born Asian Indians were less likely (OR = 0.67, 95% CI: [0.51–0.87]) to live in a multigenerational household. Foreign-born Filipinos compared to US-born Filipinos had twice the odds (OR = 2.04, 95% CI: [1.72–2.42]) of living in multigenerational households.

Conclusions: Asian Americans are more likely to live in multigenerational households compared to non-Hispanic Whites although proportions vary by Asian subgroups. Characteristics associated with living in a multigenerational household vary. Understanding the characteristics of multigenerational households in Asian Americans can inform public health practice.

Key Words: multigenerational households ■ Asian Americans ■ family ■ National Health Interview Survey (NHIS) ■ Asian health

Household structure fundamentally affects how people live and thus influences health behaviors.^{1,2} While the nuclear family – a couple and their dependent child and/or children – has been regarded as the ‘traditional’ family structure in Western societies,³ other household structures, such as multigenerational households, are considered ‘traditional’ in nonwestern societies.⁴

Living in a multigenerational household is rooted in Asian cultures due to cultural values,^{4,5} social support,⁶

and opportunities for financial flexibility.^{7,8} While the Pew Research Center identifies Asian Americans as the most likely race/ethnic group to live in a multigenerational household with nearly a quarter of Asian Americans (27%) living in one,⁹ other US reports⁸ omit Asian Americans and exclusively consider non-Hispanic Whites, Hispanic and Black race/ethnicities living in multigenerational households. Given that Asians are the fastest growing race/ethnicity in the US,¹⁰ and the cultural propensity to live in multigenerational households, understanding the

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POPULAR SCIENTIFIC SUMMARY

- This study compared Asian American and non-Hispanic White groups to analyze the prevalence of living in a multigenerational household with data from the National Health Interview Survey (2006–2018).
- Asian Americans have twice the likelihood of living in multigenerational households than non-Hispanic White groups, with significant variations among subgroups. Filipinos have the highest rate (30.5%) and Asian Indians the lowest (19.5%).
- The findings underscore the need to understand the dynamics of multigenerational living among Asian Americans to improve public health strategies.

prevalence of and characteristics associated with multigenerational households among Asian Americans is important. Moreover, the Asian American population is heterogeneous. Previous analyses⁷ lump heterogeneous Asian American subgroups into one aggregate group, which mask important subgroup differences. There are no current studies of multigenerational households of which we are aware that include a national sample of disaggregated Asian Americans.

We examine the characteristics associated with living in a multigenerational household among Asian American as compared to non-Hispanic White groups using 2006–2018 National Health Interview Survey (NHIS) data. Given the heterogeneity among Asian Americans, we also examined multigenerational household differences within Asian American subgroups, accounting for demographic (age, sex, marital status, nativity) and social (income, education, region) characteristics.

METHODS

Study design and data source

We used data from the 2006–2018 NHIS obtained through the Integrated Public Use Microdata Series (IPUMS).¹¹ The NHIS is a national cross-sectional annual household interview survey, conducted by the National Center for Health Statistics. The NHIS conducts surveys in English and Spanish to examine the socio-demographics, health care access, and health behaviors of the civilian, noninstitutionalized population in the United States. The NHIS collects data from different samples yearly using a complex, multistage sample design that involves stratification, clustering, and oversampling of specific subgroups. This process includes dividing the target population into Primary Sampling Units (PSUs), creating substrata based on race and ethnicity densities, and selecting secondary

sampling units (SSUs) within these substrata. The sampling plan is updated every 10 years to ensure that the samples are nationally representative and independent each year.^{12,13,14} We used the STrengthening the Reporting of OBservational Studies in Epidemiology (STROBE) guidelines to prepare this manuscript.¹⁵

Study population

In order to obtain as large a sample of Asian Americans as possible, we studied 12 years of data (2006–2018). Although the NHIS has more recent data, due to the 2019 Questionnaire redesign, only data through 2018 contain disaggregated Asian American groups (Asian Indians, Chinese, Filipinos, and other Asians).¹⁶ The entire NHIS sample size included 863,676 respondents over the age of 18 years. We performed an initial population-wide comparison of the proportion of multigenerational households within all race/ethnicities. We then restricted our analysis to non-Hispanic White and Asian populations, resulting in a total unweighted sample size of 572,783 respondents. Our final analyses consisted of 515,420 (89.99%) non-Hispanic White and 57,363 (10.01%) Asian American households. (11,113 Asian Indians, 11,864 Chinese, 13,000 Filipino, and 21,386 other Asians).

Multigenerational household status

We defined multigenerational households as households with at least two generations of adults, using Pew Research Center's criteria.⁷

1. Two generations: parents (or in-laws) and adult children aged 25 years and older (or children-in-law); either generation can 'head' the household
2. Three generations: parents (or in-laws), adult children (or children-in-law), grandchildren
3. 'Skipped' generations: grandparents and grandchildren, without parents

Households were classified as multigenerational (meeting any of the three criteria) or nonmultigenerational households (all others) (Figure 1).

Independent variables

Self-identified race was categorized as non-Hispanic White or aggregated Asian American. Asian American subgroups included Asian Indians, Chinese, Filipinos, and 'other Asians'. The 'other Asians' category included all other Asian subgroups, as well as mixed race/ethnicity. Age was stratified as 18–30, 31–45, 46–64, 65+ years. We included sex (female or male), marital status

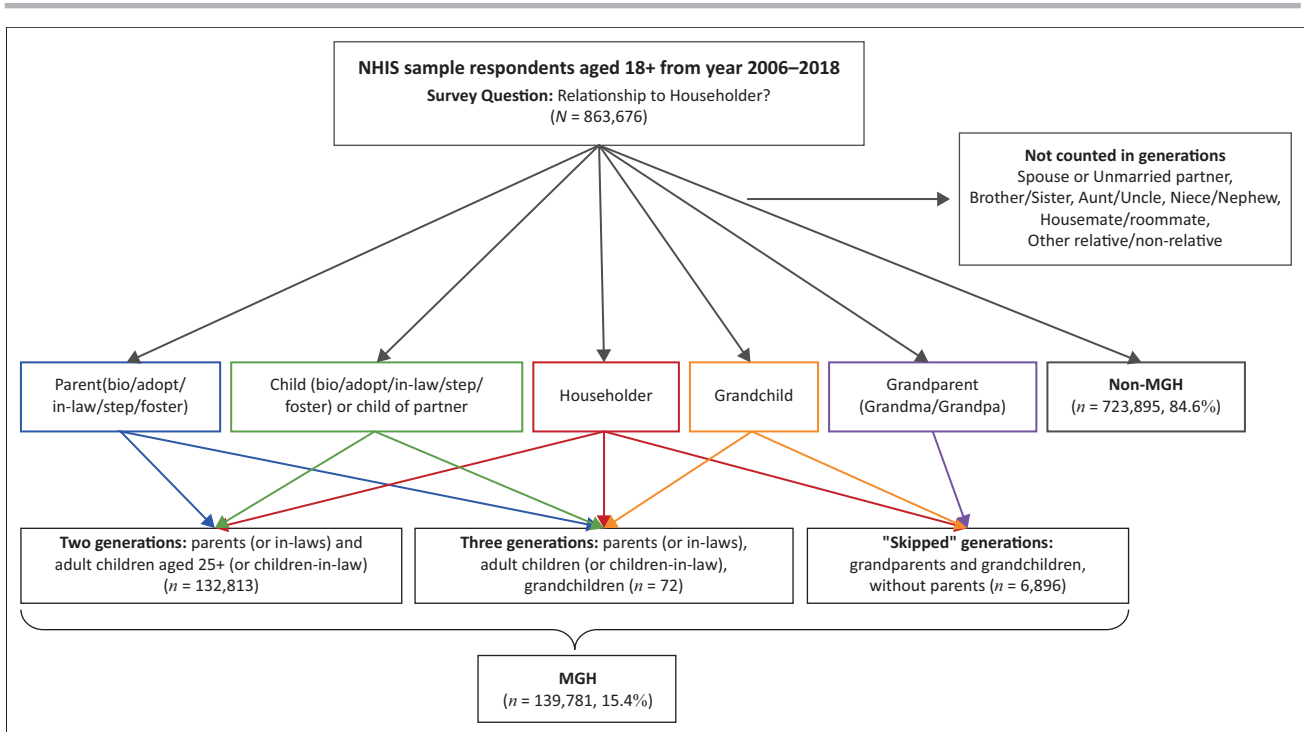


Figure 1. Creation of final study sample of multigenerational households from the 2006–2018 National Health Interview Survey (unweighted N = 863,676).

Note: Based on PEW Research Center's multigenerational household definition, we collectively combined the two, three, and skipped generation households into the multigenerational household category.

(not married or married), the highest level of education (less than high school [HS], HS/general educational development/some college, bachelor's or higher), family income (\$0–\$34,999, \$35,000–\$74,999, \$75,000+), nativity (US born or foreign born), and current US geographic region (North, Central/Midwest, Northeast, South, West).

Statistical methods and analysis

Population weights were applied to the NHIS data using the stratified cluster sampling method to allow the sample to be representative of the US population. We tabulated sociodemographic characteristics of non-Hispanic Whites, aggregated Asians, and Asian subgroups living in multigenerational households. We next examined the association of living in multigenerational households with race, adjusting for sociodemographic characteristics. We then performed subgroup analyses of characteristics associated with living in multigenerational households for each Asian American subgroup. Statistical significance was determined a priori as $P < 0.001$. Multicollinearity assessment was performed by checking for variance inflation factor (VIF) with a cutoff of $VIF < 5$, which was minimal. Analysis was conducted using R statistical software (RStudio, version 1.4.1717).

RESULTS

Collectively, 139,781 (15.4%) of the population lived in multigenerational households. Overall, among participants living in multigenerational households, 132,813/139,781 (95.0%) lived in two generation households, 6,896 (4.9%) lived in skipped generation, and 72 (0.05%) lived in three generation households (Fig. 1). The proportion of different race/ethnic groups living in different multigenerational household configurations varied. Frequency of different multigenerational household categories by race is provided in the appendix (1).

Among non-Hispanic Whites, 12% ($n = 63,151$) lived in multigenerational households, whereas among aggregated Asian Americans 24% ($n = 14,527$) lived in multigenerational households (Fig. 2, panel a). When disaggregated by Asian American subgroups, Filipinos had the highest proportion (30.5%) of multigenerational households, followed by other Asians (24.8%), Chinese (20.8%), and Asian Indians (19.5%) (Fig. 2, panel b).

Table 1 displays the sociodemographic characteristics of persons living in multigenerational households in non-Hispanic Whites and Asians as an aggregate, as well as specific Asian subgroups. Of aggregated Asians living in multigenerational households, 33.5% were aged 46–64 years old and 54.8% had a family income of greater than \$75,000 while in non-Hispanic White multigenerational households, 38% were aged

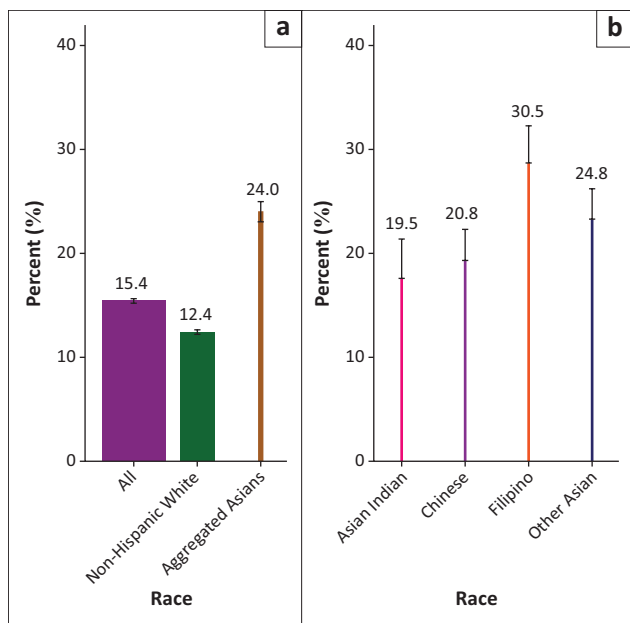


Figure 2. Percentage of participants living in a multigenerational household among (a) all (unweighted $N = 863,676$), non-Hispanic White (unweighted $n = 515,420$) and aggregated Asian groups (unweighted $n = 57,363$) and (b) among Asian subgroups: Asian Indian (unweighted $n = 11,113$), Chinese (unweighted $n = 11,864$), Filipino (unweighted $n = 13,000$), and other Asians (unweighted $n = 21,386$) in National Health Interview Survey (2006–2018).

Note: Bar width is indicative of the sample size of the given race or ethnicity.

46–64 years and 46% of family income greater than \$75,000.

Aggregated Asian American compared to non-Hispanic White families who lived in multigenerational households had larger proportions of participants who were married (56.6% vs. 41.0%), foreign born (79.4% vs. 6.0%), and lived in the Western United States (51.8% vs. 19%). Of Asian Indians in multigenerational households, 65.0% were married, the highest proportion among all Asian subgroups.

Multivariable findings

When examining the association of living in multigenerational households with race, and adjusting for sociodemographic characteristics, aggregated Asian Americans had twice the odds of living in multigenerational households compared to non-Hispanic Whites (OR = 2.32, 95% CI: [2.17–2.49]) (Appendix Table 2). All Asian American subgroups had increased odds of living in multigenerational households compared to non-Hispanic Whites. Filipinos had the highest odds (2.97, [2.70–3.27]), followed by Asian Indians (2.21, [1.93–2.53]), other Asians (2.19, [1.98–2.42]), and Chinese (1.91, [1.70–2.15]) (Fig. 3).

Characteristics associated with multigenerational households within different race/ethnicity subgroups

Aggregated Asian Americans

Table 2 displays the subgroup analyses of the association of different sociodemographic characteristics with living in multigenerational households. Among the aggregated Asian population (column B), increasing age categories had increased odds of living in multigenerational households. Specifically, participants aged 46–64 years had 1.43 (95% CI: [1.31–1.58]), and participants aged 65+ years had 2 times the odds (2.28, [2.03–2.56]) of living in multigenerational households compared to participants aged 18–30 years. Married persons (0.46, [0.43–0.49]) were less likely to live in multigenerational households. Participants in increasing family income brackets had increased odds of living in multigenerational households. Specifically, those with a family income of greater than \$75,000 had 4 times the odds (4.5, [3.95–5.12]) of living in multigenerational households compared to those with a family income lower than \$35,000. Individuals with higher education had decreased odds of living in multigenerational households compared to those with less than HS education. Participants with a bachelor's or higher education had a 72% decrease in the odds (0.29, [0.25–0.32]) of living in a multigenerational household compared to participants with less than a HS education. Aggregated Asian participants in the Northeast (1.36, [1.11–1.68]) and West (1.43, [1.18–1.74]) had increased odds of living in multigenerational households compared to those in North Central/Midwest. Foreign-born compared to US-born participants in the aggregated Asian population had almost twice the odds (1.46, [1.32–1.61]) of living in multigenerational households.

Asian American subgroups

Among the Asian Indian population (column C), females (1.22, [1.12–1.33]) had increased odds of living in multigenerational households compared to males. Foreign-born Asian Indians were less likely (0.67, [0.51–0.87]) to live in multigenerational households compared to US-born Asian Indians.

Among the Chinese population (column D), those aged 65+ years had 2 times the odds (2.03, [1.55–2.64]) of living in multigenerational households compared to those aged 18–30 years old. Chinese respondents with a family income of greater than \$75,000 had 4 times odds (4.34, [3.21–5.89]) of living in multigenerational households compared to those with an income lower than \$35,000. Chinese persons with a bachelor's degree or higher education were less likely (0.20, [0.15–0.26]) to live in multigenerational households compared to those with less than a HS education (Table 2).

Table 1. Weighted sociodemographic characteristics of persons who live in multigenerational households among non-Hispanic White, Aggregated Asian, and Asian subgroup households, National Health Interview Survey (2006-2018).

Demographics	Non-Hispanic White (unweighted n = 63,151) (A)	Aggregated Asian (unweighted n = 14,527) (B)	Asian Indian (unweighted n = 2,225) (C)	Chinese (unweighted n = 2,630) (D)	Filipino (unweighted n = 4,220) (E)	Other Asian (unweighted n = 5,452) (F)
	Weighted % (95% CI)	Weighted % (95% CI)	Weighted % (95% CI)	Weighted % (95% CI)	Weighted % (95% CI)	Weighted % (95% CI)
Age						
18-30	22.0 (21.2-22.0)	22.6 (21.7-23.6)	25.0 (22.4-27.1)	21.0 (19.1-23.3)	21.0 (19.3-23.4)	23.0 (21.8-25.0)
31-45	16.0 (16.2-16.8)	21.9 (21-22.8)	21.0 (18.5-23.3)	20.0 (18.2-22.2)	23.0 (21.5-25.3)	22.0 (20.9-23.5)
46-64	38.0 (37.6-38.3)	33.5 (32.7-34.3)	34.0 (32.6-36.2)	35.0 (33.3-37.3)	32.0 (30.4-33.2)	33.0 (32.2-34.7)
65+	24.0 (23.6-24.4)	22 (21.2-22.9)	20.0 (18.3-22.3)	23.0 (21.5-25.5)	24.0 (22.1-25.2)	21.0 (19.6-22.4)
Sex						
Female	52.0 (52.6-53.4)	53.7 (53.1-54.4)	52.0 (50.1-53.3)	53.0 (51.4-54.4)	55.0 (538-56.6)	54.0 (52.9-55.0)
Marital status						
Married	41.0 (40.4-41.5)	56.6 (55.5-57.7)	65.0 (62.2-67.7)	59.0 (56.9-62.0)	53.0 (51.2-55.0)	54.0 (51.6-55.8)
Education						
Less than HS	13.0 (12.9-13.9)	15.0 (14.0-16.1)	13.0 (11.2-15.5)	21.0 (17.8-24.4)	8.0 (6.5-9.3)	18.0 (16.8-20.2)
HS/GED/Some colleges	65.0 (64.8-65.9)	46.0 (44.3-47.3)	35.0 (31.7-38.1)	40.0 (37.3-43.4)	51.0 (47.9-53.1)	50.0 (48.3-52.4)
Bachelors+	21.0 (20.7-21.9)	39.0 (37.5-40.9)	52.0 (48.4-55.5)	39.0 (35.1-42.6)	42.0 (38.6-44.9)	31.0 (29.2-33.3)
Family income						
\$0-\$34,999	22.0 (21.2-22.8)	15.6 (14.4-17.0)	14.0 (11.0-17.4)	21.0 (17.5-24.5)	10.0 (8.3-12.2)	18.0 (16.2-20.5)
\$35,000-\$74,999	32.0 (31.6-33.2)	29.5 (27.7-31.5)	25.0 (21.1-29.3)	28.0 (24.1-32.3)	24.0 (20.4-27.8)	37.0 (33.7-40.2)
\$75,000+	46.0 (44.6-46.6)	54.8 (52.7-57.0)	61.0 (56.0-66.0)	51.0 (46.0-56.4)	66.0 (62.0-69.8)	45.0 (41.8-48.0)
Region						
North Central/Midwest	25.0 (23.7-25.5)	9.4 (7.9-11.2)	13.0 (9.2-17.6)	7.0 (5.0-10.0)	7.0 (5.5-9.1)	11.0 (8.8-12.9)
Northeast	22.0 (21.1-22.9)	20.5 (18.3-23.0)	35.0 (29.6-41.1)	28.0 (22.5-35.2)	12.0 (9.6-15.0)	16.0 (13.2-19.2)
South	34.0 (33.0-35.5)	18.2 (16.2-20.3)	26.0 (21.5-31.0)	11.0 (8.3-14.5)	12.0 (9.7-15.0)	22.0 (19.2-26.0)
West	19.0 (18.3-20.2)	51.8 (48.7-55.0)	26.0 (22.0-20.6)	53.0 (47.2-59.6)	69.0 (64.5-72.8)	51.0 (46.2-55.7)
Nativity						
Foreign born	6.0 (5.4-6.2)	79.4 (77.7-80.9)	87.0 (84.9-89.0)	81.0 (78.2-83.4)	75.0 (72.3-77.3)	78.0 (75.0-81.0)

Among the Filipino population (column E), those living in the West region had almost twice the odds (1.71, [1.27-2.30]) of living in multigenerational households compared to Filipinos living in the North Central/Midwest region. Foreign-born Filipino participants had 2 times the odds (2.04, [1.72-2.42]) of living in multigenerational households compared to US-born Filipinos. (Table 2).

Among other Asian populations (column F), foreign-born participants had higher odds (1.40, [1.20-1.62]) of living in multigenerational households compared to US-born participants (Table 2).

DISCUSSION

In our large NHIS sample analysis of household structure, we demonstrate that a large proportion of Asians in the US live in multigenerational households compared to

non-Hispanic Whites and that Asian and non-Hispanic White multigenerational households differ. Furthermore, Asian Indian, Chinese, and Filipino multigenerational households differ from those households that are not multigenerational. These unique analyses are a first step to understanding and supporting the health behaviors of these populations.

During the NHIS survey period (2006-2018), we find that almost double the proportion of Asian Americans lived in multigenerational households compared to non-Hispanic Whites. While an increasing proportion of non-Hispanic Whites are documented to have lived in multigenerational households,⁸ the proportion is still small in comparison to Asian Americans. Non-Hispanic White multigenerational households are most probably formed secondary to economic circumstances.⁷ While economic circumstances also might contribute to the formation of Asian multigenerational households, given that 80% of

Table 2. Stratified subgroup analyses of characteristics associated with living in a multigenerational household for each race group, National Health Interview Survey (2006-2018) (Forest plots available upon request).

	Non-Hispanic White (unweighted n = 515,420) (A)	Aggregated Asian (unweighted n = 57,363) (B)	Asian Indian (unweighted n = 11,113) (C)	Chinese (unweighted n = 11,864) (D)	Filipino (unweighted n = 13,000) (E)	Other Asian (unweighted n = 21,386) (F)
	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)	AOR (95% CI)
Age [Ref: 18–30]						
31–45	0.83 (0.80–0.87)	0.75 (0.67–0.84)	0.78 (0.61–1.00)	0.81 (0.64–1.02)	0.74 (0.60–0.93)	0.71 (0.61–0.84)
P	< 0.001	< 0.001	-	-	0.009	< 0.001
46–64	1.46 (1.41–1.51)	1.43 (1.31–1.58)	2.46 (1.96–3.07)	1.38 (1.13–1.68)	1.14 (0.97–1.33)	1.26 (1.09–1.47)
P	< 0.001	< 0.001	< 0.001	0.002	-	0.002
65+	1.51 (1.44–1.59)	2.28 (2.03–2.56)	5.15 (3.86–6.89)	2.03 (1.55–2.64)	2.13 (1.71–2.65)	1.80 (1.52–2.13)
P	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Sex [Ref: Male]						
Female	1.08 (1.06–1.10)	0.95 (0.91–0.99)	1.22 (1.12–1.33)	0.86 (0.80–0.93)	0.90 (0.83–0.97)	0.88 (0.83–0.94)
P	< 0.001	0.009	< 0.001	< 0.001	0.008	< 0.001
Marital status [Ref: No]						
Married	0.33 (0.32–0.34)	0.46 (0.43–0.49)	0.45 (0.37–0.55)	0.55 (0.47–0.64)	0.43 (0.38–0.49)	0.48 (0.43–0.54)
P	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Family income [Ref: \$0–\$34,999]						
\$35,000–\$74,999	2.05 (1.94–2.16)	2.83 (2.50–3.20)	2.57 (1.84–3.60)	2.89 (2.22–3.77)	2.27 (1.71–3.00)	2.93 (2.38–3.59)
P	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
\$75,000+	3.28 (3.11–3.47)	4.50 (3.95–5.12)	3.52 (2.47–4.99)	4.34 (3.21–5.89)	4.99 (3.88–6.42)	4.02 (3.32–4.88)
P	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Education [Ref: Less than HS]						
HS/GED/Some college	0.57 (0.54–0.59)	0.56 (0.50–0.62)	0.47 (0.35–0.63)	0.50 (0.39–0.65)	0.65 (0.53–0.81)	0.56 (0.48–0.65)
P	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Bachelor's+	0.27 (0.26–0.29)	0.29 (0.25–0.32)	0.19 (0.14–0.27)	0.20 (0.15–0.26)	0.49 (0.39–0.62)	0.31 (0.26–0.37)
P	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Region [Ref: North Central/Midwest]						
Northeast	1.27 (1.19–1.35)	1.36 (1.11–1.68)	1.69 (1.11–2.57)	1.28 (0.80–2.05)	1.24 (0.86–1.81)	1.23 (0.93–1.62)
P	< 0.001	0.004	0.015	-	-	-
South	1.19 (1.13–1.27)	1.05 (0.84–1.3)	1.15 (0.74–1.77)	1.03 (0.61–1.74)	0.85 (0.6–1.21)	1.09 (0.85–1.40)
P	< 0.001	-	-	-	-	-
West	1.10 (1.03–1.17)	1.43 (1.18–1.74)	1.46 (0.95–2.23)	1.44 (0.94–2.21)	1.71 (1.27–2.3)	1.13 (0.89–1.43)
P	0.003	< 0.001	-	-	< 0.001	-
Place Born [Ref: US Born]						
Foreign Born	1.26 (1.17–1.36)	1.46 (1.32–1.61)	0.67 (0.51–0.87)	1.20 (0.96–1.49)	2.04 (1.72–2.42)	1.40 (1.20–1.62)
P	< 0.001	< 0.001	0.003	-	< 0.001	< 0.001

Note: '-' P-values were not significant.

Asian American multigenerational household heads are foreign born, traditions carried to a new country probably contribute in part. Multigenerational households are a unique household configuration, which is traditional to many Asian societies.

In many Filipino and Chinese communities, the decision to live in a multigenerational household is often

driven by values such as filial piety, or the duty of a child (particularly the oldest son) to support his parents, in their older age.⁴ Various Asian Indian communities uphold similar values of exchanging support with parents in the name of 'seva', another name of filial piety.¹⁷ Additionally, the adult children and their young families can benefit from their parents' established housing and resources.¹⁸

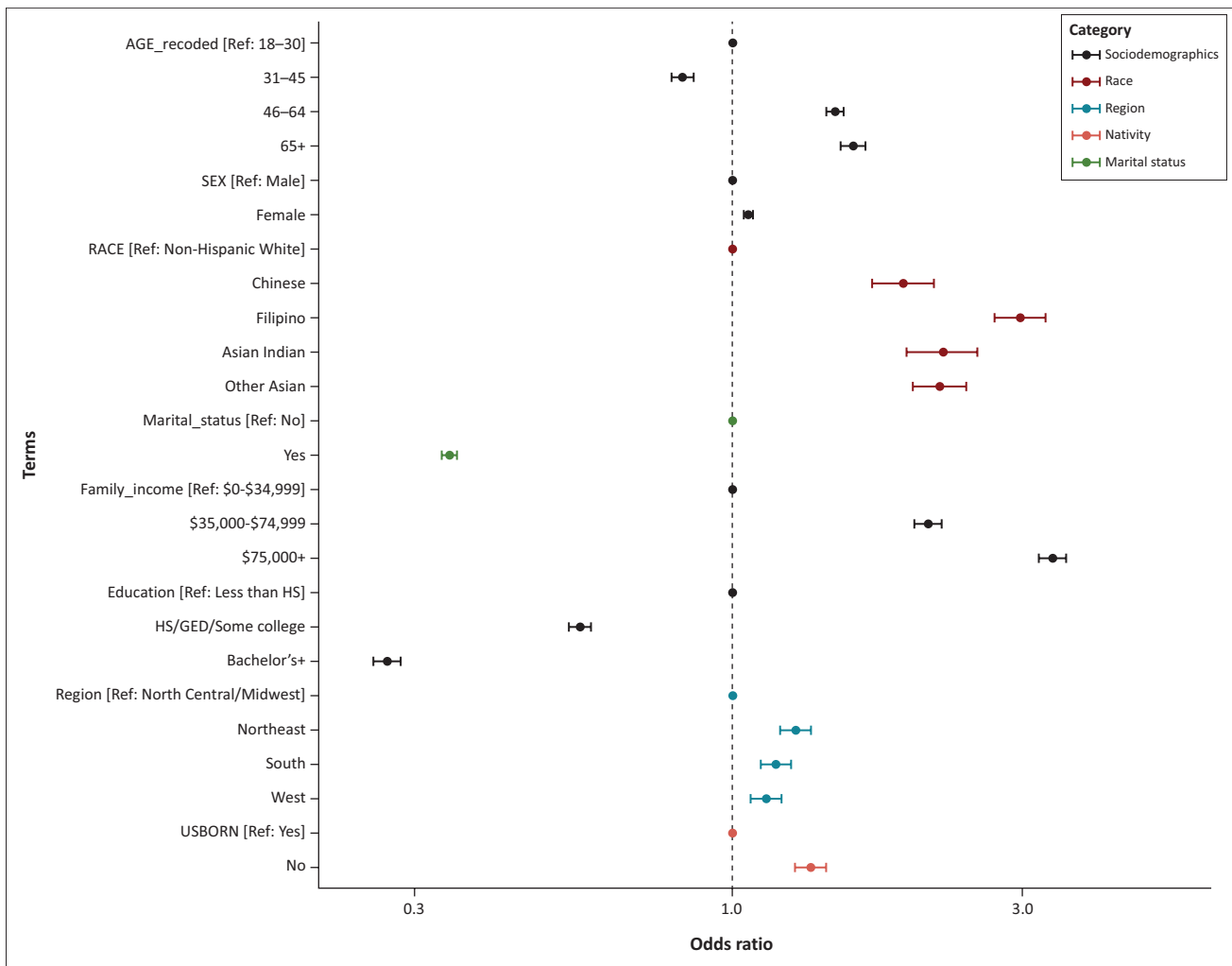


Figure 3. Adjusted odds ratio of living in a multigenerational household comparing Asian subgroups to non-Hispanic Whites, National Health Interview Survey (2006-2018) (n = 572,783).

The social and economic situations of relatives in different stages of life can complement different life-stage needs. For example, care of young children might be facilitated by grandparents while parents are working, and elder care would be easier on adult children who live in close proximity to aging parents.¹⁹ Thus multigenerational households can provide an aspect of cultural cohesion and social stability to immigrant Asian households.

At first glance, our findings suggest that multigenerational households are thriving economically compared to non-multigenerational households as they had twice the odds of incomes greater than \$35,000–74,999 and three times the odds of an income >\$75,000 compared to an income < \$35,000. Recent US literature supports this, emphasizing that multigenerational households are formed, in part, to pool financial resources to increase household income, especially in response to the recent financial pressures such as the Great Recession.^{8,20} However, it is important to consider that in Asian households, a higher proportion of incomes come from

more than one earner in the household, contributing to a seemingly higher income household.²¹ Previous literature also demonstrates that Asian American households are larger than non-Hispanic White households highlighting the need to account for household size when understanding the financial situation of the household, which NHIS does not include.²² For example, an income of \$35,000–74,999 for a family of 6 would be <100% to <200% of the federal poverty level.²³ Additionally, higher income may not be correlated with increased gross income and buying power because of remittance practices. For example, although Filipinos may make higher annual incomes, it is common for Filipinos to send remittances to relatives back home in the Philippines, even among second-generation children, thus, decreasing gross annual income.²⁴ Similar remittance practices are also seen among Asian Indian groups.²⁵ Thus higher incomes in Asian multigenerational households must be considered carefully in formulating public health practices.

Multigenerational households might be a mechanism for families to survive in an era of housing insecurity and increasing housing costs by pooling resources from different generations. The literature has noted that Asian American multigenerational households are more significantly financially burdened than non-Hispanic White multigenerational households, such that they spend a larger proportion of their income on housing and have a higher risk of being unable to pay housing costs if there is an economic crisis that disrupts their income. Asian American households also have additional overcrowding concerns when compared to White households.²² Typically, Chinese and Asian Indian multigenerational households are built around a courtyard. Families have their own rooms but come together throughout the day in the common spaces to share resources.²³ Houses in the United States are not built in this manner, thrusting generations together under one roof without separations. Information regarding home ownership would be important to understand housing burden and conditions, as well as social stressors from nontraditional housing structures. Given our results, Asian American multigenerational households may be cost burdened, with inadequate housing, eliciting social stressors.

Our findings that multigenerational households in general, compared to non-multigenerational households, have decreased odds of higher education suggest that a subset of households might have decreased income based on educational attainment. Alternatively, adult children may also be living with their parents while pursuing further higher education to save housing costs.²⁰ For Asians, the lack of education of immigrant parents may have prevented them from being able to secure a sufficient salaried job making them more dependent on their adult children in a multigenerational household.²⁴ Although we were not able to analyze English proficiency, lack of English proficiency may also contribute to a disadvantage in the United States job market.²⁵ Conversely, individuals with higher education may opt to live in other household structures. Community health organizations should provide Asians in multigenerational households with health education materials at an appropriate educational level.

Multigenerational households in different Asian subgroups had distinctive characteristics. Filipinos not only had the largest proportion of multigenerational households among all race/ethnic groups but survey respondents in Filipino multigenerational households, compared to non-multigenerational households, were male, unmarried, and foreign born. This could be explained in part by the Immigration and Nationality Act of 1965, which facilitated family reunification bringing in relatives and children of all Asian Americans already settled in the United States. Prior to 1965, the Immigration Act of 1924 also known as the Johnson-Reed Act excluded Asian immigrants and prohibited them from naturalization.²⁶ Filipino immigration increased with the amendment made in 1990 to the

Immigration and Nationality Act of 1965, which granted immediate citizenship for Filipino veterans who fought in World War II for the US. These elderly Filipino immigrants struggled to find high-paying jobs in the US and were not given service-related benefits, rendering them more dependent on their adult children and other family.²⁷ While these households had incomes documented as much greater than non-multigenerational households, real incomes could be much lower due to remittance practices.

Asian Indian survey respondents in multigenerational households, on the other hand, compared to non-multigenerational households are female, unmarried, and US born. South Asian immigrants came to the US in three main waves, the last of them being information technology professionals and international students.²⁸ Since a large number of working-age Asian Indians immigrate to the US for higher education and/or better job opportunities, they usually immigrate without their family making foreign-born Asian Indians less likely to live in multigenerational households. Asian Indian multigenerational households also had more seniors >65 years than non-multigenerational households. This could be due to the passage of Immigration Reform and Control Act of 1986 that led to an increase of 23,004 South Asian older adults to 62,089 in the US.²⁹

These findings should be considered in light of certain limitations. First, the NHIS survey data are based on participant recall, which could potentially introduce bias into the responses. Therefore, the results presented should be regarded as conservative estimates. The NHIS is conducted in both English and Spanish, meaning participants from Asian countries who do not speak these languages or have limited English proficiency might be excluded.

Despite these limitations, the NHIS provides rich disaggregated data for the three largest groups of Asian Americans, enabling unique analyses of these subgroups. Aggregated Asians comprise about 10% of our respondents, while non-Hispanic Whites constitute approximately 90%. The representation of the three largest Asian subgroups is even smaller. Additional efforts are needed to ensure that both aggregated and disaggregated Asian samples are representative of the larger US population of Asians

Profiles of multigenerational households can inform public health policy to improve immigrant health. With the World Health Organization declaring loneliness as a global public health priority,³⁰ intergenerational support may act as a protective factor improving mental well-being for older adults. In fact, research states that benefits appear to be strongest when older adults are living with family and not just their children but also their grandchildren.³¹ Multigenerational households can serve as a protective factor by aligning with culture and tradition, increasing overall family income, providing for child and elder care as well as resources for family members during

unstable economic situations such as when enrolled in educational programs, experiencing job loss, or divorce.⁷

On the other hand, multigenerational households can also serve as a risk factor for poor health if there is crowding and it is impossible to take preventive measures for infectious diseases such as when a child with influenza transmits the infection to an elderly adult.³² In addition, these household structures might contribute to interpersonal conflict or collective financial stress.⁸ Public health offices or community organizations can target multigenerational households by offering culturally based intergenerational services for Asians in general and specifically for subgroups with increased proportions of multigenerational households. Increased linguistic and culturally competent financial and housing counseling should be provided for Asian American subgroups.²²

Our study provides a unique foundation for understanding multigenerational household status with a specific focus on Asian Americans and their heterogeneous subgroups. By understanding how Asian Americans live, it is possible to identify potential contributors and stressors of health specific to Asian Americans. Additionally, future ethnically/culturally targeted family-based interventions should consider characteristics of multigenerational households in Asian American subgroups.

ARTICLE INFORMATION

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Appendix

Table 1. Frequency of different multigenerational household categories by race/ethnic subgroup in the National Health Interview Survey (2006-2018) (unweighted *N* = 863,676).

	Multigenerational Status					Total
	Two generations	Three generations	Skipped generations	Multigenerational combined (Two+Three+Skipped)	Not multigenerational	
Non-Hispanic White	60,009	14	3,128	63,151	452,269	515,420
Aggregated Asians	14,122	6	399	14,527	42,836	57,363
Asian Indian	2,184	0	41	2,225	8,888	11,113
Chinese	2,543	0	87	2,630	9,234	11,864
Filipino	4,102	6	112	4,220	8,780	13,000
Other Asian	5,293	0	159	5,452	15,934	21,386
Hispanic	34,206	19	1,365	35,590	129,862	165,452
Non-Hispanic Black	22,122	33	1,810	23,965	90,518	114,483
Alaskan Native or American Indian	1,321	0	123	1,444	5,333	6,777
Other	1,033	0	71	1,104	3,077	4,181
Total	132,813	72	6,896	139,781	723,895	863,676

Table 2. Adjusted Odds Ratio of living in a multigenerational household comparing aggregated Asian American to non-Hispanic White groups, National Health Interview Survey (2006-2018) (unweighted *n* = 572,783).

Demographics	OR (95% CI)	<i>P</i>
AGE [Ref: 18–30]		<0.001
31–45	0.83 (0.8–0.86)	
46–64	1.47 (1.43–1.52)	
65+	1.58 (1.51–1.65)	
SEX [Ref: Male]		<0.001
Female	1.06 (1.04–1.08)	
RACE [Ref: NHW]		<0.001
Asians aggregate	2.32 (2.17–2.49)	
Marital Status [Ref: No]		<0.001
Yes	0.34 (0.33–0.35)	
Family Income [Ref: \$0–\$34,999]		<0.001
\$35,000–\$74,999	2.1 (1.99–2.21)	
\$75,000+	3.36 (3.19–3.54)	
Education [Ref: Less than HS]		<0.001
HS/GED/Some college	0.56 (0.54–0.58)	
Bachelor's+	0.27 (0.26–0.28)	
Region [Ref: North Central/Midwest]		<0.001
Northeast	1.27 (1.2–1.35)	
South	1.18 (1.11–1.25)	
West	1.14 (1.07–1.21)	
Place Born [Ref: US Born]		<0.001
Foreign Born	1.34 (1.27–1.42)	