

HOUSING SATISFACTION OF ASIAN AND PACIFIC ISLANDER HOUSEHOLDS IN THE UNITED STATES

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Abstract

According to the U.S. Census Bureau there were 12.5 million Asian and Pacific Islanders living in the U.S. in March 2002, accounting for 4.4% of the total population. This research examined the housing satisfaction of Asian and Pacific Islander households compared to non-Hispanic White households. Since many Asian and Pacific Islanders in the U.S. are foreign-born, it was expected that their housing perceptions would be influenced by their experience with housing in their home countries. Using Morris and Winter's housing adjustment theory, the study investigated the effect of several demographic variables, housing deficits, and neighborhood satisfaction on housing satisfaction. The study also considered two variables with cultural relevance (length of residence in the U.S. and extended family living arrangement) to test their effect on housing satisfaction. Data used for the research came from the 2002 American Housing Survey Metropolitan Sample (AHS-MS) collected from a sample of 13 metropolitan areas. Results revealed that, generally, demographic variables were not significant indicators of housing satisfaction. Two housing deficits (renter status and housing inadequacy) and neighborhood satisfaction were important mediating variables between housing satisfaction and household variables. Length of residence in the U.S. and extended family living arrangement were not significant predictors of housing satisfaction for Asian and Pacific Islanders. There was little difference in the explanation of housing satisfaction for Asian and Pacific Islander households compared to non-Hispanic White households.

Introduction

There were 12.5 million Asian and Pacific Islanders in the U.S. as of March 2002 (U.S. Census Bureau, 2000). Though Asian American writers and filmmakers have captured their struggle for cultural adjustment in literature and film, few

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studies have examined the socio-cultural adjustment of this group in the U.S. (Kitano & Daniels, 1995; Pyong, 1995).

In the area of housing, little research has been conducted on Asian and Pacific Islanders in the U.S. Considering the significant cultural differences between the East and West and the history of Asian subgroups in the U.S., this study sought to evaluate the role of cultural norms in the formation of housing conditions and perceptions of Asian and Pacific Islander households in comparison with non-Hispanic White households. According to Morris and Winter (1975), who developed the housing adjustment theory, families evaluate their housing in terms of both cultural and family norms. This study tested how well the theory explained housing satisfaction of Asian and Pacific Islanders living in the U.S.

Immigration and Cultural Background

Asian migration to the U.S. dates back to the mid-19th century when the first groups of Chinese came to San Francisco as laborers during the 1849 Gold Rush. About 40 to 60 years later, Japanese, Koreans, and Filipinos came to the West Coast to make their fortune. The Asian American population did not reach a sizable number until 1970 because of discriminatory immigration restrictions (Parrillo, 1997).

The liberalization of immigration law in 1965 allowed for mass migration from Asian countries to the U.S. (Kitano & Daniels, 1995). With the end of the Vietnam War in the mid-1970s, large groups of refugees from Vietnam, Cambodia, and Laos came to the U.S. followed by their families (Herring, 1986). The Chinese open-door policies since the early 1980s enabled a large number of Chinese to enter the country as students and professionals who later became permanent residents (Ong & Blumenberg, 1994). The high-tech boom in the 1990s brought in a large number of Asian Indians as employment-based immigrants (Mendel & Farrell, 1992). More than 200,000 Asian immigrants have been admitted to the U.S. annually over the past three decades, accounting for 44% of total immigrants (Office of Immigration Statistics, 2003). Based on the 2000 Census, 8.7 million U.S. residents were born in Asia, accounting for nearly 68% of the total Asian population in this country. That number comprises 25% of the nation's total foreign-born population. From 1971 to 1998, 19,427,440 immigrants came to the U.S. and 6,674,086 of those (34%) were Asian (Le, 2003).

Whereas early immigration from Asia was driven by the need for labor, recent immigration is the result of many factors. Liberal immigration legislation has made it possible for relatives of new immigrants and naturalized citizens to immigrate to the U.S. The globalization of the economy has created extensive economic, political, and ideological ties between the U.S. and countries in the Pacific Rim. American military involvement in East Asia and Southeast Asia has promoted exchanges of personnel and refugee resettlement (Fong & Shinagawa, 2000).

During the 1960s Congress passed laws to eliminate discriminatory immigration legislation. The Hart-Cellar Act was passed in 1965, which eliminated the national origin quota system for both humanitarian purposes of reuniting families and meeting the labor market demand for skilled labor. Since 1968 when the law went into effect, immigration from Asia has increased dramatically (Zhou & Gatewood, 2000). Also, in 1990 the Chinese Students Protection Act allowed over 100,000 Chinese, mainly students and their families, to settle in the U.S. as legal permanent residents (U.S. Congressional Budget Office, 1992).

On the American side, the growth in capital-intensive, high-tech industries and in services during the 1980s and 1990s required more skilled workers than what the market could provide. Importing skilled labor from overseas became a quick solution to the shortage of qualified labor. Since the 1980s about one third of the engineers and medical personnel in the U.S. labor market have been from Asia, primarily from India, China, Taiwan, and the Philippines (Zhou & Gatewood, 2000).

Overall, recent immigration has been influenced and perpetuated not simply as a result of the Hart-Cellar Act but also by the interplay of a complex set of macro and micro structural forces: globalization, uneven political and economic development in developing and developed countries, the role of the U.S. in world affairs, and the social process of international migration. Due to these forces high levels of immigration will be part of Asian and American life for years to come (Pyong, 1995; Zhou & Gatewood, 2000).

To many people, Asians in the U.S. are a homogeneous group, physically and culturally indistinguishable from one another. However, the Asian and Pacific Islander group consists of 43 ethnic groups, including 28 Asian groups and 15 Pacific Islander groups. Chinese, Filipino, Asian Indian, Vietnamese, Korean, and Japanese are the largest groups (U.S. Census Bureau, 2000). The groups represent different nationalities, languages, religions, and cultures. They are also diverse within each of their own groups. Chinese, Koreans, and Japanese share similar cultural and physical features (Pyong, 1995). As a Mongolian race, the three groups look similar. Their cultures are also similar because of the influence of Confucianism and Buddhism (Pyong, 1995).

Colonizers have influenced Vietnam. Chinese Confucianism had a strong influence on Vietnam until the end of the 19th century when the French took control over Vietnam (Pyong, 1995). Confucianism and Buddhism did not influence the Philippines because it was colonized by Spain and the U.S. Three fourths of Filipinos are Roman Catholics (Pido, 1986). Asian Indians and Pakistanis share similar cultures with the religion of Islam in Pakistan and in parts of India. Hinduism is another major religion practiced by the majority of people in India (William, 1988).

Because of the historical agrarian nature of Asian societies, the extended family is the typical form for households. Extended family reinforces the sense of duty and responsibility. It values ancestor worship and the family name. Extended families embrace the unmarried and the aged (Kobata, 1979). Even in modern society such traditions persist. In many Asian societies, before forming their own nuclear families, the majority of married couples whose parents are alive live in an extended family for some time after marriage (Chi, 1986). In contrast, Western culture emphasizes individualism, autonomy, and independence. Individuals are encouraged to be assertive, creative, and to leave their families to start their own when they are adults. Self-sufficiency and individualism are thus highly valued (Chung, 1991).

Because of contacts with American values over time, Asian Americans have undergone many cultural changes. The first generation immigrants often fuse together the old and new to create a new kind of family life (Kibria, 1993). The values, norms, and behavior individuals learned in their home country have to be adjusted for the new culture. Many Asian American families are in transition from extended families to nuclear families through migration, urbanization, and modernization (Kibria, 1992). Family members struggle to hold on to the old practices while trying to develop new coping skills. Often families develop a culture that is a blend of their traditional culture and the culture of mainstream America (Lee, 1990).

Overview of Housing in Asia

After World War II most of the Asian countries experienced rapid industrialization and urbanization due to post-war reconstruction. There was large-scale rural-urban migration to most major cities. The migration involved low-income households in agricultural sectors leaving their land and seeking employment in urban areas (Drakakis-Smith, 1973). Industrial developments within cities were incapable of absorbing the large numbers of migrant workers. This situation created, legally and illegally, areas of slums and squatters in different parts of the cities.

Because of the consumptive nature of housing, some Asian governments did not take effective measures to solve housing problems even when economic situations were favorable. Japan is a good case in point. In the 1960s, because of the government's reluctance to invest in housing, there was a housing shortage in the capital. Families paid half of their total monthly income for a rental apartment with few facilities, and the majority of households had less than five square meters of living space per person (Dore, 1958; Hayakawa, 2002; Taira, 1969). Singapore, however, in the 1960s and 1970s implemented public housing programs geared to middle-class families, encouraging them to own public apartments with several financial incentives (Yuen, 2002). Hong Kong set up large public housing programs

in the 1950s to tackle its housing shortage. By 2002 about half of Hong Kong's population lived in public rental and subsidized sale-flats (Lau, 2002). By the end of the 1960s the annual investment in housing by most countries in Southeast and East Asia was under 3% of their gross domestic product (GDP), far below the recommended United Nations target of 6% to 8% (Drakakis-Smith, 1973).

In South Korea, because of land scarcity and urban population density, apartments were the dominant form of housing. Multi-family occupation of a single housing unit was and still is a popular mode of living in South Korea (Kim, 1999). The People's Republic of China is somewhat different from other Asian nations. After the new government was founded in 1949, most private housing was confiscated and redistributed. But that did not solve the problem of housing shortages in urban areas. The industrialization movement in the 1950s made housing investment a low priority. It was not until the late 1970s that a larger amount of national GDP started to be invested in housing (Zhang, 1998). Built by each employer (or work unit), public housing was distributed to employees according to their tenure and status rank. Individual families had the right to reside in the housing, but they could not own the property (Zhong & Hays, 1996). Housing reform in the 1990s brought new housing constructed by private companies into the market. Former public housing was also sold to their occupants at discounted prices based on the condition of the dwelling and tenure of the residents. With the new system employers were able to regain funding from existing housing and construct more subsidized housing for their employees (Zhang, 1998).

The history of housing in Vietnam is different from that of other Southeast Asian countries. Housing conditions were very poor during the colonial periods. The situation worsened due to war damage in the 1960s and 1970s (Reutersward, 1987). During the war years apartment complexes were built in southern Vietnam due to the U.S. military presence. The complexes could not, however, accommodate the influx of rural villagers to the cities (Seltz, 1970). Lawless construction and illegal occupation of land created a significant problem for urban development. After re-unification the Vietnamese government started a resettlement movement back to rural areas. This was not successful and resulted in the return of many people to the cities to be re-housed (Nguyen, 2001). Starting in 1990 the Vietnamese government set out broad policies to eliminate housing subsidies and encourage housing as a market-led business, mobilizing individual resources for housing especially in urban areas (Nguyen, 2001).

Asian Settlement in the U.S.

In 2000, 96% of the Asian and Pacific Islander population residing in the U.S. lived in metropolitan areas (U.S. Census Bureau, 2000). In 2002 more than one half of Asian and Pacific Islanders lived in the western region of the U.S. In comparison 19% of non-Hispanic Whites lived in the West. Asians were more

likely than Whites to reside in metropolitan areas (95% compared to 75%). Whites (57%) were about the same in proportion as Asians (57%) living in metropolitan areas outside of central cities. In 2002 nearly 55% of Asians were homeowners compared to about 75% of Whites. Asians residing in central cities were less likely to be owners than renters. In contrast, Asians living outside central cities had a higher proportion of homeowners than renters. Whites tended to own their homes rather than rent regardless of whether they lived inside or outside central cities (U.S. Census Bureau, 2003).

Theoretical Framework

Morris and Winter (1975, 1978) developed the housing adjustment theory and postulated that families use two criteria to evaluate their housing conditions: cultural norms and family norms. According to Morris and Winter (1993) a family uses norms to judge its current or potential housing. Family housing norms may not coincide with cultural housing norms. When housing does not meet the norms, a normative housing deficit exists. Families who live in dwellings that do not meet the norms are expected to be more dissatisfied than families in housing that meets the norms. Because of differences in social class, length of residence, and cultural background, some Asian and Pacific Islanders might still hold their native housing norms. They might not see the deviation from cultural norms in the host society as negative as compared to non-Hispanic Whites. Asians may consider two sets of cultural norms when making housing choices.

A housing deficit indicates a deviation from a norm. Morris and Winter (1975) defined a normative deficit as a gap between actual conditions and the conditions prescribed by norms. The impact of normative deficits on subsequent behavior is influenced by the range of permissible deviation from the norms and also by sanctions administered to deviating cases. According to Morris and Winter (1993) when housing deviates from norms there will be a reduced level of housing satisfaction caused by stress. When the level of stress exceeds the limits a family is willing to tolerate, the propensity to engage in housing adjustment behavior develops. Housing adjustment can be altering the house or moving to another dwelling.

This study explores only part of the housing adjustment model—cultural housing norm deficits and how they influence housing satisfaction. In their classic study of housing satisfaction, Morris, Crull, and Winter (1976) found that influences on satisfaction were confined to housing deficits when included in a multivariate analysis. None of the demographic and socioeconomic variables examined had an independent effect on satisfaction when normative housing deficits were included in the analysis. Other research, however, has shown that some demographic variables can directly affect housing satisfaction (Galster, 1987).

Two concepts, length of residence in the U.S. and extended families, are added as household characteristics of particular interest in the study of Asian and Pacific Islanders. Over the decades extended family households have decreased in the U.S. due to growth of material wealth and urbanization (De Vos, 1993). The decline in extended family households ended during the 1980s when large numbers of immigrants from Latin America and Asia came to the U.S. (Glick, Bean, & Van Hook, 1997). Extended families may not be only traditional, but may also be a defensive adaptive response by immigrants trying to cope with a new culture (Cohler & Grunnebaum, 1981; Gelfand, 1989). For Asian and Pacific Islanders who are newcomers in America, whether for tradition or coping necessity, extended family values may be strong. According to Parrillo (1997), for some new Asian immigrants extended families are predominant.

For cultural assimilation, location of housing can be a strong influence. Developments in assimilation theories have shifted from an individualistic emphasis to space and location. Spatial assimilation theory and locational attainment theory (Alba & Logan, 1991; Massey & Denton, 1985) explain how individual socioeconomic characteristics are sorted across highly differentiated neighborhoods, which in turn influences subsequent economic actions and success. The theories suggest that the spatial context in residential neighborhoods is very important in determining the success of immigrants. Large numbers of middle- and high-income minority households moved from central cities to suburban neighborhoods during the late 1980s and early 1990s to achieve a higher social status (Galster, 1992).

Since its development, housing adjustment theory has been used as a guide for numerous studies on housing (Steggell, Binder, Davidson, Vega, Hutton, & Rodecap, 2003). Samples used in these studies were drawn either from the general population which included Asians and other racial and ethnic groups, or from certain social groups such as single-female householders and residents 65 years or older (Cook, Bruin, & Laux, 1994; Crull, Bode, & Morris, 1991; Lee, Oropesa, & Kana, 1994; Morris & Winter, 1976, 1982). Under housing adjustment theory, studies also focused on general populations in certain regions of the U.S. (Baillie, 1990; Baillie & Peart, 1992).

No previous study used housing adjustment theory to research housing satisfaction of the Asian and Pacific Islander group in metropolitan areas in the U.S. This study examines the difference in housing satisfaction between Asian and Pacific Islanders and Non-Hispanic Whites and tests the effect of demographic characteristics, housing deficits, and neighborhood satisfaction on housing satisfaction for the two groups.

Hypothesis

Hypothesis: The housing adjustment model explains housing satisfaction similarly for Asian and Pacific Islanders and non-Hispanic Whites. Most Asian and Pacific Islanders have come to the U.S. through voluntary immigration for economic reasons and are expected to assimilate quickly into the country's consumption patterns.

Sub-hypothesis A: For Asian and Pacific Islander householders, the length of residence in the U.S. will affect their housing satisfaction. By comparing housing in their native countries with housing in the U.S., Asian and Pacific Islanders might not expect too much from housing as they work to prepare for their future. The longer that they live in the U.S., they will become more dissatisfied with non-normative housing and want to meet U.S. housing norms.

Sub-hypothesis B: Asian and Pacific Islander households that live in extended families are more satisfied with their housing than their non-Hispanic White counterparts living in extended families. Family structure is an important component in housing arrangement. Asian and Pacific Islander householders, coming from housing in their native countries where extended families are common, will be more satisfied with this housing situation than their non-Hispanic White counterparts living in extended families.

Method

The 2002 American Housing Survey Metropolitan Public Use Sample (AHS-MS) was used in this study (www.huduser.org/datasets/ahs.html). The 2002 AHS-MS included 13 metropolitan areas that were part of the American Housing Survey (AHS), which was conducted by the U.S. Census Bureau for the U.S. Department of Housing and Urban Development. Metropolitan areas surveyed were: Anaheim-Santa Ana, CA; Buffalo, NY; Charlotte, NC-SC; Columbus, OH; Dallas, TX; Fort Worth-Arlington, TX; Kansas City, MO-KS; Miami-Ft. Lauderdale, FL; Milwaukee, WI; Phoenix, AZ; Portland, OR-WA; Riverside-San Bernardino-Ontario, CA; and San Diego, CA (U.S. Department of Housing and Urban Development, 2003).

The 2002 AHS-MS data were gathered between March and November of 2002 by personal and telephone interviews. The 2002 AHS-MS was a panel survey that covered a national probability sample of housing units. Households in the sample of units were interviewed whether or not they resided in the unit in the previous survey. The original dataset had 65,516 observations—34,507 were non-Hispanic White and 1,878 were Asian and Pacific Islander households. Since the present study focuses on comparisons between non-Hispanic White and Asian and Pacific Islander households, a sub-sample of 1,878 non-Hispanic White households was selected using a simple random sampling method with the SAS English 9.0 program. The dataset for this study contained 3,756 cases with two sub-samples of equal size.

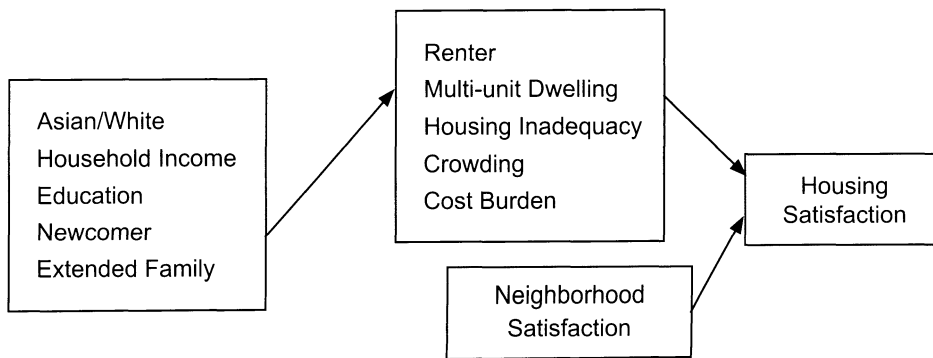


Figure 1. Model for Housing Satisfaction (Adapted from Morris & Winter, 1978)

As displayed in Figure 1, 12 variables were used in this study to test part of Morris and Winter's housing adjustment model: the relationships among housing satisfaction and demographic characteristics, housing deficits, and neighborhood satisfaction.

Dependent Variable

Housing satisfaction was measured by a 10-point scale of the reference person's evaluation of the household's dwelling. They were asked to rate their dwelling as a place to live on a scale from 1 – 10. The score of "1" represented the least satisfied and "10" represented the most satisfied. The average for housing satisfaction was 7.94 in the sample of 3,684 (2% of the cases were missing a housing satisfaction score).

Endogenous Variables

The variable of renter was coded as "1" if the housing unit was rented and as "0" if owned, being bought, or offered for free. Renting is considered a deficit in the U.S. where the American Dream embraces homeownership. Thirty-five percent of the households were renters.

Multi-unit dwellings with two or more apartments were coded "1" and other structure types (single-detached, single-attached, and manufactured/mobile homes) were coded "0." Of the sampled households, 21.9% lived in structures with two or more apartments.

Housing inadequacy coded as "1" reflected housing units that were considered moderately or severely inadequate based on the AHS-MS code. A unit considered adequate was coded as "0." For the sample, 4.5% of the dwellings were inadequate.

Crowding was measured by a person-per-room ratio with more than one person per room coded as "1" and one person or less per room coded as "0." The variable was calculated by the total number of rooms divided by the total number

of household members. Persons per room was substituted for bedroom deficits typically used in the housing adjustment model due to the difficulty in calculating bedroom deficits with these data. Slightly more than 11% of the households in the sample had more than one person per room.

Cost burden was the monthly housing cost times 12 divided by the annual household income. The norm in the U.S. is that a household should pay 30% of its income or less for housing. Households with over 30% cost/income ratios were considered to be cost burdened (Joint Center for Housing Studies, 2004) and coded as "1." Those with 30% or less were coded as "0." Approximately 29% had cost burdens.

Neighborhood satisfaction was measured by a 10-point scale reflecting the reference person's evaluation of the neighborhood, with "1" representing the least satisfaction and "10" the highest level of satisfaction. The average score for neighborhood satisfaction was 7.82.

Exogenous Variables

Asian/White is the race variable, measured with Asian and Pacific Islander coded as "1" and non-Hispanic White coded as "0." Asian and Pacific Islanders were grouped together in the AHS-MS data file as one racial category. Fifty percent of the sample selected for this study consisted of Asian and Pacific Islander households. In the data analysis and results the groups will be referred to as Asian and White.

Household income consisted of gross income before any deductions and included incomes of all occupants of the housing unit. Income was based on the respondent's reply to questions on income for the 12 months before the interview and was the sum of the amounts reported for wage and salary income, net self-employment income, social security or railroad retirement income, public assistance or welfare payment, and all other income. The household mean income was \$73,390 for the sample.

Education measured the level of education completed by the householder and was coded in 10 categories with 1st to 4th grade as "1," 5th to 6th grade as "2," 7th to 8th grade as "3," 9th to 11th grade as "4," 12th grade and high school diploma as "5," some college or diploma from vocational school as "6," college associate degree in vocational or academic programs as "7," college bachelor's degree as "8," master's degree as "9," and a professional school or doctoral degree as "10." The average level of education was between categories 6 and 7.

Newcomer was measured by the number of years the household had lived in the U.S. Respondents were asked in what year they came to this country. Eight years or less was coded as "1" and more than eight years or being born in the U.S. was coded as "0." In this sample just over 20% resided in the U.S. for eight years or less.

The extended family variable was created using the relationship of the family members to the reference person. Households that included the householder's parents or parents-in-law were coded as "1." Other households were coded as "0." In the sample 11.5% were extended family households.

Statistical Procedures

Descriptive statistics were used to compare Asians with Whites. Two multiple regressions on housing satisfaction were used.

Housing Satisfaction = f (Demographics, Deficits, Neighborhood Satisfaction) for Asians

Housing Satisfaction = f (Demographics, Deficits, Neighborhood Satisfaction) for Whites

Relationships with p -values less than .05 were considered to be statistically significant.

Results

Descriptive Analysis

The average household income for Asians (\$72,917) was lower than that for Whites (\$73,862). Slightly over 32% of Asian householders finished high school and attended some college compared to 46% of Whites. Nearly 45% of Asians had a bachelor's or master's degree compared to 30% of Whites. For more advanced degrees, Asians (5.4%) nearly doubled the percentage of Whites (3.0%). A little more than 35% of Asians had lived in the U.S. for eight years or less compared to only 1% of Whites. In terms of family structure, nearly 18% of Asian householders lived in extended families compared to 5% of White householders. In rating their neighborhood as a place to live, Asian householders reported a mean score of 7.73 on the 1–10 scale while White householders reported a slightly higher score of 7.92. In rating their house as a place to live, Asians reported a lower score (7.78) than White householders (8.11).

To place the housing conditions of the households into the housing adjustment model, housing deficits were compared for the two racial groups (Table 1). Asians had a higher percentage than Whites in all of the housing deficits with the exception of housing inadequacy, which was very low for both groups.

Table 1. Comparison of Housing Deficits by Households of Asian and Pacific Islanders and Non-Hispanic Whites

Dwelling	Asian and Pacific Islander ($n = 1,878$)		Non-Hispanic White ($n = 1,878$)	
	Deficit	No deficit	Deficit	No deficit
	Percent		Percent	
Renter	42.8	57.2	27.3	72.7
Multi-unit	26.5	73.5	17.3	82.7
Inadequacy	3.8	96.2	5.2	94.8
Crowding	17.2	82.9	5.1	94.9
Cost burden	28.5	71.5	22.6	77.4

Table 2. Regressions of Housing Satisfaction on Housing Deficits Variables for Asian and Pacific Islander and Non-Hispanic White Householders

Independent Variables	Asian and Pacific Islanders (n = 1,848)			Non-Hispanic Whites (n = 1,834)		
	Block 1	Block 2	Block 3	Block 1	Block 2	Block 3
Education	0.050* (2.42)	0.031 (1.52)	-0.012 (-0.79)	0.030 (1.22)	0.012 (0.51)	-0.022 (-1.20)
Household income	0.002** (4.85)	0.001 (1.57)	0.000 (0.03)	0.002** (5.18)	0.002** (3.33)	0.001* (2.00)
Newcomer	-0.212** (-2.74)	-0.006 (-0.08)	-0.080 (-1.37)	-0.041 (-0.12)	0.051 (0.15)	-0.021 (-0.08)
Extended family	0.116 (1.18)	0.011 (0.11)	-0.067 (-0.91)	-0.239 (-1.40)	-0.231 (-1.39)	-0.093 (-0.71)
Renter		-0.847** (-8.81)	-0.446** (-6.10)		-0.832** (-8.01)	-0.477** (-5.80)
Multi-unit		-0.100 (-0.95)	-0.026 (-0.33)		0.184 (1.52)	0.063 (0.67)
Inadequacy		-0.640** (-3.32)	-0.383** (-2.64)		-0.717** (-4.15)	-0.564** (-4.16)
Crowding		-0.198 (-1.90)	-0.035 (-0.45)		-0.412* (-2.37)	-0.209 (-1.53)
Cost burden		0.086 (1.03)	-0.023 (-0.37)		0.063 (0.67)	0.042 (0.57)
Neighborhood satisfaction			0.618** (37.55)			0.561** (33.57)
R ²	0.025	0.106	0.494	0.020	0.078	0.432
Adj. R ²	0.023	0.101	0.492	0.018	0.074	0.429
F value	11.80	24.13	179.13	9.23	17.20	138.12
Degrees of freedom	4/1,844	9/1,839	10/1,832	4/1,830	9/1,825	10/1,818

*Significant at .05 level

**Significant at .01 level

Hypothesis Testing

As indicated in the path model (Figure 1), the housing deficit variables and neighborhood satisfaction are mediating variables between the demographic variables and housing satisfaction. The main hypothesis is that the model explains housing satisfaction similarly for Asian and White households. A goal of this study was to determine whether the model, which has been tested successfully on housing satisfaction for the general population, is similarly successful for Asian households.

Preliminary results of a multiple regression of the total sample containing both racial groups indicated that the Asian/White variable was a significant but minor direct indicator of housing satisfaction. This result supported the appropriateness of conducting regressions for each racial group. To test the hypothesis, multiple regressions were performed with the sub-samples for Asian and White households (Table 2).

Based on the two regressions, there was a similar pattern in terms of the contribution of various variables to the explained variance in housing satisfaction. Although the explained variance is quite small, household income contributed significantly for both groups in the first block. Length of residence (being a newcomer) was significantly and negatively related to housing satisfaction for Asians but not significant for Whites. Educational attainment contributed significantly to housing satisfaction for Asians and was not significant for Whites in the first regression block.

When the deficit variables were added in the second block, the *r*-squares increased slightly and all of the household characteristics became statistically insignificant for the Asian group while household income still remained statistically significant for the White group. Renter status and housing inadequacy were statistically significant deficits contributing to housing satisfaction in a negative way for both of the two groups. Crowding was statistically significant for Whites' housing satisfaction, indicating they were less tolerant in terms of crowding than Asians.

When neighborhood satisfaction was added to the model, explained variance for housing satisfaction increased greatly for both groups. With neighborhood satisfaction in the regressions, both renter status and housing inadequacy remained strong negative factors contributing to housing satisfaction. In the third block, only one household characteristic, income, remained significant and that was only for the White group.

The explained variances in housing satisfaction contributed by the household characteristic variables were similar for the models of the two sub-samples. The *r*-squares were also similar for the two groups when housing deficits and neighborhood satisfaction were entered in the next two blocks. The difference in explained variance between the two regressions of .02 in block 2 when the deficits

were added and .06 in block 3 when neighborhood satisfaction was added were so small that it is safe to conclude that the main hypothesis was supported.

There was no support for the two sub-hypotheses related to the cultural issues under investigation—length of residence in the U.S. and living in extended families. Although newcomer status was significant in the first block of the regression of Asians, it became insignificant when the deficits were added in the second block. The extended family variable was not significant in either regression.

Conclusions

The purpose of this study was to examine factors affecting housing satisfaction of Asian and Pacific Islander householders in sampled metropolitan areas. Guided by the housing adjustment theory, a model for housing satisfaction was formulated to examine the factors affecting housing satisfaction for Asian and Pacific Islanders compared to non-Hispanic Whites. This study sought to expand the housing adjustment model to understanding the Asian and Pacific Islander group that has two thirds of its population as foreign-born. It was assumed that their experience with housing in their native countries would influence their level of housing satisfaction in the U.S. By including length of residence in the U.S. and extended family as variables, the study explored the effect of two cultural variables of particular importance in studying the Asian and Pacific Islander group.

Based on separate tests of the model for Asian and Pacific Islanders and non-Hispanic Whites, the housing adjustment model explained housing satisfaction similarly for the two groups. This indicated that housing adjustment theory applies to both groups. Also, similar housing deficits (renter and inadequacy) and neighborhood satisfaction were strong indicators of housing satisfaction for both groups.

The two cultural variables for Asian and Pacific Islanders did not contribute significantly to housing satisfaction. Those who had resided in the U.S. for less than eight years were found to be no different in their housing satisfaction than those who resided in the U.S. for eight years or more. Extended family living arrangements were not significant indicators of housing satisfaction.

Limitations exist in the current study. Asian and Pacific Islander householders were categorized as a single group in the data, when in fact there are considerable differences among ethnic groups. Differences in settlement experiences have definitely influenced socioeconomic conditions of the immigrants, which in turn may affect their attitudes towards housing and housing satisfaction.

Future research should investigate housing satisfaction among specific ethnic groups within the broad category of Asian and Pacific Islanders. Qualitative research would be useful for a better understanding of housing satisfaction for specific ethnic groups. With more detailed information on housing obtained from in-depth interviews, different Asian ethnic groups could be compared. Primary

research should be conducted to explore how neighborhood affects housing satisfaction. Of particular interest is the comparison of neighborhood as a source of support with neighborhood as a symbol of social status. Also, this research was based on selected metropolitan areas that may not represent the majority of urban Asian and Pacific Islanders. Research should be replicated in additional metropolitan areas in the U.S. for further testing of the housing adjustment model.

Housing deficits and neighborhood satisfaction are important mediating variables between housing satisfaction and household characteristic variables for Asian and Pacific Islanders as well as for non-Hispanic Whites. Whatever background households may have, housing conditions and neighborhood satisfaction contribute significantly to their housing satisfaction. It appears that Asian and Pacific Islander householders assimilate quickly into the American culture in terms of housing. Although Asian and Pacific Islanders have different cultural referents in terms of past housing experience and importance of extended family living arrangements, these factors do not play a significant role in predicting housing satisfaction. Based on the results of this study, there is little difference in the explanation of housing satisfaction for Asian and Pacific Islanders as compared to non-Hispanic Whites.

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