Asian Americans in Austin:

Preliminary Report of the Asian American Quality of Life (AAQoL) Survey

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- Korean American Association of Greater Austin
- Korean Senior Citizen's Association of Austin
- Indo American Senior Citizen Association
- Vietnamese American Community of Austin
- Austin Filipino American Association
- UT Austin Asian American Faculty and Staff Association
- City of Austin Asian American Employee Network
- Austin Korean School
- MT Supermarket
- Hana World Market
- Asia Market
- Filipino Asian Mart
- CNN Hair
- Gandhi Bazar
- Man Pasand
- KP Indian Grocery
- Shahi Indo European Grocery
- Filipino Christian Fellowship Church
- Austin Taiwanese Church
- Lord of Church of Austin
- Evergreen Church at Austin
- Northwest Fellowship Church
- Austin Vietnamese Baptist Church
- Vietnamese Alliance Church

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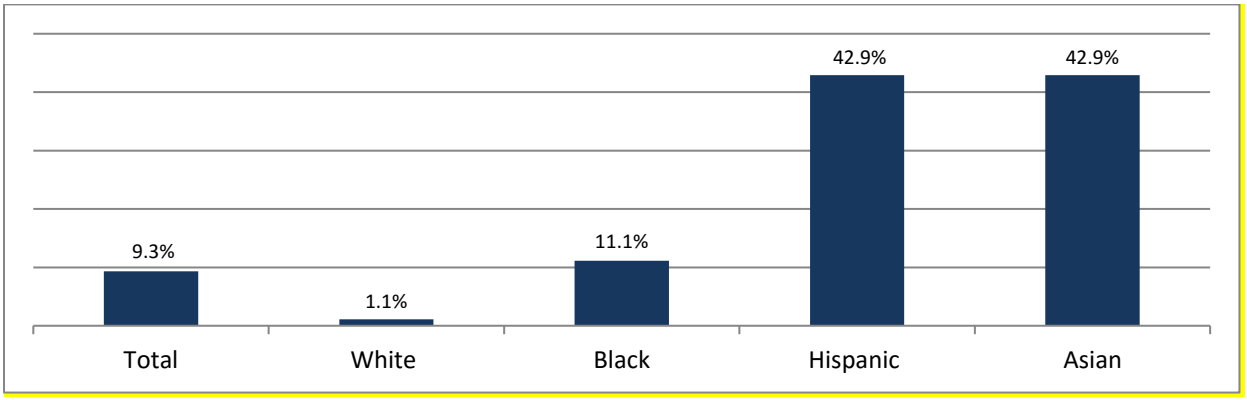
CHAPTER 1: INTRODUCTION

1. 1. Demographic Trends of the Asian American Population in the United States

The U.S. Census defines Asian Americans as individuals having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent (U.S. Office of Management and Budget, 1997). As a broad racial category, Asian Americans are the fastest-growing minority group in the United States (U.S. Census Bureau, 2012). The growth rate of 42.9% in Asian Americans between 2000 and 2010 is phenomenal given that the corresponding figure for the U.S. total population is only 9.3% (see Figure 1). Currently, Asian Americans make up 5.6% of the total U.S. population and are projected to reach 10% by 2050. It is particularly notable that Asians have recently overtaken Hispanics as the largest group of new immigrants to the U.S. (Pew Research Center, 2015). The rapid growth rate and unique challenges as a new immigrant group call for a better understanding of the social and health needs of the Asian American population.

Figure 1
U.S. Population Growth Rate between 2000 and 2010 by Race and Ethnicity



Source: 2012 U.S. Census

Nearly half of Asian Americans live in three states: California (5.6 million), New York (1.6 million), and Texas (1.1 million) (see Table 1). It is noteworthy that Texas demonstrates the highest growth rate (72.4%) of the Asian population between 2000 and 2010 among all states.

Table 1
The Three States with the Largest Asian American Population

	Proportion in the Asian Population	Percent Increase between 2000 and 2010
1. California	33.1%	33.7
2. New York	9.7%	35.1
3. Texas	6.6%	72.4

Source: 2012 U.S. Census

On the national level, the five largest Asian subgroups are Chinese,[1] Filipino, Asian Indian, Vietnamese, and Korean, and these groups represent more than 81% of all Asians (see Table 2). Between 2000 and 2010, a substantial increase in the Asian Indian population was observed (69.8%). The rate of increase in the other four groups was quite steady, ranging from 33.1% to 39.6% (U.S. Census Bureau, 2012).

Table 2
The Five Largest Asian American Groups in the United States

	Proportion in the Asian Population	Percent Increase between 2000 and 2010
1. Chinese	23.2%	37.9
2. Filipino	19.7%	38.9
3. Asian Indian	18.4%	69.8
4. Vietnamese	10.0%	39.6
5. Korean	9.9%	33.1

Source: 2012 U.S. Census

1. 2. Challenges in Research on Asian Americans

Asian Americans have been historically under-studied and under-served in health and social services, and their needs remain poorly understood (Frisbie, Cho, & Hummer, 2001; Ghosh, 2003, 2009; Islam et al., 2010; Kuo & Porter, 1998; Trinh-Shevrin, Islam, & Rey, 2009; Yoo, Le, & Oda, 2013). One primary reason is their heterogeneity. Asian Americans are a diversified group that encompass dozens of ethnic subgroups, each with its own language, culture, social and political values, religious beliefs, and immigration history to the U.S. Unfortunately existing research lacks representative data that contain diverse Asian subgroups and sufficient numbers of participants within each group (Ghosh, 2003, 2009; Trinh-Shevrin et al., 2009).

Another critical point is that most population-based surveys are conducted primarily in English, which limits the participation of non-English speaking individuals (Barnes, Adams, & Powell-Griner, 2008; Ngo-Metzger, Kaplan, Sorkin, Clarridge, & Phillips, 2004). Because a substantial proportion of the Asian American population consists of foreign-born immigrants with linguistic barriers (Pew Research Center, 2015), the systematic exclusion of persons with limited English proficiency is a serious concern. Findings based on English-proficient samples of Asian Americans are likely to be biased upward because English proficiency is closely associated with socioeconomic advantages. Indeed, the "model minority" myth that all Asian Americans are well-educated, healthy, wealthy, self-sufficient and problem-free (Lin-Fu, 1988, Yi, Kwon, Sacks, & Trinh-Shevrin, 2016) may arise in part from this sampling artifact (Jang, Yoon, Park, & Chiriboga, 2016).

[1] Individuals whose family origin can be traced back to Chinese speaking countries

Therefore, there is a compelling reason to revisit the notion of a "model minority" using a sample of Asian Americans that are representative of cultural and linguistic diversities and socioeconomic status.

In order to increase the sample representativeness of Asian Americans, it is pivotal to employ culturally and linguistically sensitive approaches. This involves not only providing the survey questionnaire in an appropriate language but also including research personnel who share the same languages and cultures with the target populations. A strong partnership between the research team and key individuals and organizations in ethnic communities is also a critical means to shape the approach of the project to be responsive to the needs of the community and to promote the participation of the community members (Israel, Schulz, Parker, & Becker, 1998; Wallerstein & Duran, 2006). Recruitment of Asian Americans is also challenging because they are often unreachable by standard sampling procedures. Although non-probability sampling approaches are suggested as an effective way of recruiting "hard-to-reach" Asian Americans (Islam et al., 2010; Lee & Cheng, 2006), special efforts are required in selecting survey sites that reflect the diversities of the population.

1. 3. Asian Americans in Austin

The City of Austin is not an exception in experiencing the surge of Asian Americans. With an estimated 110,000 to 115,000 Asian residents, Austin currently ranks second in Texas following after Houston (see Table 3). In terms of the proportion of Asians in City, Austin indeed ranks top with 6.3%, followed by Houston (6%) and Fort Worth (3.7%) (U.S. Census Bureau, 2012). As the fastest growing racial group, the Asian population in Austin has increased by more than 60% from 2000 to 2010, and the Asian community is doubling in size approximately every 12 years (City of Austin, 2013; U.S. Census Bureau, 2012).

Asian Indian, Chinese, Vietnamese, Korean, and Filipino are identified as the five largest Asian groups in Austin, and these groups comprise about 87% of the total Asian population in the area (see Figure 2). When compared to the national level data (refer to Table 1), Austin includes notably high numbers of Asian Indians but low numbers of Filipinos.

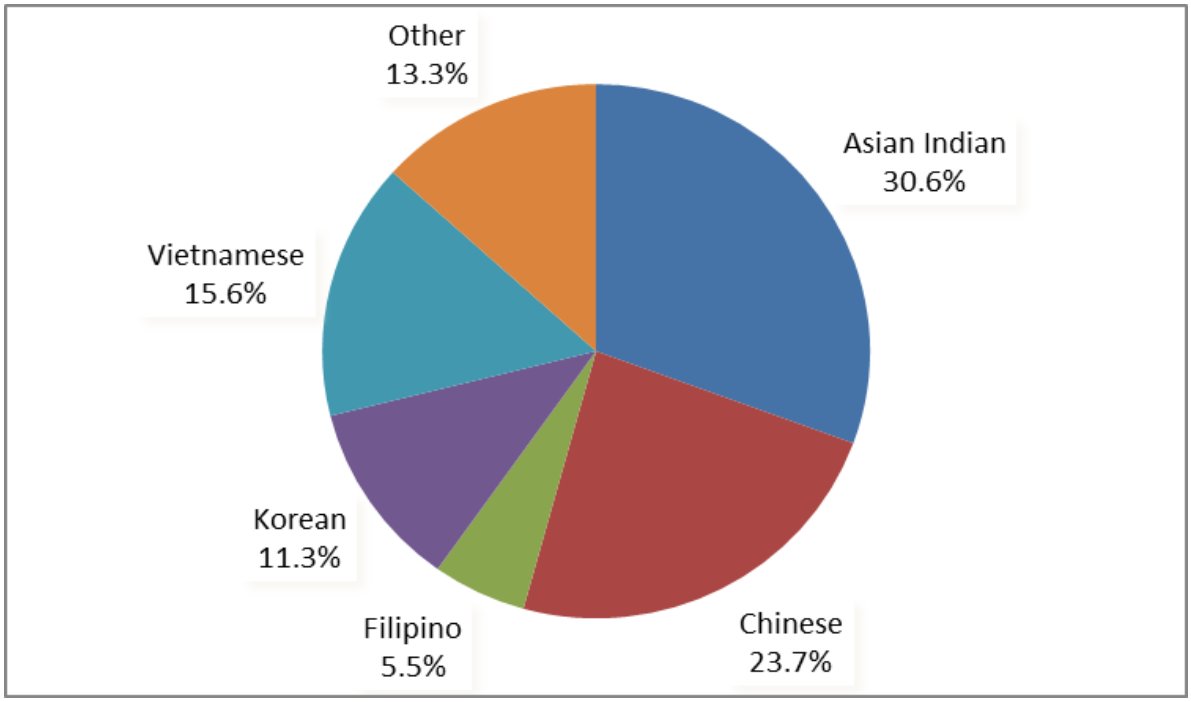
Table 3
Top Three Texas Cities with Largest Asian American Population

	Proportion in the total Asian Population in Texas	Percent Increase between 2000 and 2010
1. Houston	13.1	21.9
2. Austin	5.2	61.1
3. Dallas	3.5	6.7

Source: 2012 U.S. Census

Figure 2

Ethnic Composition of the Asian American Population in the City of Austin



Source: 2012 U.S. Census

1. 4. The Asian American Quality of Life (AAQoL) Survey

The City of Austin's Public Health and Human Services Subcommittee recognized not only the rapid growth of the Asian population in the Austin area but also the challenge of delivering health and public services to them due to their cultural and linguistic diversities (City of Austin, 2013). In response to the City Council Resolution No. 20131024-085, the Asian American Quality of Life (AAQoL) initiative was formed. More information is available on the official website of the City of Austin (https://www.austintexas.gov/department/aaqol) (see Picture 1). One of the major components of the AAQoL initiative is to conduct facilitated discussions of the Asian American quality of life issues in Austin (City of Austin, 2013). As part of this effort, a research team in the School of Social Work at the University of Texas at Austin (Principal Investigator [PI] – Yuri Jang, Ph.D.) conducted a large scale survey with Asian American residents in the Austin area (proposed sample size=2,500). The Asian American Quality of Life (AAQoL) survey was designed to explore the unique experiences and challenges of Austin's diverse groups of Asian Americans and identify their health and social needs. The current report summarizes the descriptive findings of the AAQoL survey. Findings will be used to guide the development and implementation of public policies and programs that are responsive to the community needs.

Picture 1

Asian American Quality of Life (AAQoL) Official Website from the City of Austin

Link available at https://www.austintexas.gov/department/aaqol

CHAPTER 2: METHODS

The AAQoL survey was approved by the University of Texas at Austin Institutional Review Board (IRB). The major activities of the project include (1) survey questionnaire design, (2) development of the Austin Asian Community Resource Database (AACRD), and (3) survey implementation. Methodologies and procedures of each activity are described below.

2. 1. Survey Questionnaire Design

A master questionnaire was drafted by the PI of the project, and it included multiple sections addressing various topics (e.g., sociodemographic information, acculturation and immigration, health status, health service use, family and social resources, emotional well-being and quality of life, neighborhood and community resources, and awareness/utilization/satisfaction relating to city services). Some of the items were selected from the existing national and state surveys (e.g., National Health Interview Survey [NHIS], National Latino and Asian American Study [NLAAS], National Social Life, Health, and Aging Project [NSHAP], California Health Interview Survey [CHIS], Midlife in the United States [MIDUS], and Medical Expenditure Panel Survey [MEPS]) and previous surveys conducted by the City of Austin (e.g., Community Survey and Communications Survey). The adoption of the standardized survey instruments was intended to compare the study findings to those of other populations. Table 4 summarized the contents of the survey questionnaire and their sources. The drafted questionnaire was reviewed by the members of the AAQoL Commission and City employees representing 15 departments (e.g., Office of Innovation, Emergency Medical Services, Park and Recreation Department, Health and Human Services, Austin Resource Recovery, Office of Sustainability, and Communications and Public Information Office), and their feedback was solicited.

Table 4
Contents of the Survey Questionnaire and Sources

Section	Item	Source
Demographic information	Age	NHIS,[1] NLAAS,[2] CHIS,[3] MIDUS[4]
	Gender	
	Marital status	
	Ethnic origin	
	Education	
	Living arrangement	
	Religious affiliation	
	Employment status and occupation	
	Household income	
	Unmet financial need	
	Nativity	U.S. Census, NLAAS,[2]

Immigration and acculturation	Length of residence in the U.S.	CHIS[3]
	Primary language	
	English proficiency	
	Familiarity with mainstream culture	
	Familiarity with culture of ethnic origin	
	Ethnic identity	
	Sense of belonging to the community of ethnic origin	
	Racial/ethnic discrimination	
Health	Self-rated health	NHIS,[1] NLAAS,[2] CHIS,[3] MIDUS,[4] MEPS[5]
	Self-rated mental/emotional health	
	Self-rated oral health	
	Activity limitation	
	Health behaviors	
	Chronic disease	
	Health service use and satisfaction	
	Health insurance	
	Unmet healthcare need	
	Source of health-related information	CoA Community Survey[6]
Emotional well-being	Quality of life rating	
	Satisfaction with life	(Diener et al., 1985)
	Mental distress	(Kessler et al., 2002)
	Anxiety	(Drentea, 2002)
	Mental health service use	MIDUS[4]
	Unmet mental health care need	Mental Health America attitudinal survey (2007)
	Stigma relating to mental health	
Special Interest	Knowledge of Alzheimer's disease	(Alzheimer's Disease International, 2002)
	Awareness of community services for Alzheimer's disease patients and family	
	Stigma relating to Alzheimer's disease	
	Knowledge of advance directives	(Dobbs et al., 2015)
Social and community resources	Social network	(Lubben et al, 2006)
	Family solidarity	NLAAS,[2] NSAHP[7]
	Religious service attendance	CHIS,[3] MIDUS[4]
	Importance of religion	
	Community social cohesion	CHIS[3]
	Length of residence in Austin	NHIS,[1] CHIS,[3]
	Rating of the City of Austin	

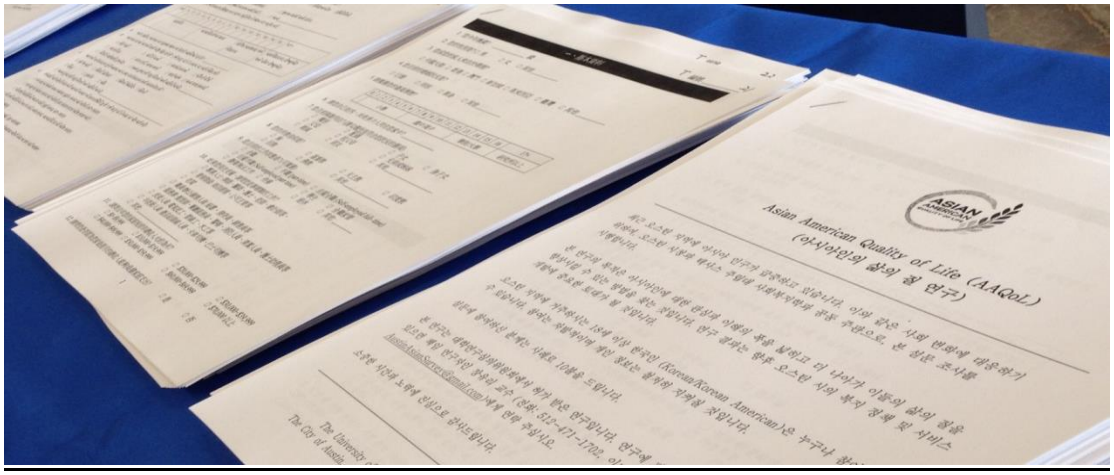
Life in the City of Austin	Awareness/utilization/satisfaction relating to city-provided resources and services	CoA Community Survey,[6] CoA Communications Survey[8]
	Housing type/ownership/satisfaction	
	Mode of transportation	
	Residential address	
	Access to a computer and the Internet	
	Use of mobile devices	
	Civic engagement	
	Source of city-related information	
	Concerns as an Austin resident	

[1] National Health Interview Survey, [2] National Latino and Asian American Study, [3] California Health Interview Survey, [4] Midlife in the United States, [5] Medical Expenditure Panel Survey, [6] City of Austin Community Survey, [7] National Social Life, Health, and Aging Project, [8]City of Austin Communications Survey

Upon finalization, the questionnaire was translated into the national languages of the five largest Asian subgroups living in Austin: Chinese (Chinese), Asian Indian (Hindi), Korean (Korean), Vietnamese (Vietnamese), and Filipino (Tagalog). Gujarati was also included as a sixth language because it is the most popular language being used by non-English speaking Asian Indians (Pandya, McHugh, & Batalova, 2011). In the case of Chinese, both traditional and simplified versions were developed. The initial translation was conducted by 8 professional translators and graduate level researchers who have not only linguistic expertise but also training in social and behavioral sciences. For each language, the translated version was reviewed and validated by a set of bilingual volunteers solicited from the Asian American Employees' Network (AAEN) in the City of Austin and the Asian/Asian American Faculty and Staff Association (AAAFSA) at the University of Texas at Austin. Upon refinement of the questionnaire, each language version was pilot tested with 3-5 individuals who spoke the target language and their feedback was incorporated into the final version.

Picture 2

Asian American Quality of Life (AAQoL) Survey Questionnaires in Asian Languages

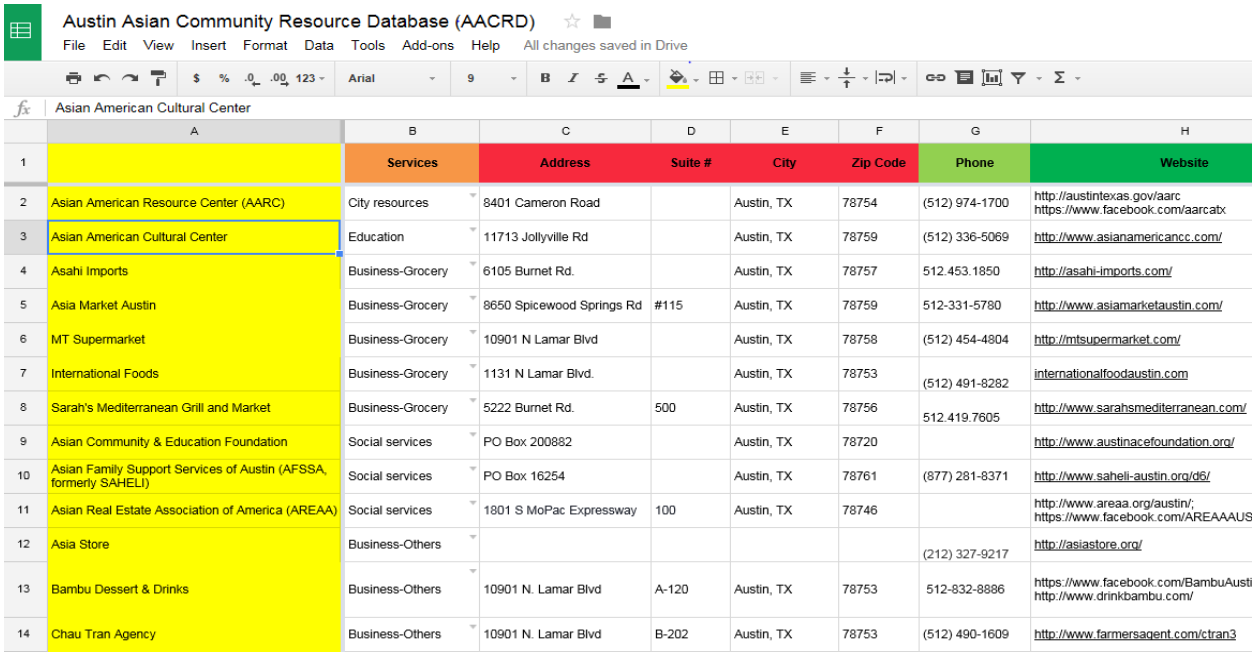


2. 2. Development of the Austin Asian Community Resource Database (AACRD)

As part of the project, a database listing Asian-oriented resources in Austin was developed. A total of 12 independent raters compiled a list of community resources, services, and amenities primarily operated for and/or by Asians. The sources of the data include direct community assessment and the searches of Internet, yellow pages, and business directories. Using Google Sheets, details of each identified resource (e.g., name, type, physical address, phone number, email address or URL, and contact person) were entered. The type was classified into (1) city resource, (2) education, (3) medical service, (4) religion, (5) social service, (6) media, (7) Interest group, (8) business – groceries, (9) business – restaurants, and (10) other types of business. The database includes 6 separate tabs including resources and services for all Asians and those specifically targeted to each of the five major ethnic groups (Chinese, Asian Indian, Korean, Vietnamese, and Filipino). Picture 3 shows the screenshot of the Austin Asian Community Resource Database (AACRD). The compiled list was shared with ethnic community leaders and members to solicit their feedback. Currently, the Austin Asian Community Resource Database (AACRD) includes a total of 891 data points (121 for Asians in general, 240 for Chinese, 205 for Asian Indians, 171 for Vietnamese, 133 for Koreans, and 21 for Filipinos).

Picture 3

Austin Asian Community Resource Database (AACRD)



Austin Asian Community Resource Database (AACRD)

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

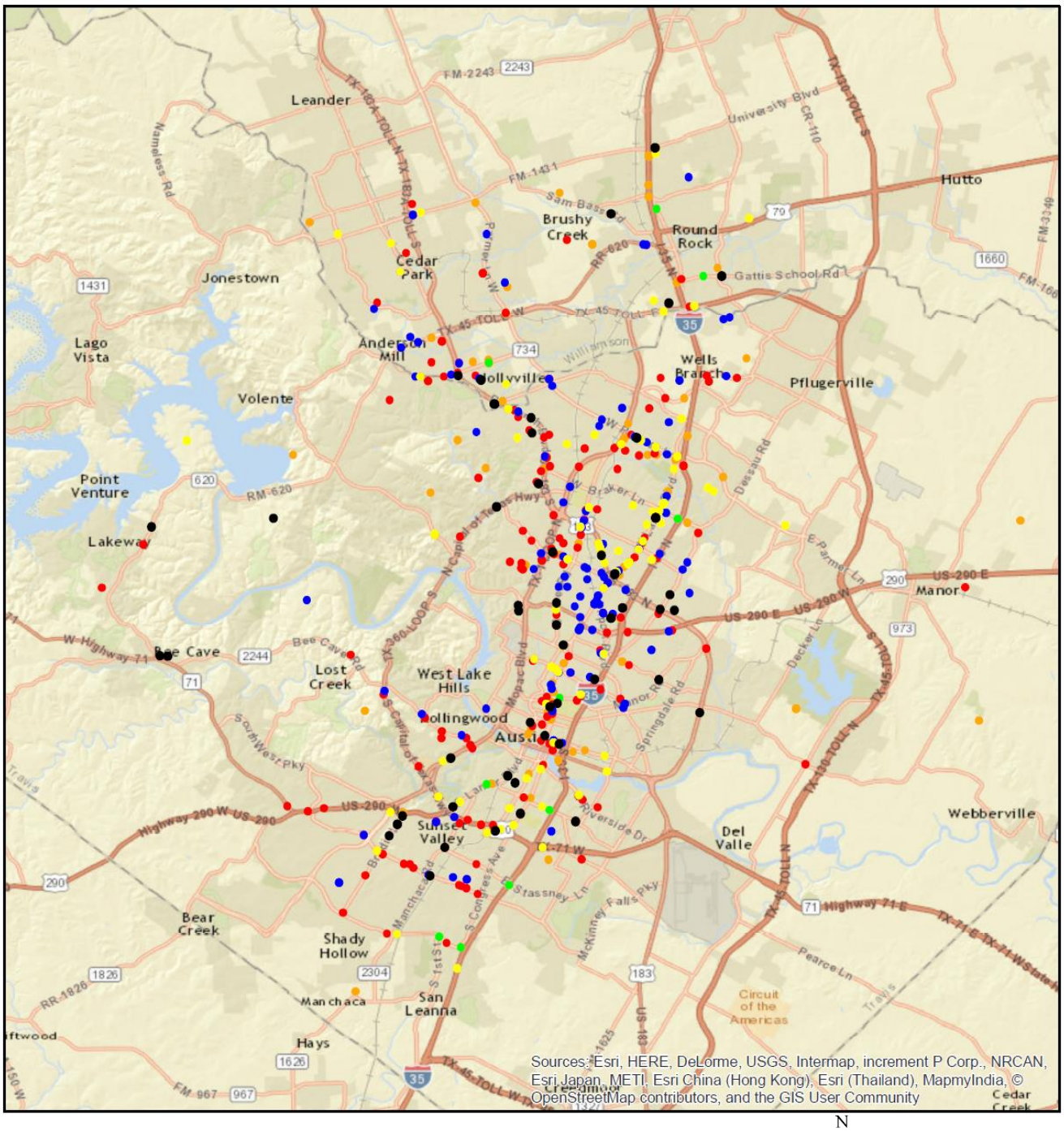
Asian American Cultural Center

	A	B	C	D	E	F	G	H
1		Services	Address	Suite #	City	Zip Code	Phone	Website
2	Asian American Resource Center (AARC)	City resources	8401 Cameron Road		Austin, TX	78754	(512) 974-1700	http://austintexas.gov/aarc https://www.facebook.com/aarcatx
3	Asian American Cultural Center	Education	11713 Jollyville Rd		Austin, TX	78759	(512) 336-5069	http://www.asianamericancc.com/
4	Asahi Imports	Business-Grocery	6105 Burnet Rd.		Austin, TX	78757	512.453.1850	http://asahi-imports.com/
5	Asia Market Austin	Business-Grocery	8650 Spicewood Springs Rd	#115	Austin, TX	78759	512-331-5780	http://www.asiamarketaustin.com/
6	MT Supermarket	Business-Grocery	10901 N Lamar Blvd		Austin, TX	78758	(512) 454-4804	http://mtsupermarket.com/
7	International Foods	Business-Grocery	1131 N Lamar Blvd.		Austin, TX	78753	(512) 491-8282	internationalfoodaustin.com
8	Sarah's Mediterranean Grill and Market	Business-Grocery	5222 Burnet Rd.	500	Austin, TX	78756	512.419.7605	http://www.sarahsmediterranean.com/
9	Asian Community & Education Foundation	Social services	PO Box 200882		Austin, TX	78720		http://www.austinacefoundation.org/
10	Asian Family Support Services of Austin (AFSSA, formerly SAHELI)	Social services	PO Box 16254		Austin, TX	78761	(877) 281-8371	http://www.saheli-austin.org/d6/
11	Asian Real Estate Association of America (AREAA)	Social services	1801 S MoPac Expressway	100	Austin, TX	78746		http://www.areaa.org/austin/; https://www.facebook.com/AREAAAUS
12	Asia Store	Business-Others					(212) 327-9217	http://asiastore.org/
13	Bambu Dessert & Drinks	Business-Others	10901 N. Lamar Blvd	A-120	Austin, TX	78753	512-832-8886	https://www.facebook.com/BambuAusti http://www.drinkbambu.com/
14	Chau Tran Agency	Business-Others	10901 N. Lamar Blvd	B-202	Austin, TX	78753	(512) 490-1609	http://www.farmersagent.com/ctran3

The AACRD serves as a valuable tool not only for understanding the Asian communities in Austin but also identifying potential recruitment sites for survey implantation. Using street addresses, the identified resources were geo-coded, and Picture 4 shows geographic distribution of the Asian American community resources in Austin.

Picture 4

Geo-visualization of the Asian American Community Resources in Austin



- AACRD General
- AACRD Vietnamese
- AACRD Korean
- AACRD Filipino
- AACRD Chinese
- AACRD Asian Indian

N

0 4 8 16 Miles

GIS source from City of Austin and Census Bureau

2. 3. Survey Implementation

The survey was conducted from August 19 to December 12, 2015. Self-identified Asians aged 18 and older living in the Austin area were eligible to participate. The survey aimed to include representative samples of the five largest Asian groups in Austin (Asian Indian, Chinese, Vietnamese, Korean, and Filipino); however, other Asian groups were also included. Using the Austin Asian Community Resource Database (AACRD), the research team contacted potential survey sites and made an arrangement for surveys. A total of 76 survey sessions took place in various sites across the City of Austin. The project was publicized through media sources, and referrals for individuals, groups, and organizations were actively sought.

Self-administered surveys were conducted using a paper and pencil format. Survey questionnaires were available in 8 languages (English, traditional Chinese, simplified Chinese, Korean, Vietnamese, Hindi, Gujarati, and Tagalog), and participants used their preferred language version. Bilingual research assistants were at the survey sites for recruitment and assistance with survey administration. It took about 20 minutes to complete the 10-page questionnaire, and all respondents were paid $10 for their participation.

Picture 5
Pilot Testing at the Asian American Resource Center (AARC)

Picture 6

Pictures from Survey Sessions

CHAPTER 3: FINDINGS FROM THE OVERALL SAMPLE

During the survey implementation phase, a total of 2,614 individuals participated in the survey. Removing 5 cases with more than 20% of missing information, 2,609 participants were included in the analysis. The following section summarizes the descriptive findings of the overall sample and sub-ethnic groups by the organized themes.

3. 1. Overall Sample Composition and Survey Language

Table 5 presents the overall sample composition and survey languages used in the survey. The sample includes 640 Chinese, 574 Asian Indians, 471 Koreans, 513 Vietnamese, 265 Filipinos, and 146 Asians of other ethnic backgrounds. Examples of the ethnicities specified by participants in the 'other' group were Nepalese, Pakistani, Bangladeshi, Cambodian, Hmong, Indonesian, Japanese, Laotian, Burmese, Sri Lankan, Thai, and mixed ethnicity. It should be noted that the category of Chinese is broad, encompassing diverse individuals whose family origin can be traced back to Chinese speaking countries, such as mainland China, Taiwan, Hong Kong, Macau, and Singapore. Recognizing the grand level of the heterogeneity that even covers different nationalities, the subgroup analyses within the Chinese sample were conducted and findings are reported in Chapter 4.

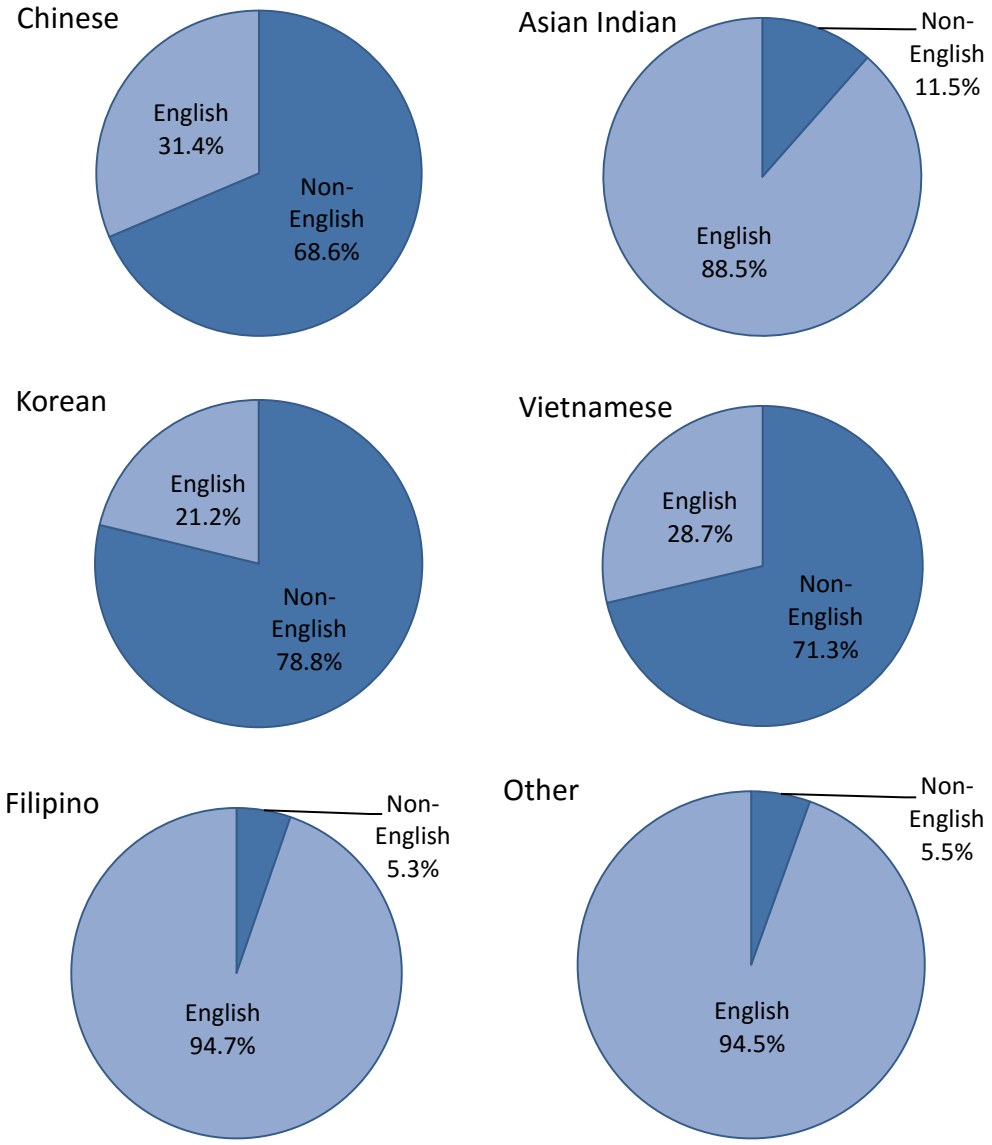
It is noteworthy that almost half of the participants (48.5%) used other language versions of the survey questionnaire rather than English. Being used by 17% of the overall sample, Chinese (including both traditional and simplified versions) was the most frequently used, followed by Korean (14.2%) and Vietnamese (14%).

Table 5
Sample Composition and Survey Language (N=2,609)

	n	%
Sample composition		
Chinese	640	24.5
Asian Indian	574	22.0
Korean	471	18.1
Vietnamese	513	19.7
Filipino	265	10.2
Other	146	5.6
Survey language		
English	1,345	51.5
Traditional Chinese	215	8.2
Simplified Chinese	229	8.8
Korean	371	14.2
Vietnamese	365	14.0
Hindi	12	0.5
Gujarati	58	2.2
Tagalog	14	0.5

In each ethnic group, the proportion of the non-English version user was 68.6% for Chinese, 11.5% for Asian Indian, 78.8% for Korean, 71.3% for Vietnamese, 5.3% for Filipino, and 5.5% for other Asians (see Figure 3). The high rate of non-English version users is notable in Chinese, Korean, and Vietnamese whose original country is non-English speaking. The overall findings suggest that our culturally appropriate outreach strategies enabled many non-English speaking Asian Americans to be included in the survey.

Figure 3
Survey Languages Used by Sub-ethnic Groups



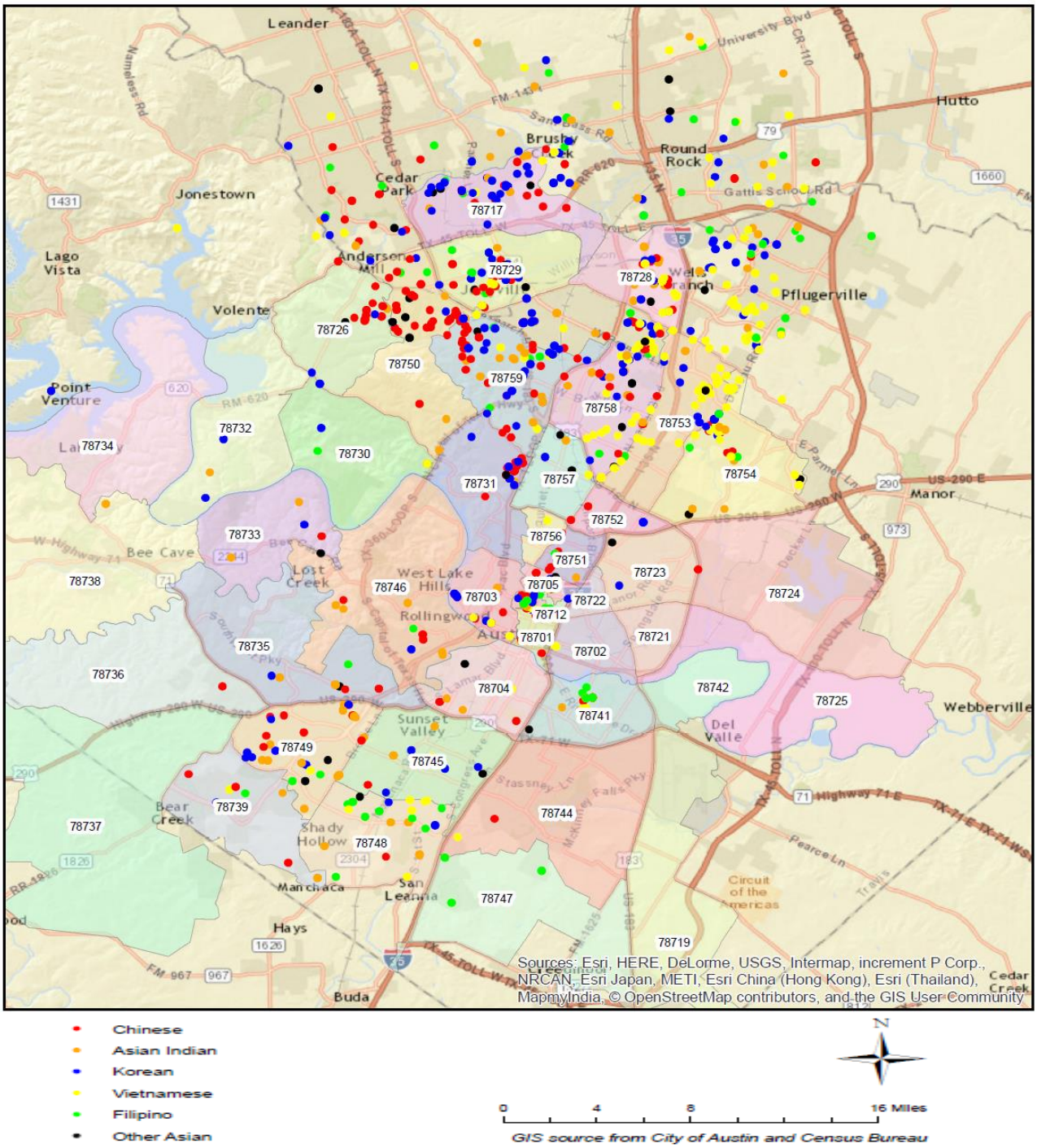
Chinese (English: 31.4%, Traditional Chinese: 32.8%, Simplified Chinese: 35.5%); Asian Indian (English: 88.5%, Hindi: 1.2%, Gujarati: 10.1%); Korean (English: 21.2%, Korean: 78.8%); Vietnamese (English: 28.7%, Vietnamese: 71.3%); Filipino (English: 94.7%, Tagalog: 5.3%); Other (English: 94.5%, Hindi: 3.4%, Traditional Chinese: 1.4%, Simplified Chinese: 0.7%)

3. 2. Geographic Distribution of the Survey Participants

Among the total of 2,609 participants, about 74% (n=1,920) reported their residential addresses. Excluding those with incomplete address information (n=617), 1,303 participants were geo-coded. Geographic distribution of the survey participants by ethnicity is presented by zip code (Picture 7), council district (Picture 8), and U.S. Census based Asian population density (Picture 9).

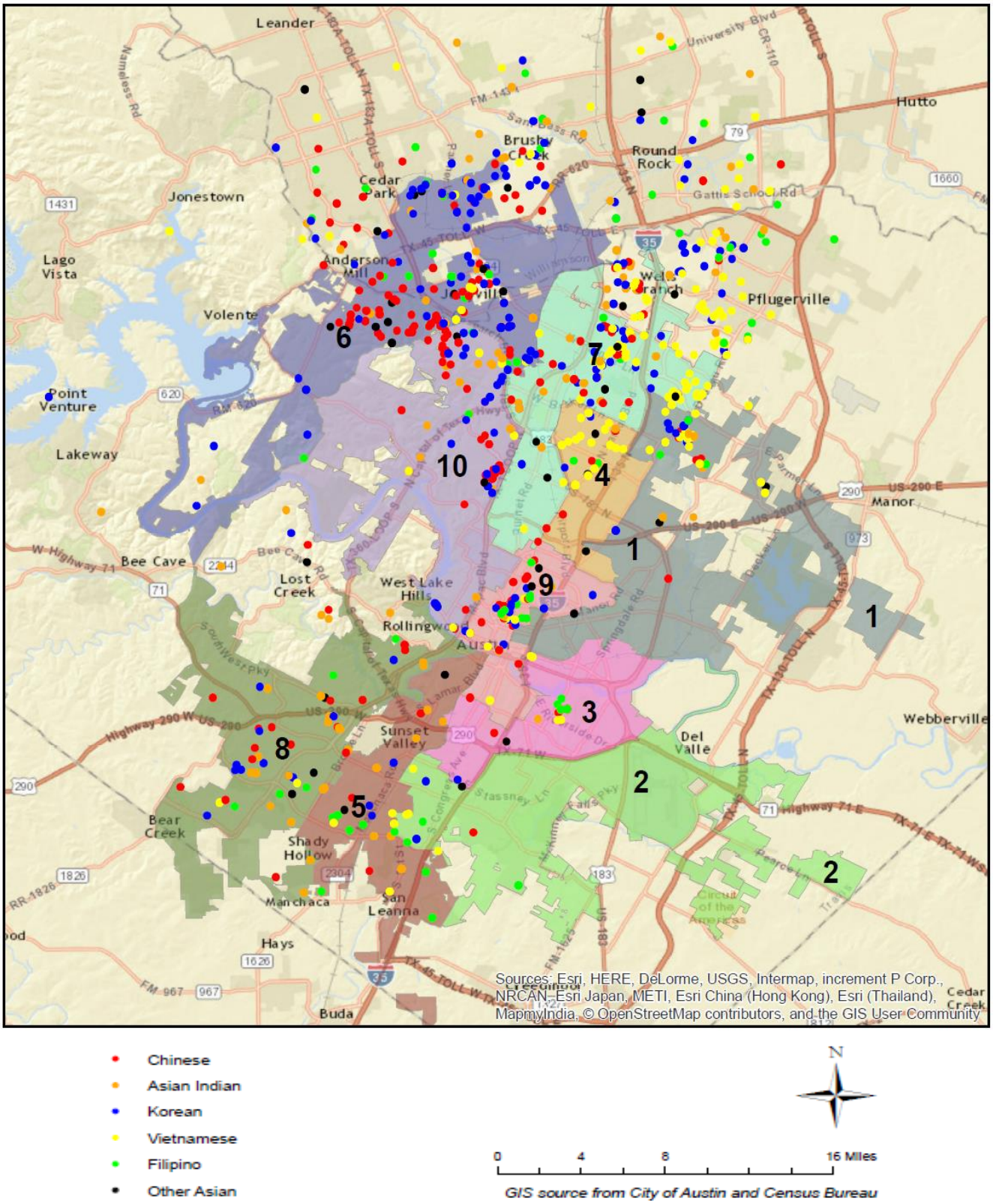
Picture 7

Residential Location of the AAQoL Survey Participants on Zip Code



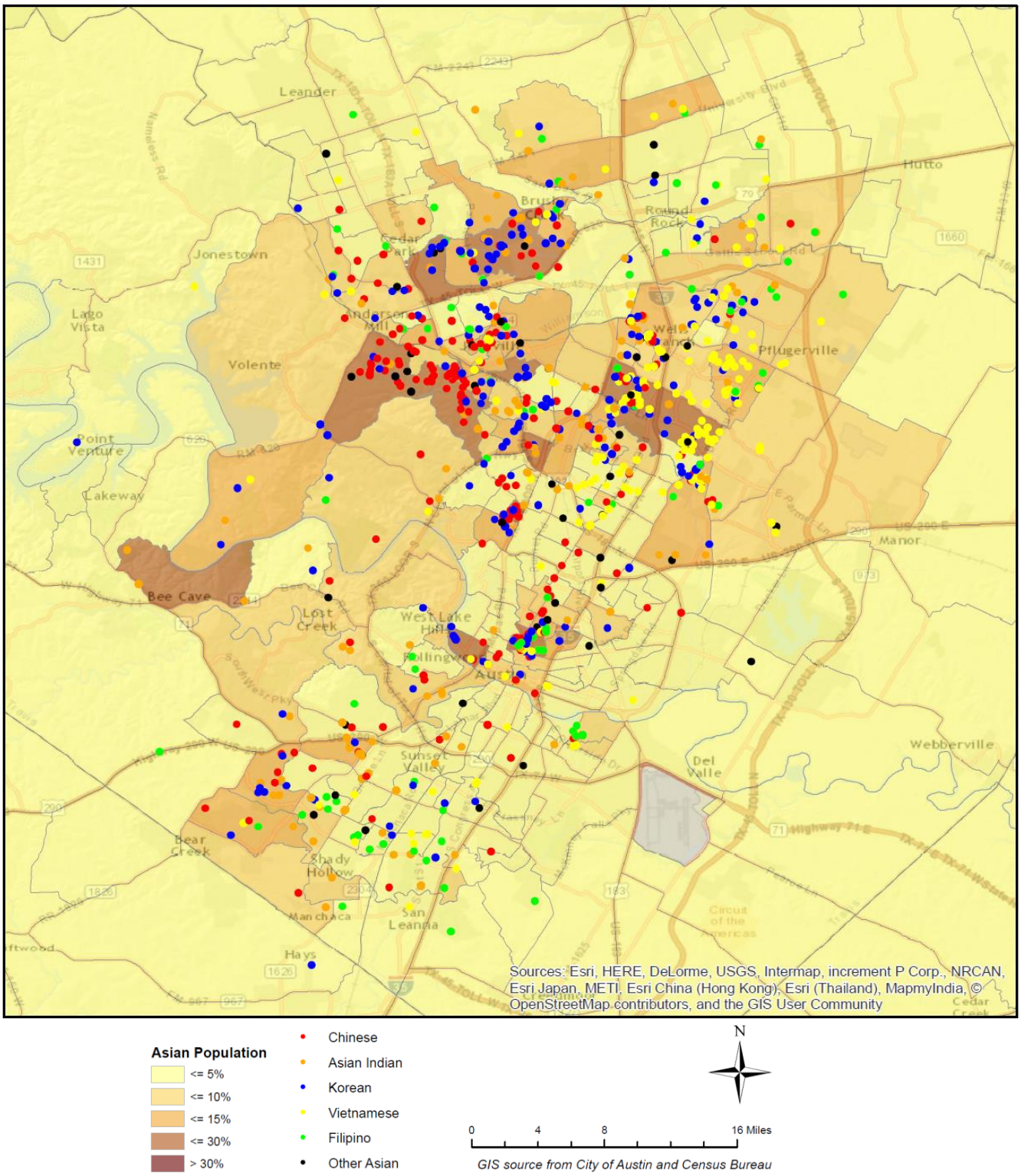
Picture 8

Residential Location of the AAQoL Survey Participants on Council District



Picture 9

Residential Location of the AAQoL Survey Participants on U.S. Census Based Asian Population Density



3. 3. Socio-demographic Characteristics

This section summarizes the general characteristics of the overall sample and sub-ethnic groups in terms of demographic characteristics (age, gender, and marital status) and socioeconomic status (education, employment, occupation, annual household income, and unmet financial needs).

3. 3. 1. Demographic Characteristics

Table 6 presents the basic characteristics of the sample. The mean age of the overall sample was 42.8 (SD=17.1) with a range between 18 and 98. When divided into three age groups, 48.3% of the sample was in the young age group (18−39), 31.2% in the middle age group (40−59), and 20.5% in the old age group (60 and older) (see Figure 4). Asian Indians were notably younger than the other groups, with a mean age below 40 and about 69% of the sample being categorized in the young age group. In general, there were more numbers of female participants; however, the Asian Indian sample included more male participants (60.1%). The proportion of unmarried individuals ranged from 25.2% (Asian Indian) to 41.7% (Vietnamese).

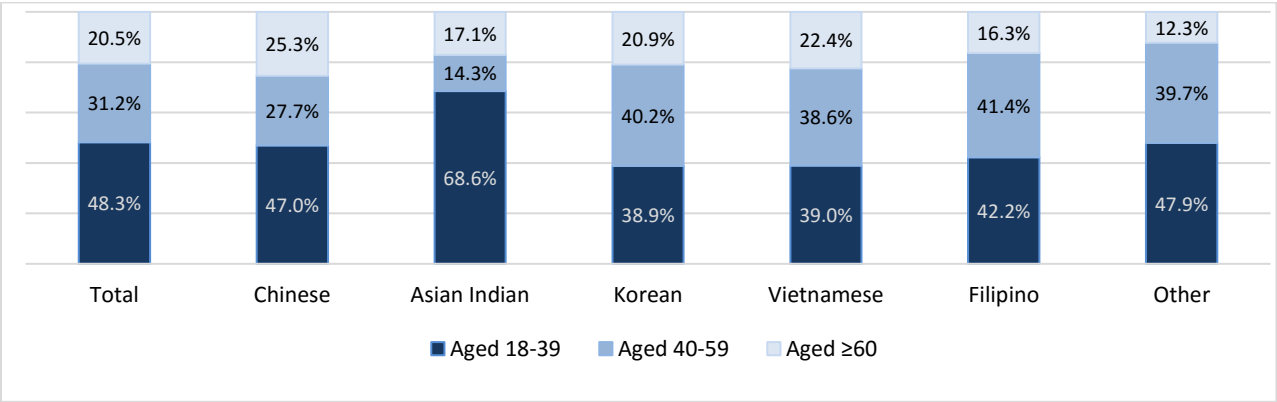
Table 6

Demographic Characteristics of the Overall and Sub-ethnic Groups

	M±SD or %						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Age	42.8±17.1	43.5±18.5	39.6±16.7	45.4±16.5	44.3±16.7	41.6±16.3	41.3±14.6
Gender							
Male	44.8	43.0	60.1	39.5	42.5	30.0	45.2
Female	55.2	57.0	39.9	60.5	57.5	70.0	54.8
Marital status							
Married	66.6	63.7	74.8	74.3	58.3	59.7	63.4
Not married	33.4	36.3	25.2	25.7	41.7	40.3	36.5

Figure 4

Age Group Distribution in the Overall and Sub-ethnic Groups



3. 3. 2. Socioeconomic Status

The characteristics with regard to education, employment, and financial status are summarized in Table 7. In the overall sample, the years of education averaged 15 (SD=2.44) and about 18% had received less than a high school education. The educational level was particularly high in Asian Indians but low in Vietnamese. Asian Indians presented a high rate of full time employment whereas Koreans had a high rate of self-employment. More than 30% of Chinese and Vietnamese reported an annual household income below $30,000. The proportion of the participants whose annual household income was $60,000 or more was the highest in Asian Indians (64.8%). However, more than 16% of Asian Indians reported a difficulty in making ends meet. Koreans had the highest rate of unmet financial needs (24.2%).

Table 7

Socioeconomic Characteristics of the Overall and Sub-ethnic Groups

	M±SD or %						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Education	15.0±2.44	15.4±2.24	16.1±2.10	15.0±2.35	13.7±2.51	14.8±2.15	14.8±2.65
< High school	18.4	14.2	7.6	20.3	36.3	16.2	20.0
≥ High school	81.6	85.8	92.4	79.7	63.7	83.8	80.0
Employment[1]							
Full time	43.9	35.0	58.0	31.7	46.2	50.6	47.3
Part time	10.2	8.9	5.1	9.9	17.0	12.5	9.6
Self-employed (full)	4.4	3.0	3.3	6.4	5.3	4.2	5.5
Self-employed (part)	2.6	1.9	6.9	6.4	2.7	2.3	1.4
Student	15.4	23.0	6.1	16.5	16.0	16.2	12.3
Homemaker	9.9	9.5	9.2	19.1	3.9	7.5	11.0
Unable to work	0.8	0	0.9	0.9	1.8	1.5	0
Unemployed	4.7	3.3	5.7	3.6	4.7	6.8	6.8
Retired	12.7	18.9	12.7	10.7	11.1	6.8	7.5
Other	1.1	1.4	6.7	1.9	0.2	0.4	2.8
Income							
$0–$29,999	27.4	31.3	21.5	22.6	34.3	27.9	23.7
$30,000–$59,999	23.5	18.8	13.7	27.5	35.3	19.8	31.9
$60,000 and over	49.1	50.0	64.8	49.9	30.4	52.2	44.4
Unmet financial need[2]							
No	82.8	84.2	83.8	75.8	85.4	86.8	78.4
Yes	17.3	15.8	16.2	24.2	14.6	13.2	21.6

[1] multiple responses allowed, [2] Assessed with a question "Thinking of your household's total monthly income, would you say that your household is able to make ends meet?"

3. 4. Immigration and Acculturation

This section describes the characteristics related to immigration and acculturation. Immigration status was assessed by nativity, years in the U.S., and English proficiency. In addition, perceived discrimination and cultural orientation (e.g., the level of familiarity to the culture of mainstream U.S. society and that of their ethnic origin, ethnic identity, and sense of belonging to the community of ethnic origin) were part of assessment.

3. 4. 1. Immigration-related Characteristics

As shown in Table 8, a majority of the participants (91% of the overall sample) were foreign-born immigrants. The rate of U.S.-born was lowest in Asian Indians (3.3%) and highest in Filipinos (17%).

The length of stay in the U.S. averaged 15.6 years (SD=12.7) with a range between 0.28 and 78 years. Asian Indians had the lowest years of residence in the U.S. (M=9.75, SD=10.8) whereas Vietnamese had the highest (M=19.3, SD=11.8). When the length of stay was divided into 3 categories, almost half of the Asian Indian sample (48.7%) fell in the category of U.S. residence less than 5 years and about 70% of the Vietnamese sample fell in the category of U.S. residence greater than 10 years.

With respect to language skills, the proportion of the overall sample who rated their English speaking ability as 'not at all,' 'not well,' 'well,' and 'very well' was 6.8%, 24.4%, 31.2%, and 37.6%, respectively. However, sub-ethnic groups presented a wide range of variations.

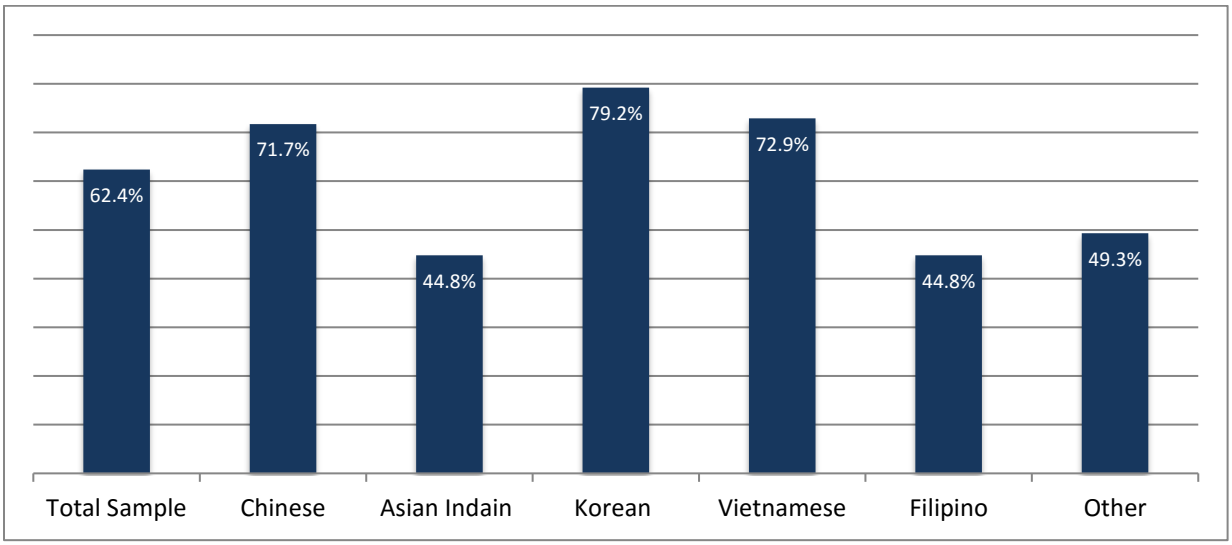
Table 8

Immigration-related Characteristics of the Overall and Sub-ethnic Groups

	M±SD or %						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Nativity							
U.S.-born	9.2	9.9	3.3	6.8	11.0	17.0	16.4
Foreign born	90.8	90.1	96.7	93.2	89.0	83.0	83.6
Years in the U.S.	15.6±12.7	15.6±13.1	9.75±10.8	17.1±12.5	19.3±11.8	17.3±12.6	17.7±13.9
≤ 5 years	28.9	32.3	48.7	19.7	18.3	16.3	26.2
6−10 years	17.2	12.2	22.7	22.1	12.0	19.8	15.2
> 10 years	53.9	55.5	28.7	58.2	69.6	63.9	58.6
English speaking ability							
Not at all	6.8	17.3	1.7	5.8	5.1	6.1	2.7
Not well	24.4	29.2	7.0	42.2	34.3	0	13.0
Well	31.2	25.2	36.0	31.3	33.5	28.7	33.6
Very well	37.6	28.3	55.2	20.8	27.1	65.0	50.7

The U.S. Census defines Limited English Proficiency (LEP) as a term that refers to individuals who speak English less than 'very well' (Pandya et al., 2011). Using this guideline, the rate of LEP was 62.4% in the overall sample (see Figure 5). The highest rate of LEP was observed in Korean (79.2%), followed by Vietnamese (72.9%) and Chinese (71.7%).

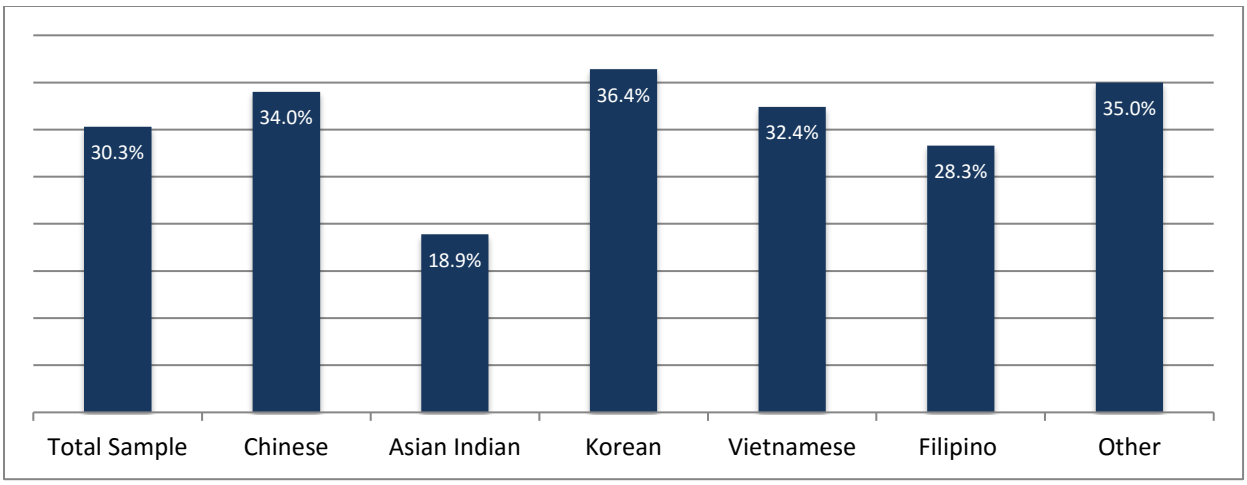
Figure 5
The Proportion of Individuals with Limited English Proficiency (LEP)



3. 4. 2. Perceived Discrimination

The survey questionnaire included a question on racial/ethnic discrimination. It is notable that more than 30% of the overall sample reported that they had been treated unfairly because of their race or ethnic origin. As shown in Figure 6, the rate was lowest in the Asian Indian sample (18.9%) and highest in the Korean sample (36.4%).

Figure 6
The Prevalence of Racial/ethnic Discrimination in the Overall and Sub-ethnic Groups



3. 4. 3. Cultural Orientation

In general, participants across the samples exhibited a high level of orientation toward both mainstream American culture and the culture of their ethnic origin (see Table 9). About 67% of the overall sample rated their familiarity with the culture of mainstream America either as 'high' or 'very high.' With regard to the culture of ethnic origin, about 87% of the overall sample rated their familiarity either as 'high' or 'very high.' In general, participants across all ethnic groups showed a high level of ethnic identity and sense of belonging to the community of their ethnic origin.

Table 9

Culture-related Characteristics of the Overall and Sub-ethnic Groups

	%						
	Total (N=2609)	Chinese (n=640)	Asian Indian (n=574)	Korean (n=471)	Vietnamese (n=513)	Filipino (n=265)	Other (n=146)
How would you rate your level of familiarity with the culture and custom of mainstream America?							
Very low	4.8	7.3	5.8	3.7	3.7	0.8	4.8
Low	27.9	38.0	30.2	30.5	20.8	10.3	22.8
High	47.9	39.0	48.9	52.3	52.5	52.1	46.2
Very high	19.4	15.8	15.1	13.5	23.0	36.8	26.2
How would you rate your level of familiarity with the culture and custom of your ethnic origin?							
Very low	2.0	1.4	2.1	1.1	2.4	1.9	5.5
Low	11.5	13.4	11.4	8.8	10.6	9.9	17.9
High	53.1	59.4	50.4	58.2	49.1	45.8	45.5
Very high	33.5	25.8	36.1	31.9	37.9	42.4	31.0
How closely do you identify with people of your ethnic origin?							
Not at all	1.2	1.1	0.7	0.4	2.2	0.8	3.4
Not very close	11.4	11.6	9.9	11.2	11.4	10.7	18.6
Somewhat close	47.0	48.7	48.4	65.7	33.5	38.2	37.9
Very close	40.4	38.6	41.0	22.6	52.9	50.4	40.0
How much do you feel that you belong to the community of your ethnic origin?							
Not at all	3.4	2.6	2.1	5.6	3.6	2.7	6.3
Not very much	17.6	17.5	10.7	28.1	18.2	8.8	24.3
Somewhat	49.0	53.6	44.1	53.1	54.4	36.8	38.9
Very much	30.0	26.3	43.1	13.3	23.8	51.7	30.6

3. 5. Physical Health and Service Use

This section includes information on physical health status, health behaviors, access to healthcare, and oral health and dental care.

3. 5. 1. Health Status

Table 10 presents the status of health using chronic disease, activity limitation, and self-rated health as indicators. Among the ten different chronic diseases listed in the survey, hypertension was most prevalent (15.2%), followed by Diabetes (8.0%) and Arthritis (7.5%). When the sample was grouped by the total number of disease, more than 28% of the overall sample had at least one disease. Reflecting the nature of the community volunteer sample, a small proportion (2.6%) reported limitations in daily activities such as bathing, dressing, eating, or using the toilet. Approximately 11% of the overall sample rated their health as either 'fair' or 'poor.' The rate was particularly high in Chinese (16.3%) and Koreans (15.4%).

Table 10

Health Status of the Overall and Sub-ethnic Groups

	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Chronic disease							
Hypertension	15.2	12.6	12.4	15.3	20.3	21.3	7.6
Heart disease	3.9	4.2	2.6	2.4	6.4	4.9	0.7
Stroke	1.1	0.8	1.4	0.4	2.2	1.1	0
Diabetes	8.0	6.9	9.5	6.5	10.0	9.2	2.8
Cancer	2.4	2.2	1.2	2.6	4.0	2.3	1.4
Arthritis	7.5	9.3	5.6	8.2	7.6	8.4	4.1
Hepatitis	2.0	1.9	0.5	1.5	5.0	1.5	0.7
Kidney problem	2.3	2.4	1.8	2.4	2.2	3.4	2.1
Asthma	4.6	5.5	2.1	2.2	5.4	8.7	7.5
COPD[1]	0.7	0.9	0	0.6	1.8	0.4	0
Total number of chronic disease							
None	71.6	71.4	74.9	72.3	67.4	66.9	80.4
One	18.8	19.0	17.0	18.2	22.0	19.2	16.1
Two or more	9.5	9.6	8.1	9.5	10.6	13.8	3.5
Activity limitation							
Yes	2.6	1.3	5.3	1.3	3.5	2.7	0.7
Self-rated health							
Excellent	20.4	17.7	22.5	18.8	18.8	25.0	26.0
Very good	38.4	37.4	36.1	38.4	41.4	41.7	34.9
Good	30.6	28.6	34.5	27.5	33.4	27.3	30.8
Fair	9.1	14.4	6.3	12.2	5.7	5.3	6.2
Poor	1.5	1.9	0.7	3.2	0.8	0.8	2.1

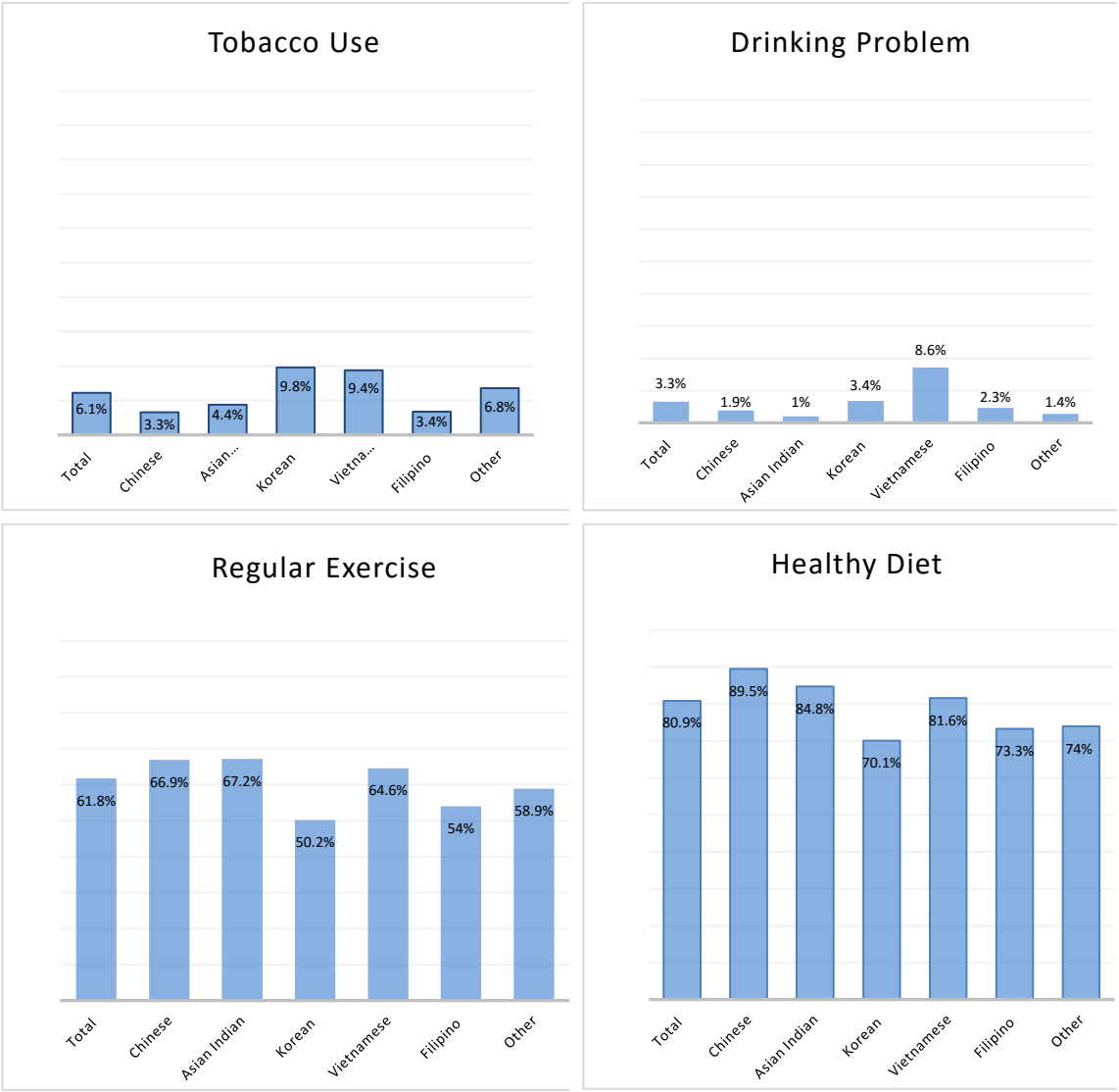
[1] Chronic Obstructive Pulmonary Disease

3. 5. 2. Health Behaviors

Figure 7 presents health behaviors of the sample in terms of tobacco use, drinking problem, regular exercise, and healthy diet. About 6% of the participants were current users of tobacco products. A notably high use was observed in Koreans (9.8%) and Vietnamese (9.4%). For the question –"has anyone ever told you that you have a drinking problem?"– 3.3% of the overall sample responded 'yes'. The probability of having a drinking problem was notably high in Vietnamese (8.6%). In the overall sample, 61.8% reported having a regular exercise and 80.9% maintaining a healthy diet. Koreans (50.2%) and Filipinos (54.0%) were least likely to have a regular exercise. The likelihood of a healthy diet was also low in Koreans (70.1%) and Filipinos (73.3%).

Figure 7

Health Behaviors in the Overall and Sub-ethnic Groups

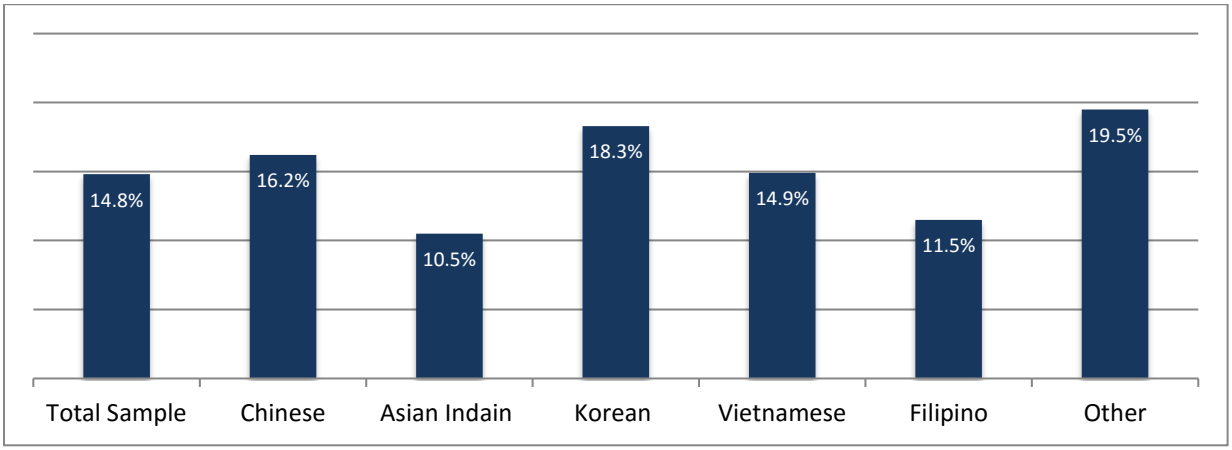


3. 5. 3. Health Service-Related Characteristics

Lack of health insurance is a widely known barrier to healthcare access in populations in general and racial and ethnic minorities in particular (Agency for Healthcare Research and Quality [AHRQ], 2008; Lillie-Blanton & Hoffman, 2005). Approximately 15% of the overall sample had no health insurance coverage. Other Asians (19.2%) and Koreans (18.3%) were most likely to be uninsured whereas Asian Indians (10.5%) were least.

Figure 8

The Proportion of Individuals with No Health Insurance



Having a usual place for care (i.e., a provider or facility where one regularly receives care) is an important facilitator to healthcare (AHRQ, 2008). However, more than 38% of the overall sample reported that they have no such place (see Figure 9). Despite the high rate of health insurance (almost 90%), more than half of Asian Indians did not have a usual place for care, indicating that they are not fully taking advantage of their benefits.

Figure 9

The Proportion of Individuals with No Usual Place for Care

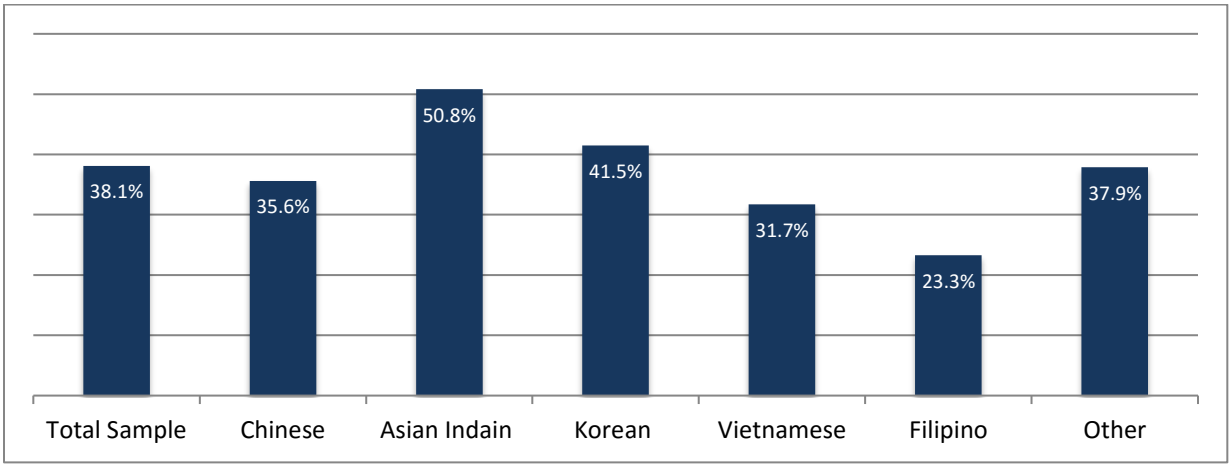


Table 11 presents utilization of health care services. About 68% of the overall sample indicated that they had received a physical check-up during the past 12 months. The rate was highest in Filipinos (76.4%), followed by Vietnamese (73.9%). Koreans (56.8%) were least likely to have a physical check-up. The use of health services for urgent care treatment was 17.3% in the overall sample, ranging from 12.6% in Chinese to 21.8% in Filipinos. About 14% of the overall sample had used folk medicine providers, such as herbalist and acupuncturist, for health concerns. The rate of folk medicine use was notably high in Koreans (22.6%) and Chinese (19.0%).

Table 11
Utilization of Healthcare in the Overall Sample and Subgroups

	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Physical check-up[1]	67.6	66.9	68.3	56.8	73.9	76.4	65.3
Urgent care treatment[2]	17.3	12.6	16.2	17.6	20.9	21.8	20.0
Folk medicine provider[3]	13.7	19.0	7.7	22.6	8.4	9.6	9.9

[1] Use of a doctor, hospital or clinic for a routine physical check-up during the past 12 months, [2] Use of a doctor, emergency room, or clinic for urgent care treatment (because of new symptoms, an accident, or something else unexpected) during the past 12 months, [3] Use of a folk medicine provider (e.g., herbalist, acupuncturist, etc.) for health during the past 12 months

Unmet health care needs was assessed by a single question asking whether there was a time in the past 12 months when they needed medical care but could not get it. About 12% of the overall sample reported unmet healthcare needs (see Figure 10). The rate of unmet healthcare needs was lowest in Asian Indians (5.3%) and highest in Vietnamese (17.1%).

Figure 10
Unmet Health Care Needs of the Overall and Sub-ethnic Groups

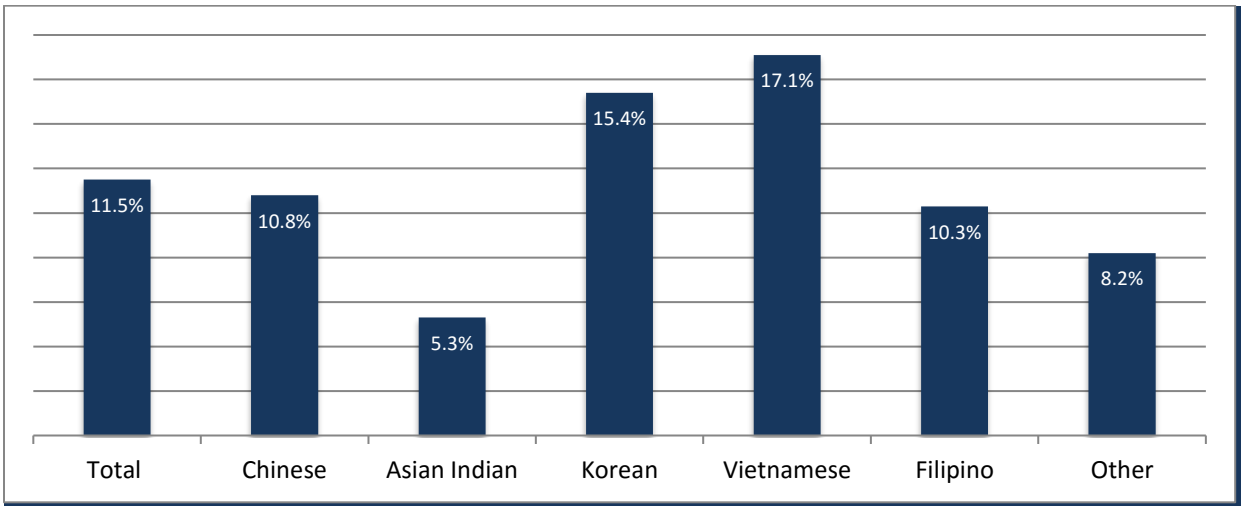
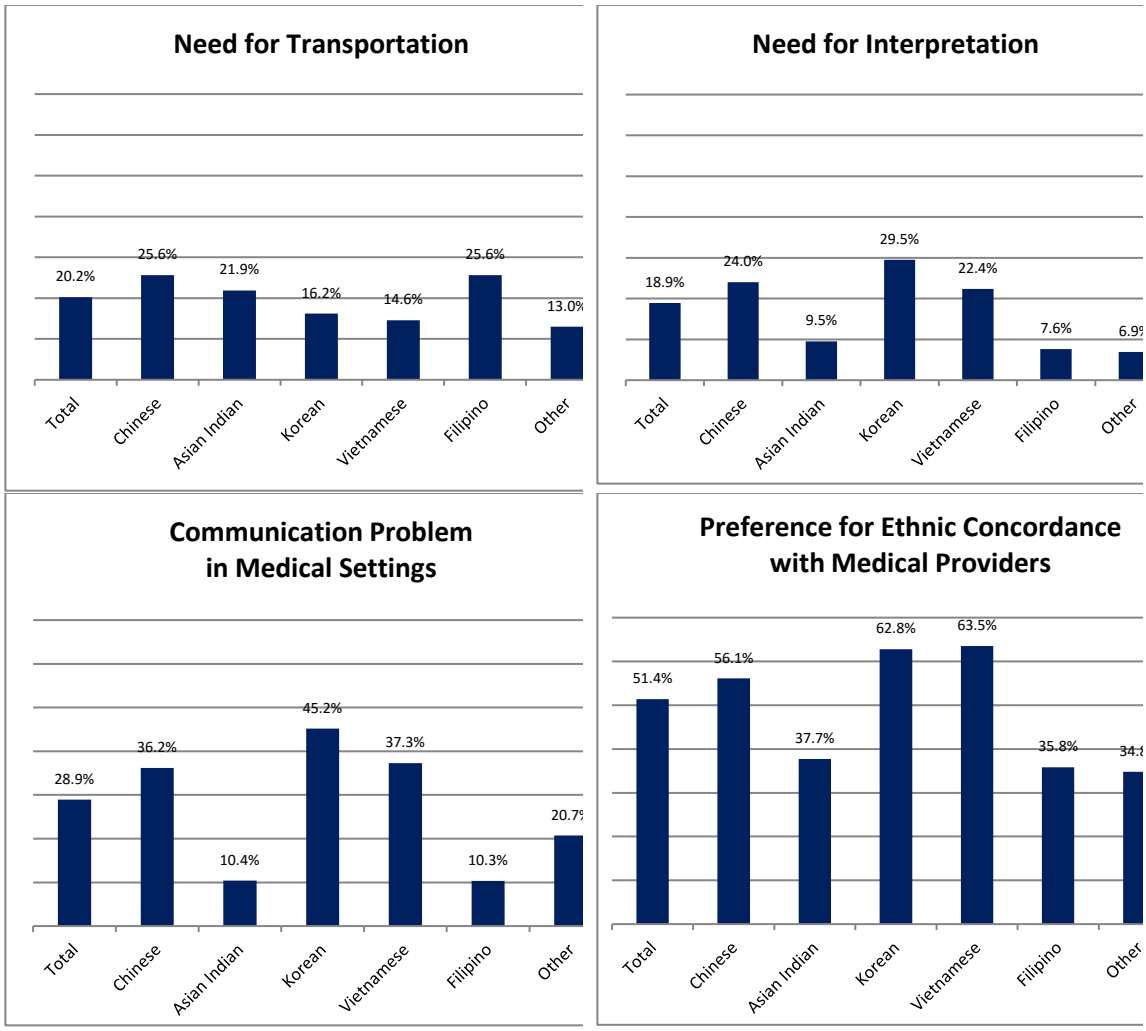


Figure 11 presents the challenges, experiences, and preferences in medical services. More than 20% of the overall sample reported that they need someone who can provide a ride for their medical visit. About 19% reported that they need someone who can do interpretation for their medical visit. The need for medical interpretation was substantially high in Koreans (29.5%), Chinese (24.0%), and Vietnamese (22.4%). About 29% of the overall sample reported that they had an experience that they could not understand what the doctor or nurse said during their medical visit. The rate was also notably high in Koreans (45.2%), Vietnamese (37.3%), and Chinese (36.2%). Accordingly, these three groups indicated their high preference to be treated by a doctor of their own ethnic group: Koreans (62.8%), Vietnamese (63.5%) and Chinese (56.1%).

Figure 11

Other Health Service-Related Characteristics of the Overall Sample and Subgroups



3. 5. 4. Oral Health and Dental Care

Table 12 presents the issues on oral health and dental care. More than 18% of the overall sample rated their oral health status either as 'fair' or 'poor.' The rate of fair/poor oral health was highest in Chinese (26.9%), followed by Koreans (23.9%). Approximately 60% of the overall sample had a dental insurance coverage. Filipinos were most insured (77.3%) whereas Koreans were least (45.3%). With regard to dental service utilization, about 57% of the overall sample had a dental check-up in the past 12 months. The rate of the preventive dental care was highest in Filipinos (69.5%) and lowest in Asian Indians (45.2%). As shown in Figure 12, more than 12% of the overall sample reported that there was a time in the past 12 months when they needed dental care but could not get it. The rate of unmet dental care needs was highest in Koreans (18.2%), followed by Vietnamese (14.3%) and Chinese (12.4%).

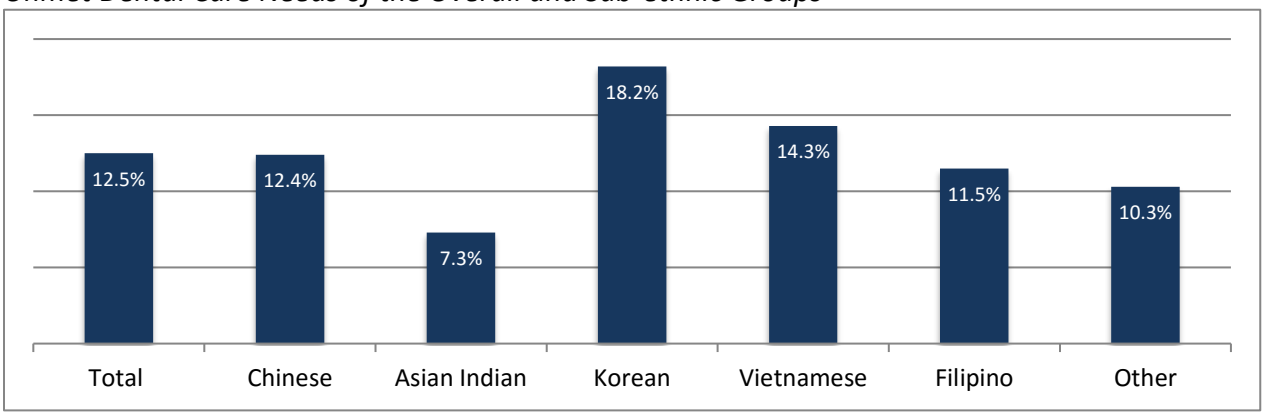
Table 12

Oral Health and Dental Care of the Overall Sample and Subgroups

	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Self-rated oral health							
Excellent	16.5	14.3	19.0	14.3	13.7	22.5	21.9
Very good	34.4	30.2	34.2	34.6	40.1	36.3	30.1
Good	30.8	28.6	34.6	27.1	31.5	30.9	34.9
Fair	14.0	19.0	10.6	16.2	13.5	7.6	11.6
Poor	4.2	7.9	1.6	7.7	1.2	2.7	1.4
Dental insurance	59.3	56.1	66.8	45.3	57.0	77.3	63.2
Dental check-up	57.0	62.8	45.2	51.8	61.0	69.5	58.3

Figure 12

Unmet Dental Care Needs of the Overall and Sub-ethnic Groups



3. 5. 5. Source of Health Information

Table 13 presents the sources where the participants usually obtain health-related information. Family members or relatives (51.3%), health professionals (48.8%), and health websites (42.5%) were the top three sources reported by the overall participants. Family members or relatives were the main source of health-related information for Chinese, Asian Indians, and Koreans whereas Vietnamese, Filipinos, and other Asians indicated health professionals as the primary source.

Table 13

Source of Health Information of the Overall Sample and Subgroups

	%[1]						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Family members or relatives	51.3	61.4	52.5	45.7	43.0	55.8	42.5
Close friends	37.4	42.9	44.7	37.7	29.1	26.2	32.2
Acquaintances	17.3	13.9	14.0	29.8	19.5	10.8	8.2
Health professionals[2]	48.8	47.5	44.4	39.1	53.4	66.5	54.8
Mobile apps	9.4	8.0	11.9	6.2	11.0	9.6	11
Email listserv	12.0	18.8	8.6	4.5	17.7	8.1	8.2
Social networking sites[3]	17.4	24.6	17.0	11.1	16.3	15.8	14.4
Online communities or groups	15.8	14.3	18.8	18.1	13.9	13.5	14.4
Health Websites	42.5	43.9	41.8	41.3	34.4	53.1	51.4
Other	4.5	4.6	5.1	3	5.5	4.6	3.4

[1] multiple responses allowed, [2] e.g., doctors and nurses, [3] e.g., Facebook and Twitter

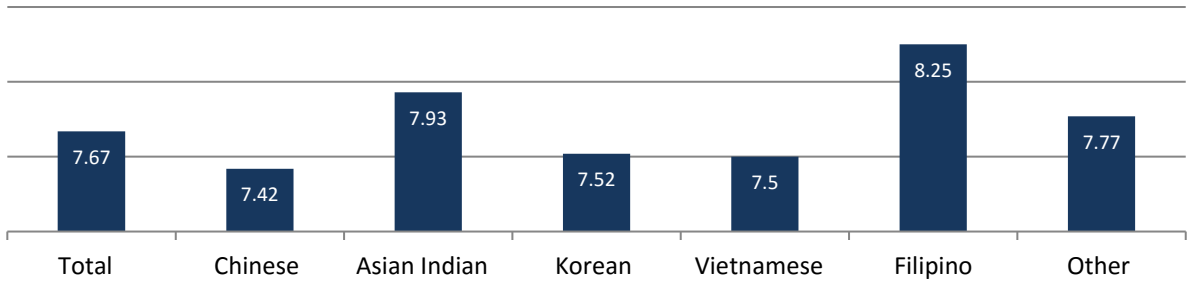
3. 6. Mental Health and Service Use

This section summarizes information on the status of mental well-being (indicated by quality of life, satisfaction with life, and mental distress), mental health service use, unmet mental health care needs, and stigma relating to mental health and service use.

3. 6. 1. Quality of Life and Satisfaction with Life

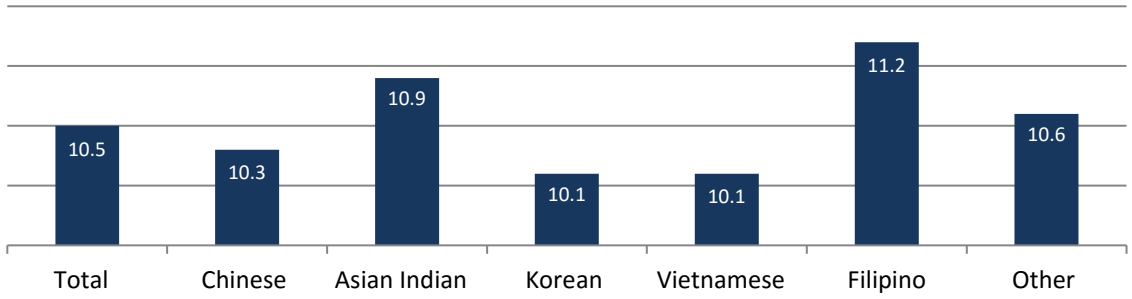
Participants were asked to rate their overall quality of life using a range between 0 (very poor quality) and 10 (excellent quality). The average score in the total sample was 7.67 (SD=1.63). The highest rating was observed in Filipinos (M=8.25, SD=1.44), and the lowest in Chinese (M=7.42, SD=1.68) (see Figure 13).

Figure 13
Quality of Life Rating of the Overall Sample and Subgroups



Life satisfaction was assessed by two items selected from the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). Participants were asked to report the level of agreement to the statements, "In most ways my life is close to my ideal" and "I am satisfied with my life," on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). Reponses were combined to represent the overall satisfaction level. Total scores range between 2 and 14, and higher scores indicate more satisfaction with life. The average score in the total sample was 10.5 (SD=2.43). The highest rating was observed in Filipinos (M=11.2, SD=2.45), and the lowest in Koreans (M=10.1, SD=2.35) and Vietnamese (M=10.1, SD=2.44) (see Figure 14).

Figure 14
Satisfaction with Life Scores of the Overall Sample and Subgroups



3. 6. 2. Mental Distress

Mental distress was assessed with the Kessler 6 scale (K6; Kessler et al., 2002, 2003). The K6 was developed as a screening tool for mental distress and serious mental illness (SMI) and has been widely used in mental health research and practice. The scale measures the frequency of experiencing 6 different manifestations of psychological distress over the past 30 days: (1) so depressed that nothing could cheer you up, (2) nervous, (3) hopeless, (4) restless or fidgety, (5) worthless, and (6) everything was an effort. Each item is rated on the 5-point scale ranging from 0 (none of the time) to 4 (all of the time). Responses were summed to create a composite score, ranging from 0 to 24. A score of 6 or greater is indicative of mental distress and 13 or greater is used as a cutoff for SMI (Kessler et al., 2003). Applying the suggested cutoffs, 44.2% of the overall sample had mental distress and 6.1% fell in the category of SMI (Figures 15 and 16). The prevalence rate of SMI was highest in Vietnamese (9.2%), followed by Korean (7.2%) and other Asians (7.1%).

Figure 15

Prevalence of Mental Distress in the Overall Sample and Subgroups

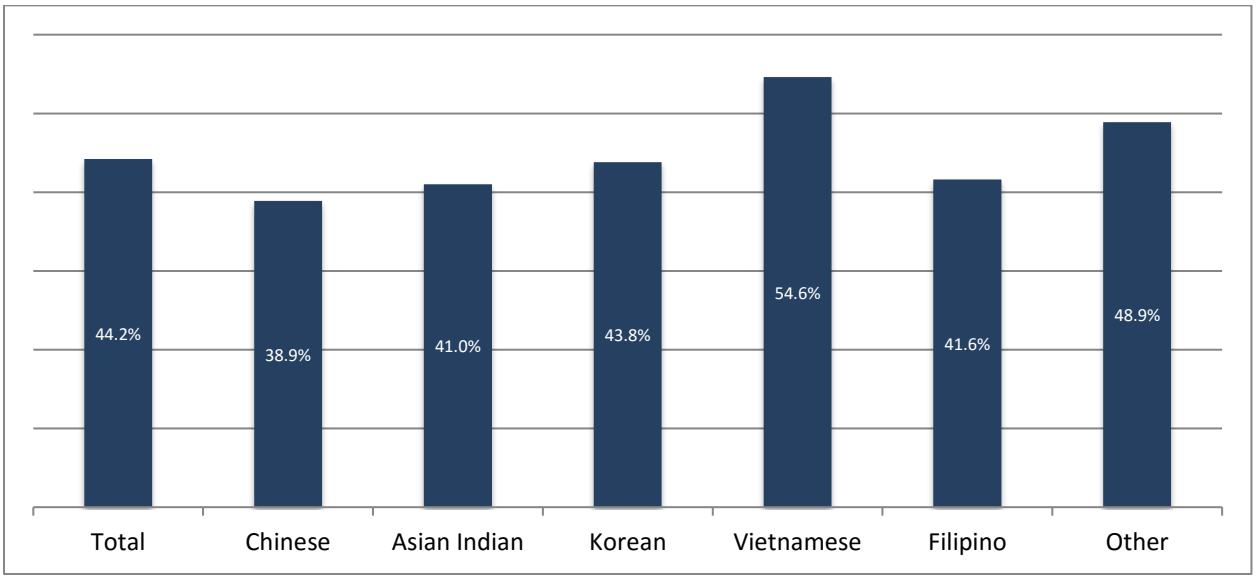
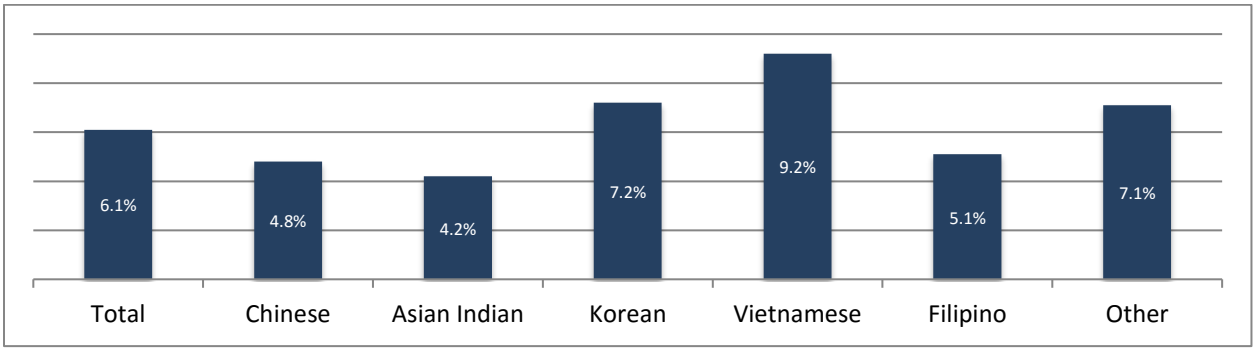


Figure 16

Prevalence of Serious Mental Illness (SMI) in the Overall Sample and Subgroups

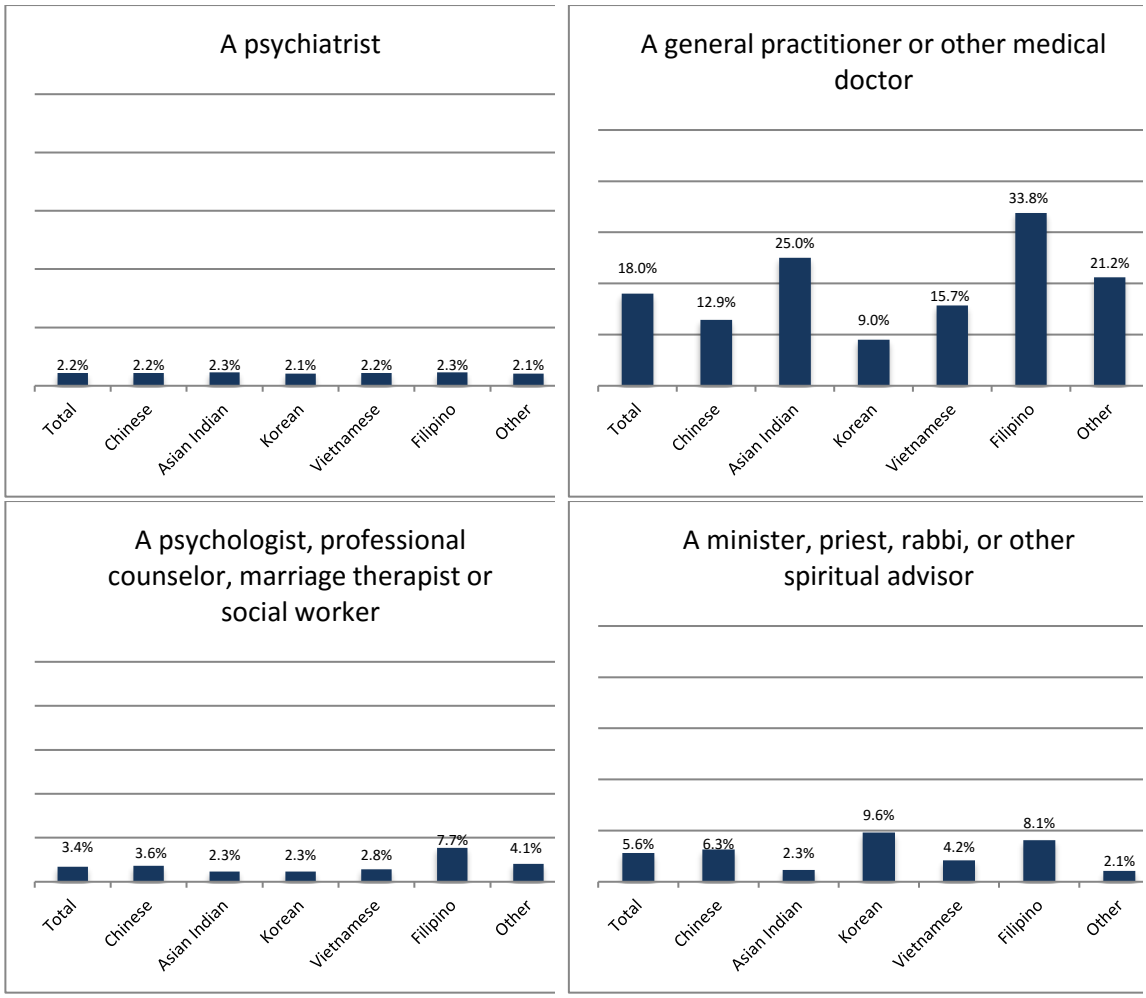


3. 6. 3. Mental Health Service Use

For mental health service use, participants were asked, in the past 12 months, if they saw each of the professionals in the following list about a problem with their emotional or mental health: (1) psychiatrist, (2) general doctor (e.g., general practitioner or other medical doctor), (3) mental health provider (e.g., psychologist, professional counselor, marriage therapist, or social worker), and (4) clergy (e.g., minister, priest, rabbi or other spiritual advisor). As shown in Figure 17, the use of a mental health specialist (psychiatrist or mental health provider) was relatively low, with 2.2% or 3.4% in the overall sample. With the rate of 18% in the overall sample, general doctors were most often used as a source of mental health treatment. The highest rate was observed in Filipinos (33.8%), followed by Asian Indians (25%). About 6% of the overall sample reported the use of religious leaders as a source of mental health treatment. The highest rate was found in Koreans (9.6%), followed by Filipinos (8.1%).

Figure 17

Mental Health Service Use in the Overall Sample and Subgroups

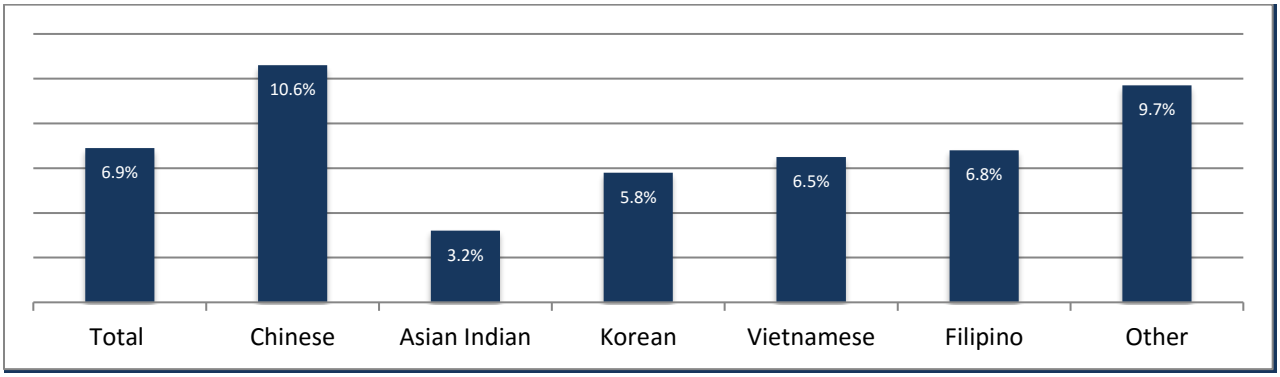


3. 6. 4. Other Mental Health Service-Related Characteristics

Unmet mental health care needs were assessed by a single question asking whether there was a time in the past 12 months when they needed emotional or mental health care but could not get it. About 7% of the overall sample reported unmet mental health needs (see figure 18). The rate of unmet mental health care needs was lowest in Asian Indians (3.2%) and highest in Chinese (10.6%).

Figure 18

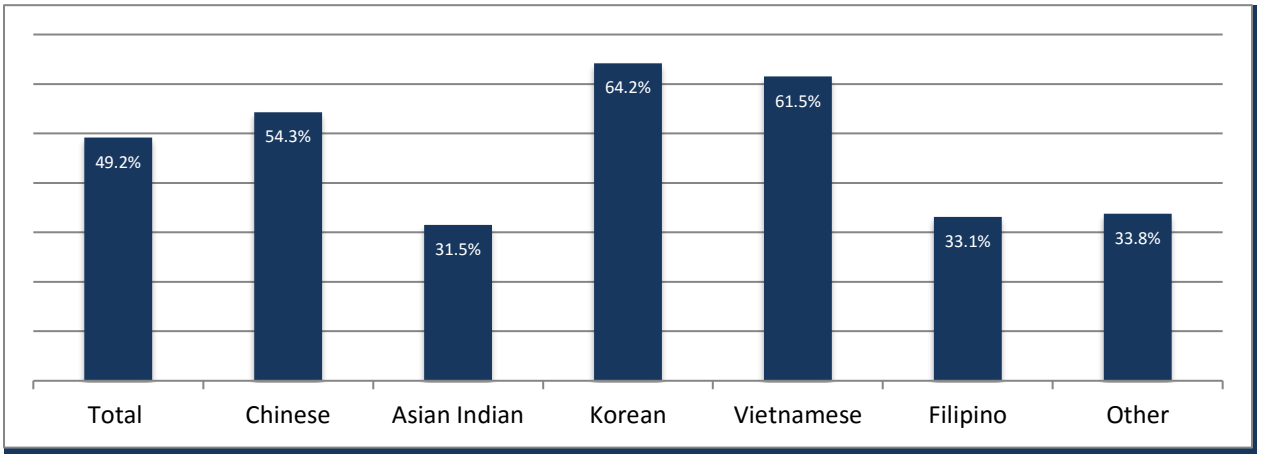
Unmet Mental Health Care Needs of the Overall and Sub-ethnic Groups



The AAQoL survey also included a question on whether participants prefer a counselor of their own ethnic group if they use counseling. As shown in Figure 19, almost half of the overall sample indicated their preference for ethnic concordance. The rate is notably high in the three groups with a high level of limited English proficiency: Koreans (64.2%), Vietnamese (61.5%), and Chinese (54.3%).

Figure 19

Preference for Ethnic Concordance with Mental Health Providers of the Overall and Sub-ethnic Groups



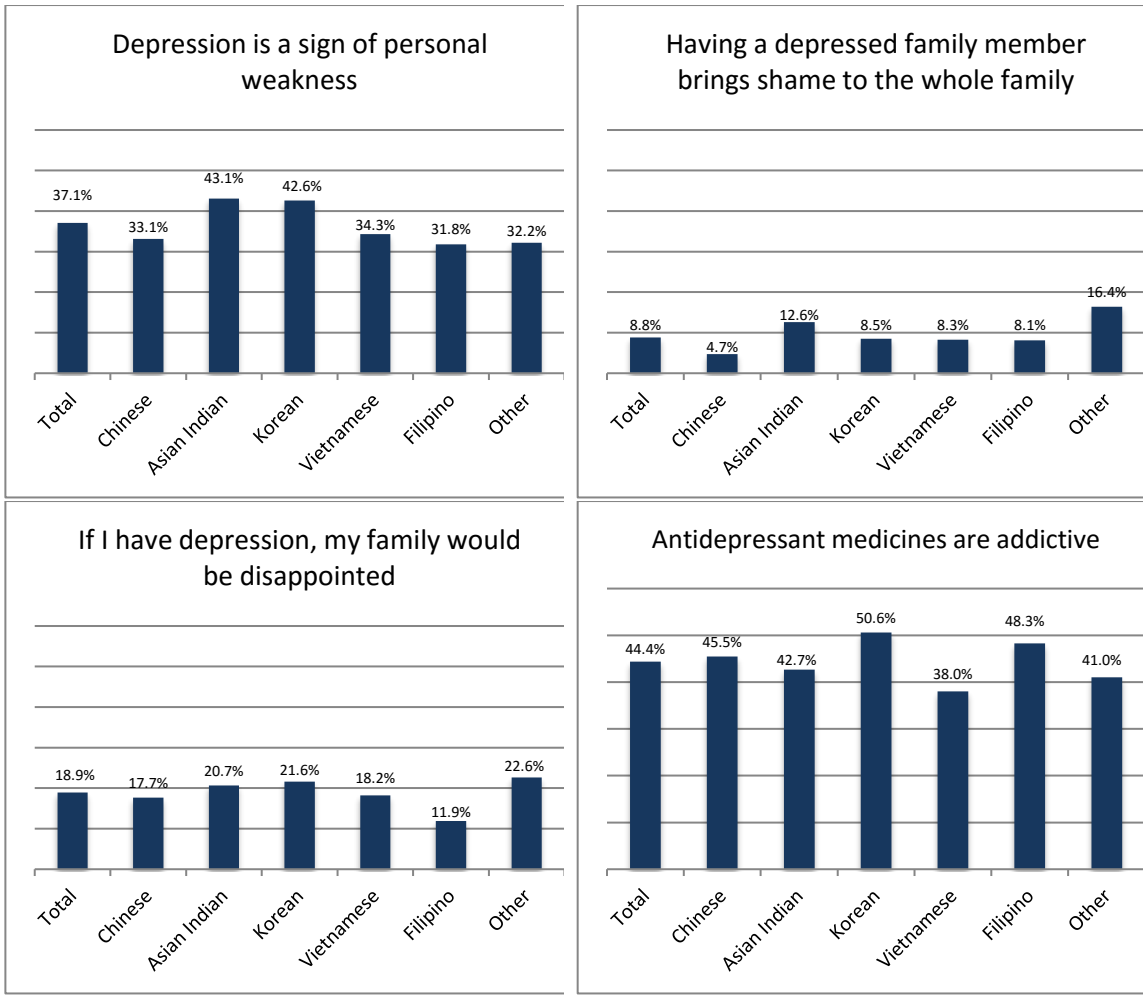
3. 6. 5. Stigma Relating to Mental Health and Service Use

A series of questions were asked about misconceptions and personal beliefs associated with mental health. The items, adopted from the attitudinal survey by Mental Health America (2007), questioned whether participants thought (1) depression is a sign of personal weakness, (2) having a mentally ill family member brings shame to the whole family, (3) if he/she had depression, his/her family would be disappointed with him/her, and (4) antidepressant medicines are addictive. Responses were coded as 1 (yes) or 0 (no).

As shown in Figure 20, more than 37% of the overall sample thought that depression is a sign of personal weakness. About 9% of the overall sample associated mental illness with shame and 19% with family disappointment. More than 44% of the overall sample thought that antidepressant medicines are addictive.

Figure 20

Stigma Relating to Mental Health and Service Use in the Overall Sample and Subgroups



3. 7. Special Interest

Knowledge and awareness of Alzheimer's disease and advance directives was selected as a special interest topic because of the increase of the aging population, the high reliance on family in elder care and end-of-life decision making in Asian cultures, and its associated challenges in Asian American families.

3. 7. 1. Knowledge and Awareness of Alzheimer's Disease

Table 14 summarizes the status of knowledge and awareness relating to Alzheimer's disease and its related services. Approximately 45% of the overall sample reported that they know 'not at all' or 'not very much' about Alzheimer's disease. The corresponding rate was 61.9% for Chinese, 51.1% for Asian Indian, 29.2% for Korean, 37.8% for Vietnamese, 31.7% for Filipino, and 38.6% for other Asians. More than 16% of the overall sample reported that they had family members or friends who were affected by Alzheimer's disease, and the rate was particularly high in Koreans (22.1%). About 12% of the overall sample reported that they had made plans for the possibility of themselves or their family getting AD in the future. Vietnamese had the highest rate of preparedness (25.2%). On average, about 12% of the sample knew about educational programs on AD, and only 7.8% knew about local services or programs for AD patients and their family members. Filipinos reported the highest rate of the awareness of AD educational programs (21.4%) and AD-related services (16.2%).

Table 14

Awareness of Alzheimer's Disease (AD) and Services of the Overall Sample and Subgroups

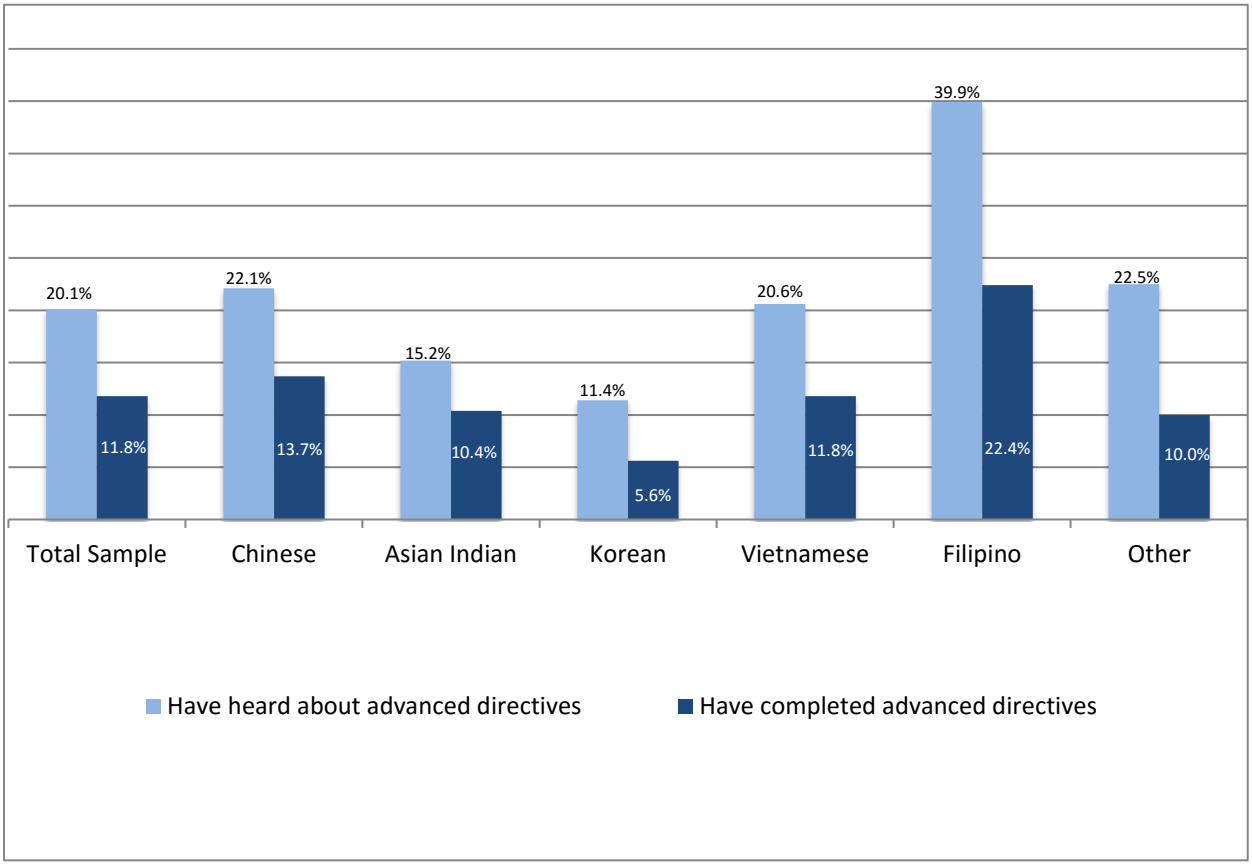
	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Knowledge about AD							
Nothing at all	17.0	19.4	29.7	4.9	15.0	8.1	19.3
Not very much	27.6	42.5	21.4	24.3	22.8	23.6	19.3
Somewhat	42.1	30.9	40.2	55.4	44.4	42.5	48.3
Very much	13.3	7.2	8.7	15.4	17.8	25.9	13.1
Have family members or friends with AD	16.3	19.4	8.2	22.1	11.8	21.9	19.7
Have plans for the possibility of getting AD in the future	11.6	8.6	2.3	12.2	25.2	14.0	7.0
Awareness of educational programs on AD	11.8	10.8	7.3	9.8	15.3	21.4	11.2
Awareness of local services for AD patients and their family	7.8	6.9	4.5	7.1	7.3	16.2	13.4

3. 7. 2. Awareness and Completion of Advance Directives

Figure 21 presents the participants' level of knowledge on advance directives and completion rate. About 20% of the overall sample reported that they had heard about advance directives. The rate of awareness was highest in Filipinos (39.9%) and lowest in Koreans (11.4%). About 12% of the overall sample reported that they had completed advance directives. Similar to the pattern of the awareness, Filipinos had the highest rate of completion (22.4%), and Koreans were least likely to have a completed advance directive (5.6%).

Figure 21

Awareness and Completion of Advance Directives of the Overall Sample and Subgroups



The survey included a question about whether the respondent agrees to the following statement: "One should avoid speaking about bad things, such as disease and death, because it might cause them to happen." It is notable that about a quarter of the overall sample reported that they either 'somewhat agree' or 'strongly agree.' The rate of affirmative endorsement was highest in Asian Indians (32.7%), followed by Filipinos (31.5%) and other Asian groups (28.4%).

3. 8. Social and Community Resources

Social and community resources serve as a fundamental asset for Asian Americans. In this section, the characteristics on social network, family solidarity, religiosity, and community social cohesion are summarized.

3. 8. 1. Social Network

Social network was measured using 6 items from Lubben's Social Network Scale-Revised (LSNS-R; Lubben et al., 2006). The LSNS-R assesses networks with family/relatives (3 items) and friends (3 items) by asking the number of family/relatives and friends the respondent is in contact with at least once a month, the number of family/relatives and friends they felt at ease with to talk about private matters, and the number of close family/relatives and friends. The items on the survey were originally rated on a scale of 0 (none) to 5 (nine or more). The subscales of social network with family/relatives and friends ranged from 0 to 15, and the total scores from 0 to 30, higher scores indicating a larger network. Figure 22 illustrates the three types of social network scores. When the suggested cut off (< 12; Lubben & Gironda, 2003) is applied, 18.9% of the overall sample fell in the category of social isolation (see Figure 23). The rate of social isolation was highest in Vietnamese (33.1%) and lowest in Filipinos (8.5%).

Figure 22

Mean Scores of Social Network in the Overall Sample and Subgroups

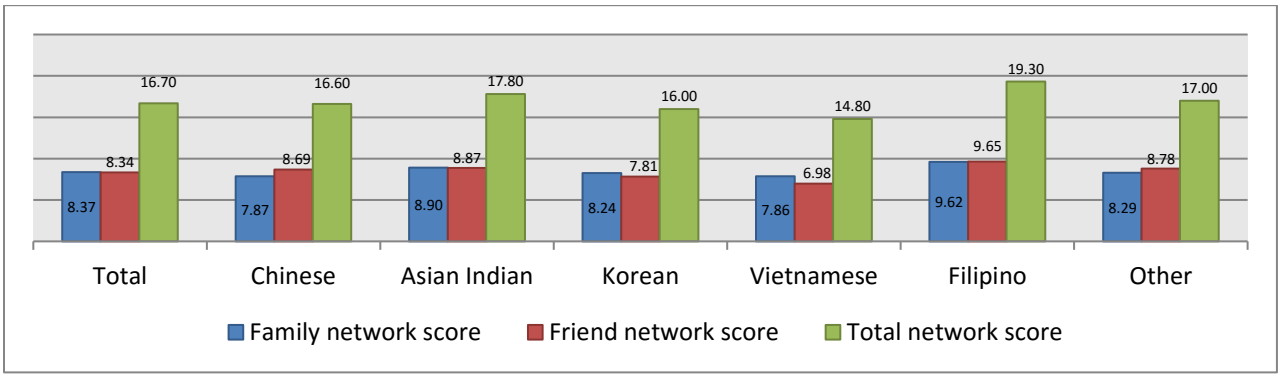
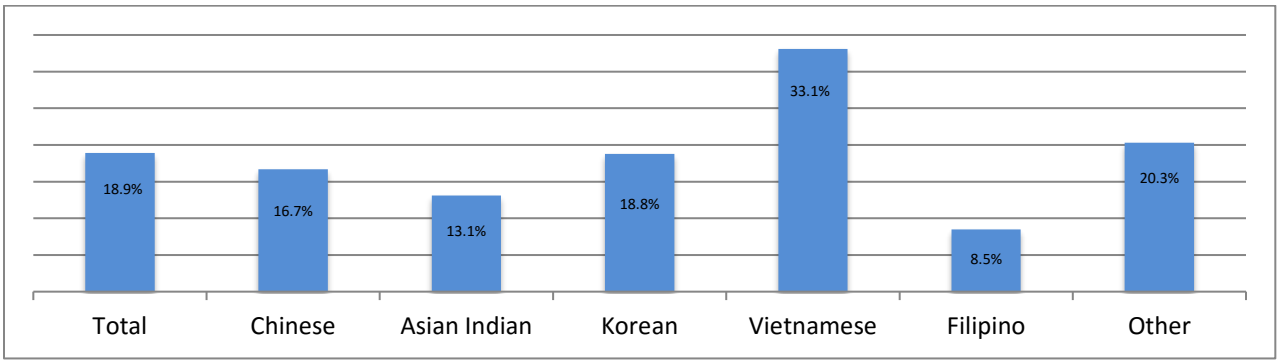


Figure 23

The Rate of Social Isolation of the Overall Sample and Subgroups



3. 8. 2. Family Solidarity

Family solidarity can be defined as the degree to which family members feel emotionally connected and committed to each other. In our project, family solidarity was assessed by using 10 items from the National Latino and Asian American Study (NLAAS; Alegria et al., 2004). The items included the degree to which family members (1) respected one another, (2) shared similar values and beliefs as a family, (3) worked well as a family, (4) trusted and confided in each other, (5) felt loyal to the family, (6) were proud of their family, (7) expressed feelings with family, (8) spent free time with each other, (9) felt very close to each other, and (10) considered family togetherness important. Each item was rated on a scale of 1 (strongly disagree) to 4 (strongly agree). Overall, the average family solidarity for the overall sample and ethnic subgroups was moderately high (see Figure 24). Detailed information on responses to individual items is presented in Table 15.

Figure 24

Mean Scores of Family Solidarity in the Overall Sample and Subgroups

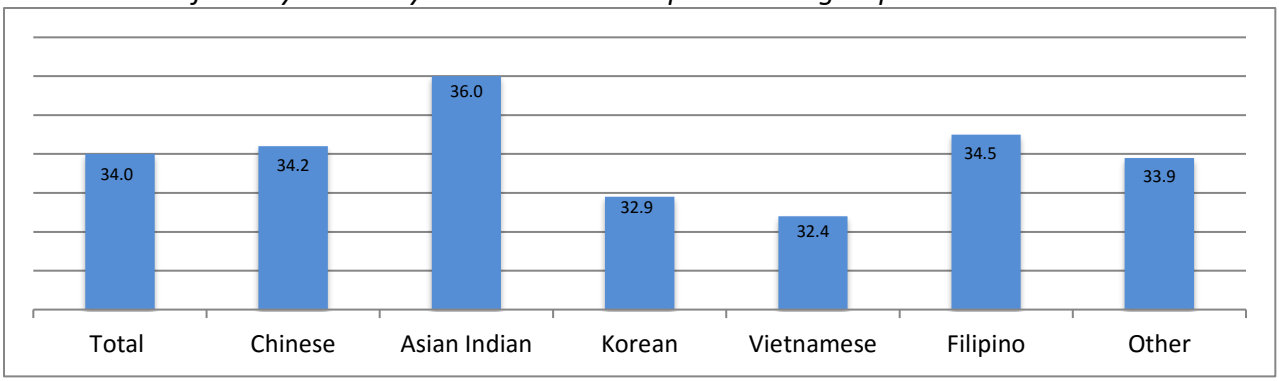


Table 15

Family Solidarity of the Overall Sample and Subgroups

	M±SD or %						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
My family members respect one another.							
Strongly disagree	2.6	2.1	2.5	1.3	3.6	3.8	3.4
Somewhat disagree	5.9	7.0	3.7	8.1	4.5	6.2	6.9
Somewhat agree	38.4	34.1	23.9	53.7	53.0	27.3	33.8
Strongly agree	53.1	56.9	70.0	36.9	38.9	62.7	55.9
We share similar values and beliefs as a family.							
Strongly disagree	2.9	2.2	3.2	1.9	3.2	4.6	3.5
Somewhat disagree	9.3	13.4	4.8	10.9	7.3	7.7	12.6
Somewhat agree	40.5	40.4	26.4	50.6	54.0	31.5	31.5
Strongly agree	47.4	43.9	65.6	36.5	35.5	56.2	52.4

Things work well for us as a family.							
Strongly disagree	3.1	1.9	2.8	1.9	5.0	4.6	3.4
Somewhat disagree	8.5	7.8	4.4	12.6	10.3	7.7	9.0
Somewhat agree	41.0	41.3	25.1	51.0	55.1	32.3	36.6
Strongly agree	47.5	49.0	67.7	34.5	29.6	55.4	51.0
We really do trust and confide in each other.							
Strongly disagree	3.0	2.7	3.5	1.5	2.8	4.6	4.1
Somewhat disagree	7.2	7.4	4.8	5.4	7.3	11.5	13.1
Somewhat agree	38.2	34.6	25.0	51.6	53.8	27.3	26.9
Strongly agree	51.7	55.3	66.7	41.5	36.1	56.5	55.9
My family members feel loyal to the family.							
Strongly disagree	2.2	1.4	2.5	1.5	2.0	4.3	3.4
Somewhat disagree	5.0	4.8	3.5	4.7	5.6	7.0	7.6
Somewhat agree	36.5	30.3	22.4	52.0	53.5	26.4	27.6
Strongly agree	56.3	63.5	71.6	41.8	38.9	62.4	61.4
We are proud of our family.							
Strongly disagree	2.6	2.4	2.7	1.7	2.6	4.2	2.8
Somewhat disagree	4.9	6.5	1.9	5.4	5.8	4.2	6.9
Somewhat agree	33.8	31.8	20.0	46.4	51.2	17.8	23.6
Strongly agree	58.7	59.3	75.4	46.6	40.5	73.7	66.7
We can express our feelings with our family.							
Strongly disagree	3.6	3.3	2.8	2.1	4.2	5.0	7.6
Somewhat disagree	11.0	12.5	4.6	16.8	10.1	13.6	9.7
Somewhat agree	36.3	34.5	22.6	47.5	52.2	22.9	29.9
Strongly agree	49.1	49.6	70.0	33.5	33.5	58.5	52.8
My family members like to spend free time with each other.							
Strongly disagree	3.1	2.8	3.0	2.1	3.8	4.2	4.1
Somewhat disagree	8.6	9.5	6.3	9.6	7.2	10.4	12.4
Somewhat agree	37.6	36.2	24.2	48.6	53.1	22.4	34.5
Strongly agree	50.6	51.4	66.5	39.7	36.0	62.9	49.0
My family members feel very close to each other.							
Strongly disagree	2.6	2.1	2.3	1.5	3.4	4.2	4.2
Somewhat disagree	8.3	9.2	5.5	7.3	7.2	12.4	14.6
Somewhat agree	37.3	36.1	24.4	50.4	50.9	22.4	30.6
Strongly agree	51.8	52.6	67.8	40.8	38.6	61.0	50.7
Family togetherness is very important to our family.							
Strongly disagree	2.2	1.4	2.5	1.5	2.4	4.2	2.8
Somewhat disagree	4.7	6.0	3.4	2.6	5.0	5.4	8.3
Somewhat agree	29.2	25.9	19.6	36.5	44.9	17.4	24.8
Strongly agree	63.9	66.6	74.6	59.4	47.7	73.0	64.1

3. 8. 3. Religiosity

Religion is known to be an integral part of ethnic minority communities. Religious affiliation was measured with the category used by the U.S. Census. As shown in Table 16, approximately 20% of the overall sample had no religious affiliation. Protestant was most frequently reported (24.9%), followed by Catholic (19%), Hindu (18.6%), and Buddhist (13.5%). Hindu was the dominant religion in Asian Indians (81.4%), Protestant for Koreans (68.7%), and Catholic for Filipinos (70.5%). Vietnamese included a similar proportion of Catholic (36.6%) and Buddhist (40.9%). In the Chinese sample, more than half (52.4%) were not affiliated with any religion. Among those with religious affiliation, Protestant was the most frequently reported (30.5%), followed by Buddhist (13.8%). Approximately 40% of the overall sample reported that they attended religious services 'once or more a week' and about 45% indicated that religion is 'very important' to them. A particularly high level of religious attendance and perceived importance was found in Koreans and Filipinos.

Table 16

Religious Affiliation and Religiosity of the Overall Sample and Subgroups

	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Religious affiliation							
None	19.6	52.4	2.8	13.6	11.4	4.5	18.5
Protestant	24.9	30.5	2.5	68.7	7.8	21.6	14.4
Catholic	19.0	2.1	2.8	14.7	36.6	70.5	13.7
Hindu	18.6	0.0	81.4	0.2	0.0	0.0	11.6
Muslim	2.6	0.6	8.1	0.2	0.2	0.0	11.0
Buddhist	13.5	13.8	0.9	2.3	40.9	0.8	24.7
Other	1.8	0.6	1.6	0.4	3.1	2.7	6.2
Frequency of attending religious services							
Never/seldom	30.4	52.8	19.5	19.8	26.8	21.0	38.6
A few times a year	18.5	11.4	33.5	8.3	25.4	8.6	17.9
Once or twice a month	11.6	6.5	22.1	6.4	12.0	12.1	8.3
Once or more a week	39.5	29.3	25.0	65.5	35.9	58.4	35.2
Importance of religion							
Not at all important	10.8	23.7	5.2	4.9	7.6	3.9	17.5
Not very important	16.3	29.3	13.6	10.7	15.0	5.1	11.9
Somewhat important	28.1	21.8	43.2	22.5	27.6	25.2	21.0
Very important	44.9	25.2	38.0	61.9	49.8	65.7	49.7

3. 8. 4. Ethnic Community Social Cohesion

Social cohesion refers to the general sense of trust and solidarity shared among community residents. For this project, the feelings about the community of ethnic origin were assessed with 5 items adopted from the Project on Human Development in Chicago Neighborhood Community Survey (PHDCN-CS) (Sampson, Morenoff, & Felton, 1999). The scale has been used in population-based surveys including National Latino and Asian American Study (NLAAS), National Social Life, Health, and Aging Project (NSHAP), and California Health Interview Survey (CHIS).

Participants were asked to report their subjective perceptions of their ethnic community of origin on (1) closeness, (2) willingness to help, (3) sharing the same values, (4) getting along with each other, and (5) trust. Each item was rated on a scale of 1 (strongly disagree) to 5 (strongly agree). Responses to individual items were summed, and total scores range from 5 to 25. As shown in Figure 25, the level of ethnic community cohesion for the overall sample and subgroups was moderate. Detailed information on responses to individual items is presented in Table 17.

Figure 25

Mean Scores of Ethnic Community Social Cohesion in the Overall Sample and Subgroups

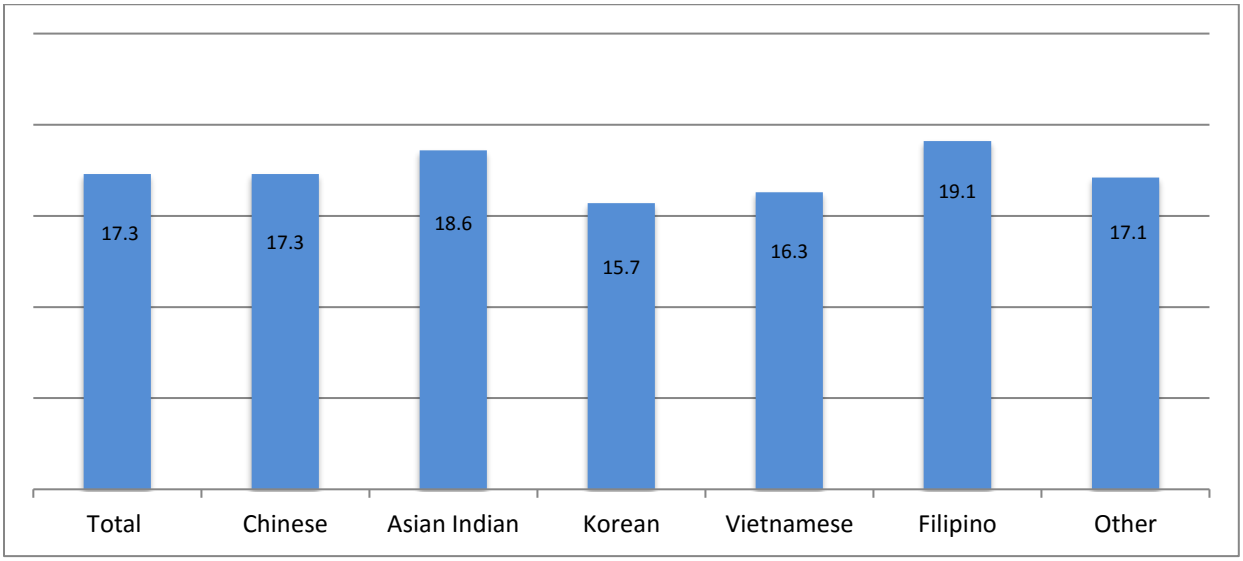


Table 17

Ethnic Community Social Cohesion of the Overall Sample and Subgroups

	M±SD or %						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
My ethnic community is a close-knit community.							
Strongly disagree	3.2	1.9	2.7	4.9	2.6	3.1	7.6
Somewhat disagree	9.6	10.5	5.0	17.8	10.3	2.7	6.9
Neutral	39.9	40.3	35.0	46.5	43.7	29.2	42.1
Somewhat agree	36.0	39.2	40.0	25.9	34.0	42.3	35.2
Strongly agree	11.3	8.1	17.4	4.9	9.3	22.7	8.3
People in my ethnic community are willing to help each other.							
Strongly disagree	2.3	1.1	2.1	2.8	2.8	2.7	4.9
Somewhat disagree	7.6	7.8	2.1	14.5	9.9	1.9	6.9
Neutral	33.9	30.4	25.1	46.9	42.6	23.9	28.5
Somewhat agree	43.3	50.6	51.7	30.7	36.4	43.6	43.1
Strongly agree	12.9	10.0	18.9	5.1	8.3	27.8	16.7
People in my ethnic community share the same values.							
Strongly disagree	2.8	1.8	2.3	3.8	3.2	2.3	5.5
Somewhat disagree	11.8	11.6	5.3	22.0	14.5	3.5	10.3
Neutral	36.3	41.3	29.8	40.3	40.4	24.2	34.5
Somewhat agree	38.4	38.4	46.4	29.4	33.9	46.9	37.2
Strongly agree	10.6	6.9	16.2	4.5	8.0	23.1	12.4
People in my ethnic community generally get along with each other.							
Strongly disagree	2.1	.6	2.0	2.6	2.8	2.3	4.9
Somewhat disagree	9.8	7.2	3.4	13.7	20.5	3.5	6.9
Neutral	34.9	39.0	24.3	42.9	39.0	22.8	39.6
Somewhat agree	42.1	45.4	54.2	33.8	31.3	46.7	36.8
Strongly agree	11.2	7.8	16.2	7.1	6.4	24.7	11.8
People in my ethnic community can be trusted.							
Strongly disagree	3.1	1.0	2.5	6.4	3.4	2.3	4.8
Somewhat disagree	10.8	8.1	2.5	17.7	20.9	4.2	8.3
Neutral	40.8	45.5	33.3	45.4	43.0	31.9	42.1
Somewhat agree	35.9	39.0	45.9	26.2	27.3	42.3	33.1
Strongly agree	9.5	6.4	15.8	4.3	5.4	19.2	11.7

3. 9. Housing Arrangement/Transportation/Technology Use

This section summarizes the characteristics with regard to participants' housing arrangement, mode of transportation, and the use of technologies.

3. 9. 1. Housing Arrangement

Table 18 presents housing-related items assessed in the survey. Questions were asked about type of housing, ownership status, and satisfaction with the condition of current housing. A majority of families reported living in one-family houses (54.5% of the overall sample) and apartments, townhouses, or condos (39.9% of the overall sample). Vietnamese (70.2%) were more likely to live in a one-family house while Asian Indians (62.5%) were most likely to live in an apartment, townhouse, or condo. Over half of the overall sample owned their homes (53.5%). In addition, 60.5% of the overall sample reported being 'pretty much' satisfied with the condition of their housing, and 26.1% were 'very much' satisfied with their housing condition.

Table 18

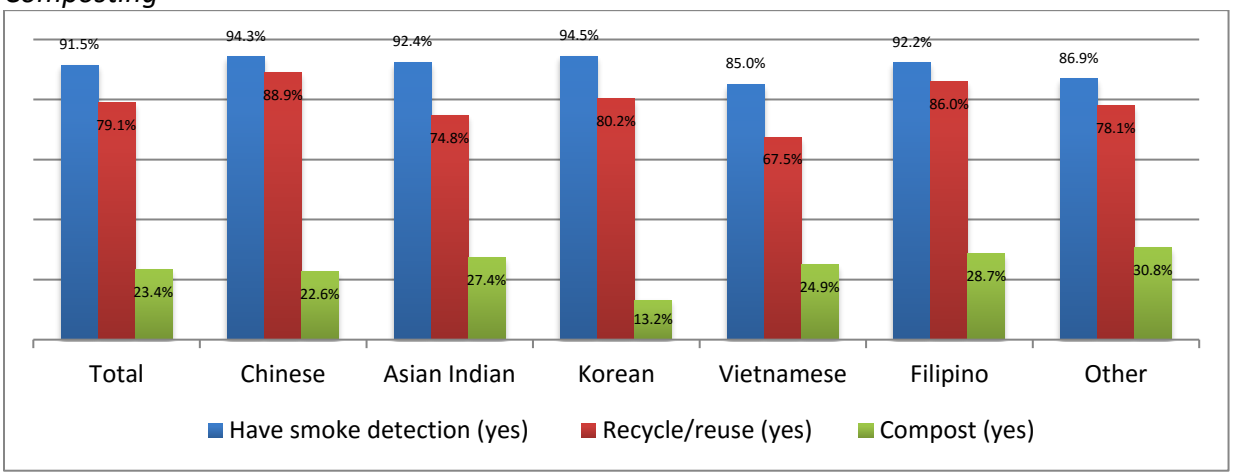
Housing-related Items of the Overall Sample and Subgroups

	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Type of housing							
Mobile house	0.9	0.6	0.4	0.2	2.6	0.8	0.7
One-family house	54.5	60.0	32.7	50.0	70.2	63.4	58.2
Two-family house/duplex	2.8	2.2	3.7	1.9	3.7	3.1	0.7
Apt/townhouse/condo	39.9	34.7	62.5	46.2	21.3	30.4	37.0
Other	1.9	2.5	0.7	1.7	2.2	2.3	3.4
Ownership							
Own	53.5	65.6	65.6	43.5	69.6	61.1	46.5
Rent	43.7	32.9	32.9	52.9	27.4	35.8	47.2
Other	2.9	1.6	1.6	3.6	3.0	3.1	6.3
Satisfaction with current housing condition							
Not at all	1.6	0.9	1.1	2.1	2.4	0.8	2.8
Not very much	11.8	5.5	13.9	14.3	15.4	7.5	18.6
Pretty much	60.5	68.2	58.0	65.3	56.5	51.8	50.3
Very much	26.1	25.3	27.0	18.3	25.7	40.0	28.3

Other housing-related items were whether or not participants had smoke detection alarms at home, whether or not they recycled or reused, and whether or not they composted. As shown below, most of the overall sample reported having smoke detection alarms (91.5%) and participating in recycling or reusing (79.1%) while few reported composting (23.4%).

Figure 26

The Rate of Having Smoke Detection Alarms and Participating in Recycling/reusing and Composting



3. 9. 2. Transportation

Table 19 exhibits the modes of transportation used by participants. Personal car (85.8% of the overall sample) was the most popular mode of transportation. Koreans reported using a personal car more often than other subgroups (92.8%) while Asian Indians reported using a personal car least often (79.1%) compared to other subgroups. Public transportation was utilized most by Chinese (20.7%). On the other hand, bicycling (5.6% of the overall sample) and car-sharing (5.7% of the overall sample) were the least reported modes of transportation.

Table 19

Mode of Transportation of the Overall Sample and Subgroups

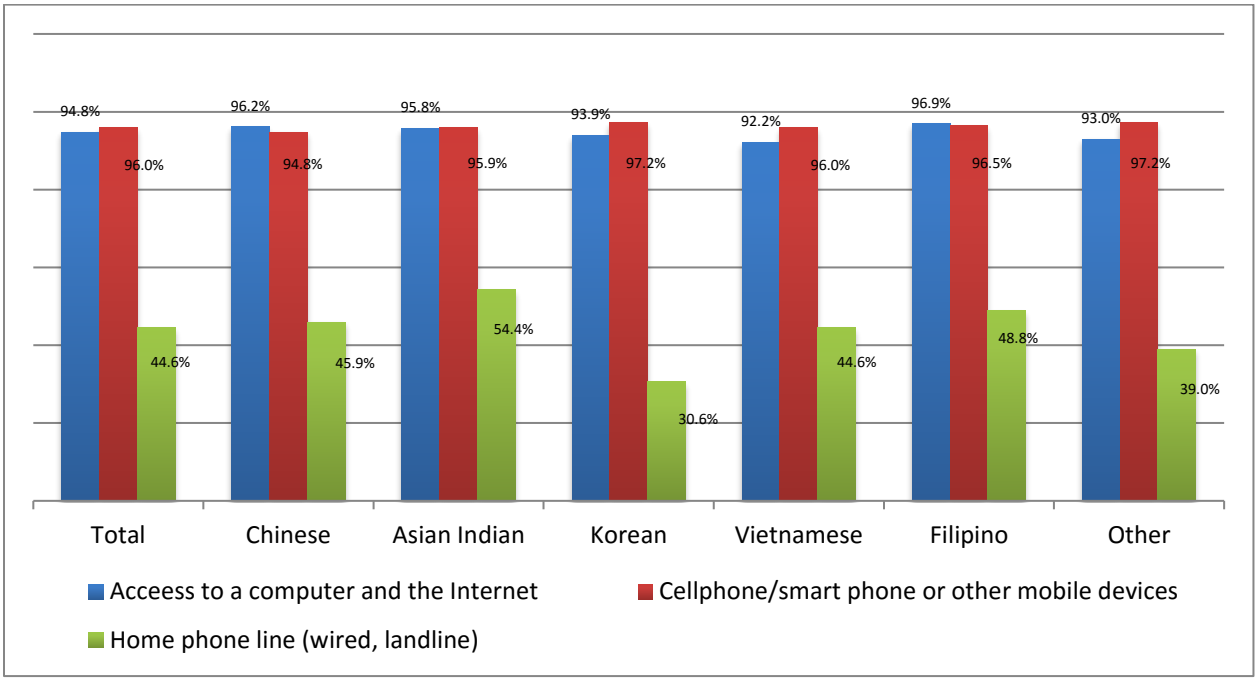
	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Public transportation	13.3	20.7	11.5	10.6	9.3	13.5	10.3
Bicycling	5.6	5.0	9.8	3.0	4.9	4.2	4.8
Carpooling	8.1	8.6	9.4	3.6	9.4	10.0	6.8
Personal car	85.8	83.8	79.1	92.8	88.0	86.5	89.0
Car-share	5.7	3.9	10.5	1.9	5.9	8.1	2.7
Walking	12.2	14.3	14.0	7.4	9.6	17.4	13.0
Other	1.0	0.5	2.0	0.4	0.4	1.6	2.8

3. 9. 3. Technology Use

Figure 27 shows the use of technology in the overall sample and subgroups. A similarly high number of participants reported access to a computer and the Internet (94.8%) and use of a cellphone/smart phone or other mobile device (96.0%). Home phone lines (wired, landline) were not as frequently utilized with only 44.6% of the overall sample using them. The level of technology use was comparable across the subgroups.

Figure 27

Technology Use of the Overall Sample and Subgroups



3. 10. Life in the City of Austin

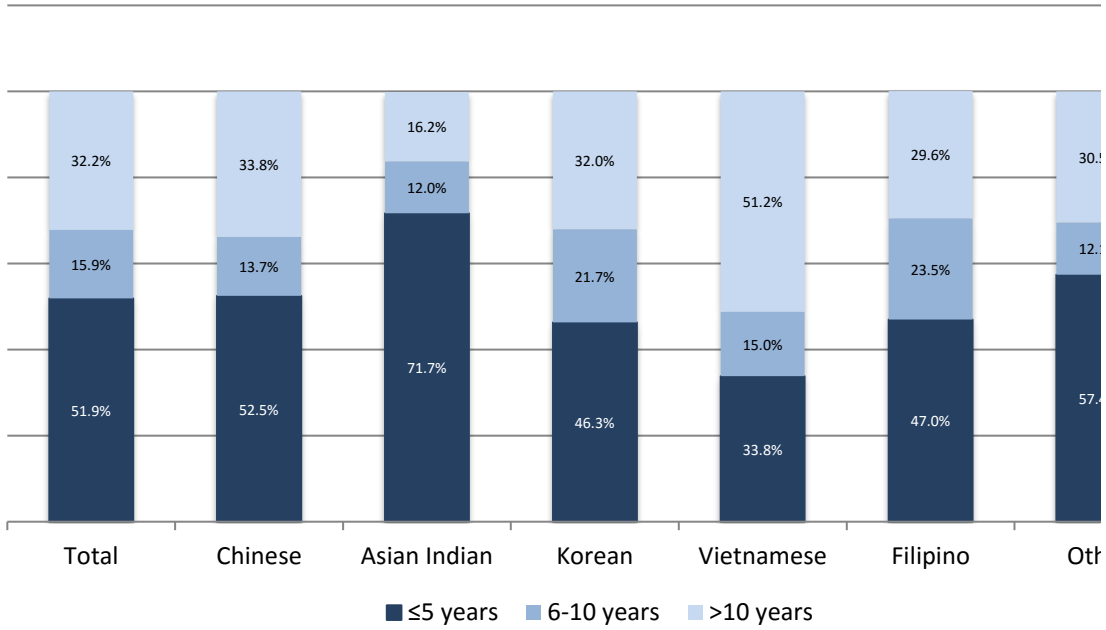
This section includes information on the length of residence in Austin, evaluations of the City and its services, awareness of City resources, civic engagement, and communications-related Items.

3. 10. 1. Length of Residence in Austin

Figure 28 presents the length of time that each subgroup has resided in Austin. Lengths of residence were split into 3 groups to include those that have been in Austin for 5 years or less, 6-10 years, and over 10 years. Over half (51.2%) of the Vietnamese sample have lived in Austin for more than 10 years. On the other hand, Asian Indians are the most recent settlers with 71.7% reporting living in Austin less than 5 years. These numbers once again represent the growing Asian population in Austin with 51.9% of the overall sample living in Austin for 5 years or less.

Figure 28

Length of Residence in Austin of the Overall Sample and Subgroups

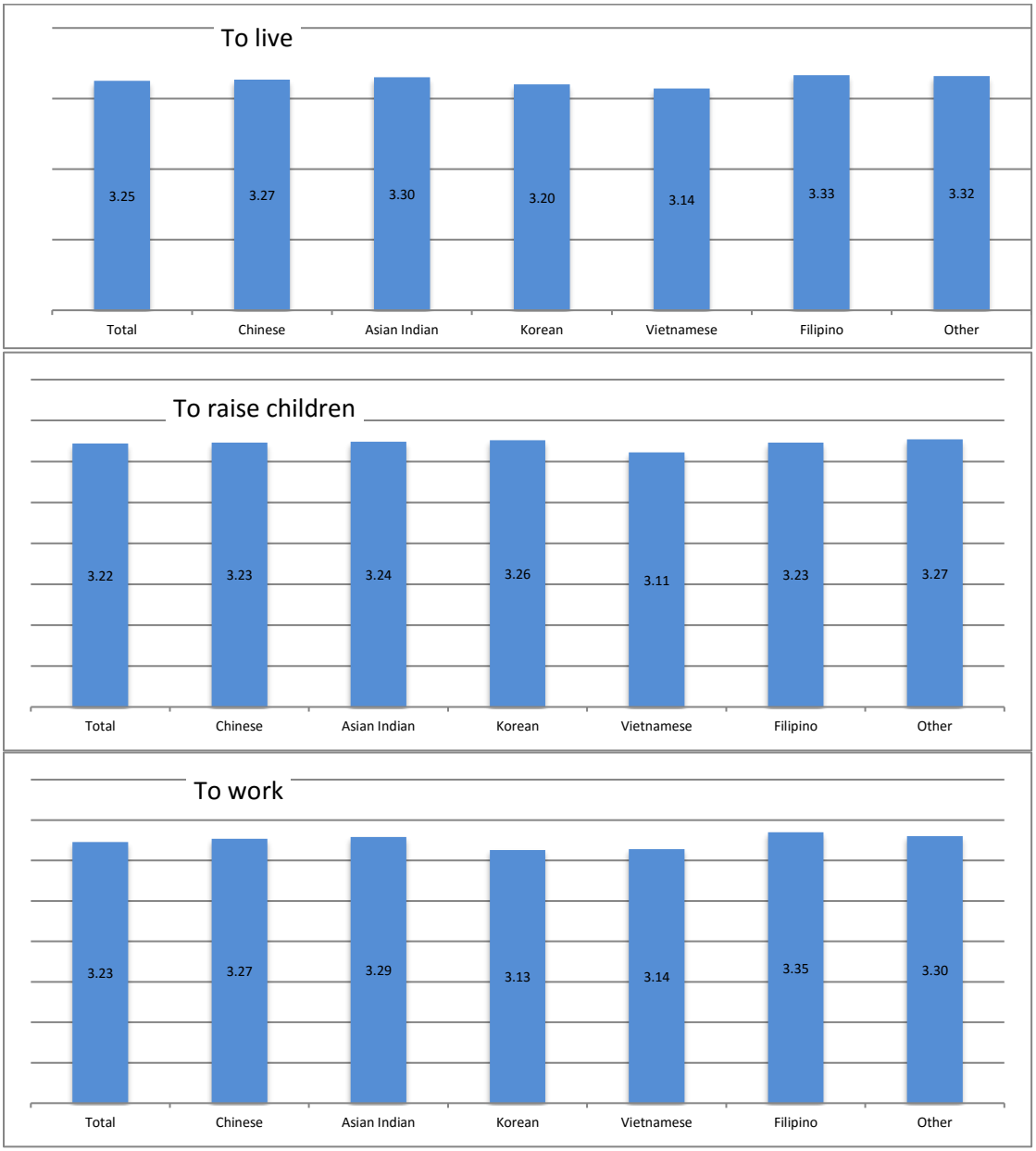


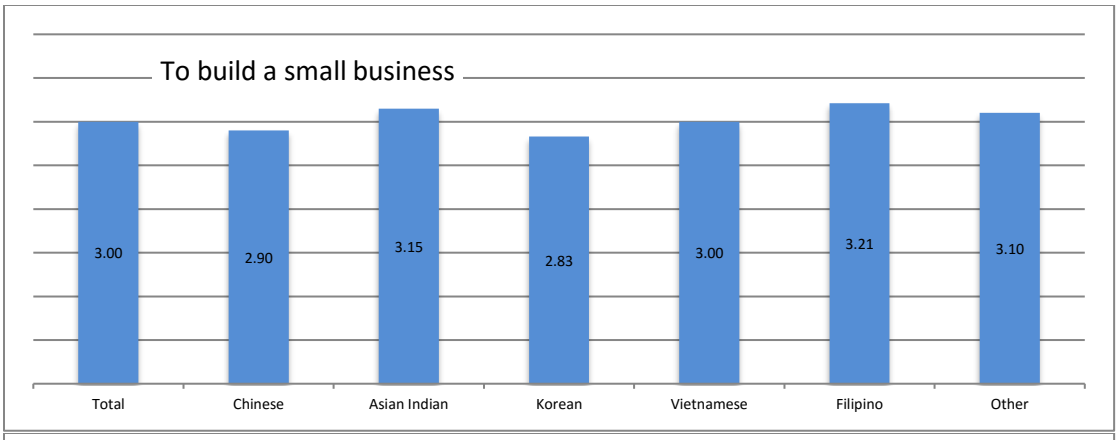
3. 10. 2. Evaluations of the City and Its Services

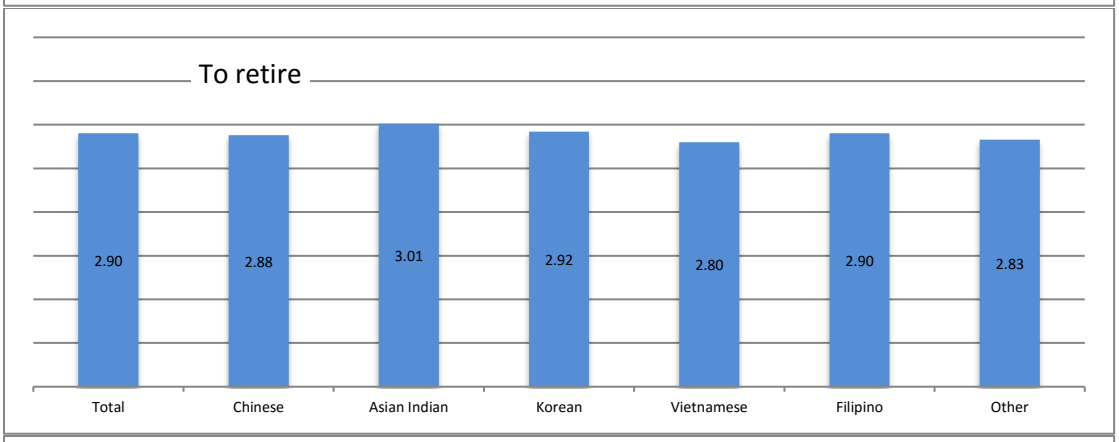
Questions were asked referring to how one would rate the City of Austin as a place to live, raise children, work, build a small business, retire, and enjoy arts and culture. A 4-point response format, ranging from 1 (poor) to 4 (excellent), was used for each item. Figure 29 presents the mean scores of each item while Table 20 shows detailed responses.

Figure 29

Mean Score Ratings of the City of Austin of the Overall Sample and Subgroups




To build a small business
3.00
2.90
3.15
2.83
3.00
3.21
3.10
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


To retire
2.90
2.88
3.01
2.92
2.80
2.90
2.83
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other

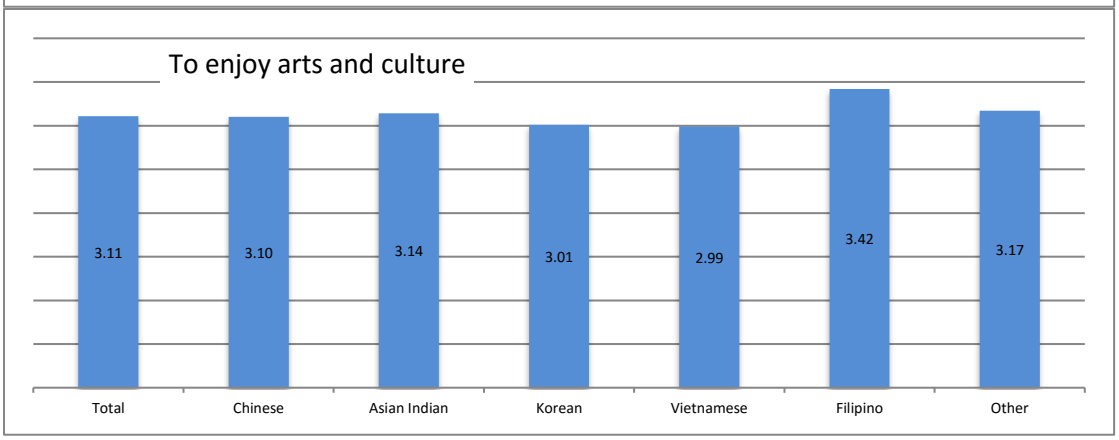

To enjoy arts and culture
3.11
3.10
3.14
3.01
2.99
3.42
3.17
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other

Table 20
Ratings of the City of Austin of the Overall Sample and Subgroups

	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
To live							
Poor	0.7	0.5	0	1.5	1.2	0	2.1
Fair	9.0	11.7	7.6	4.9	12.4	8.5	5.5
Good	55.2	48.7	55.0	65.3	57.6	50.4	51.4
Excellent	35.1	39.2	37.4	28.3	28.9	41.1	41.1
To raise children							
Poor	1.4	0.9	0.5	1.3	2.0	2.7	2.8
Fair	10.4	14.2	8.2	4.5	13.4	12.4	6.9
Good	53.2	45.4	57.6	61.1	56.2	43.8	50.7
Excellent	35.0	39.4	33.7	33.1	28.4	41.1	39.6
To work							
Poor	0.8	0.5	0.9	1.3	0.6	0.4	1.4
Fair	9.8	11.2	7.3	8.6	12.7	8.5	8.9
Good	54.7	48.8	53.3	66.2	59.2	46.7	47.9
Excellent	34.7	39.5	38.5	24.0	27.5	44.4	41.8
To build a small business							
Poor	2.0	2.5	0.9	2.8	1.4	1.6	3.5
Fair	20.5	29.9	13.3	25.1	18.7	13.2	12.5
Good	52.8	43.3	56.0	58.5	58.2	47.7	54.2
Excellent	24.7	24.3	29.7	13.5	21.6	37.6	29.9
To retire							
Poor	5.8	6.2	5.8	3.9	6.4	6.6	6.9
Fair	22.6	26.0	18.2	16.6	26.6	24.5	27.1
Good	47.6	41.6	45.5	63.2	48.0	40.9	41.7
Excellent	24.0	26.2	30.6	16.3	19.0	28.0	24.3
To enjoy arts and culture							
Poor	2.2	1.9	1.8	3.0	3.2	0	3.5
Fair	17.3	20.9	15.9	16.9	19.2	10.9	13.9
Good	47.9	42.1	48.6	56.4	53.3	36.4	44.4
Excellent	32.6	35.1	33.8	23.7	24.2	52.7	38.2

Safety, traffic, quality of life, and quality of services in Austin were assessed in the survey. Safety, quality of life, and quality of services were most often rated as 'good' while traffic conditions had mixed results between 'poor' (25% of overall sample), 'fair' (33.3% of overall sample), and 'good' (32.6% of overall sample). Figure 30 presents the mean scores while Table 21 exhibits more detailed information on the breakdown of survey results.

Figure 30

Mean Evaluation Scores of the City of Austin of the Overall Sample and Subgroups

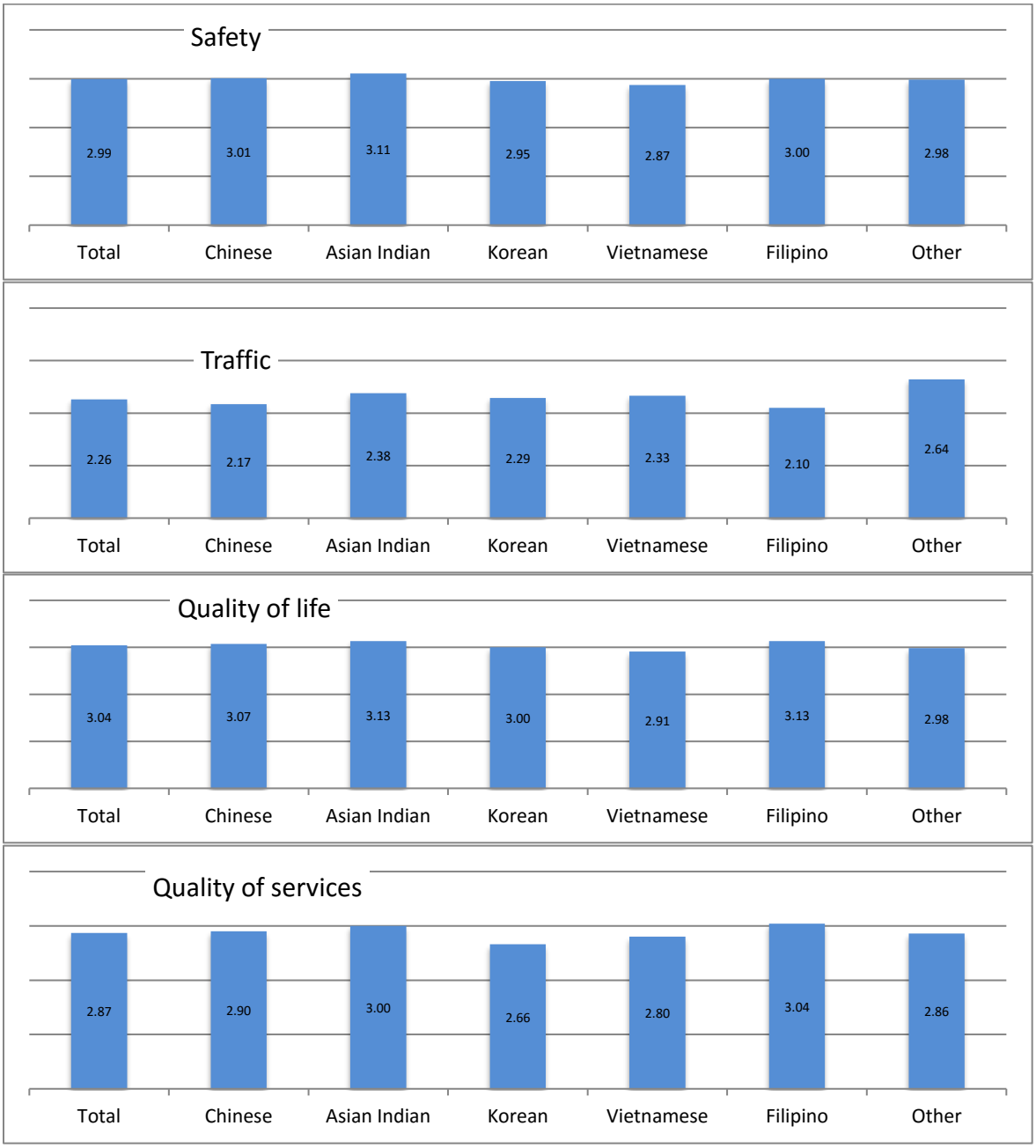


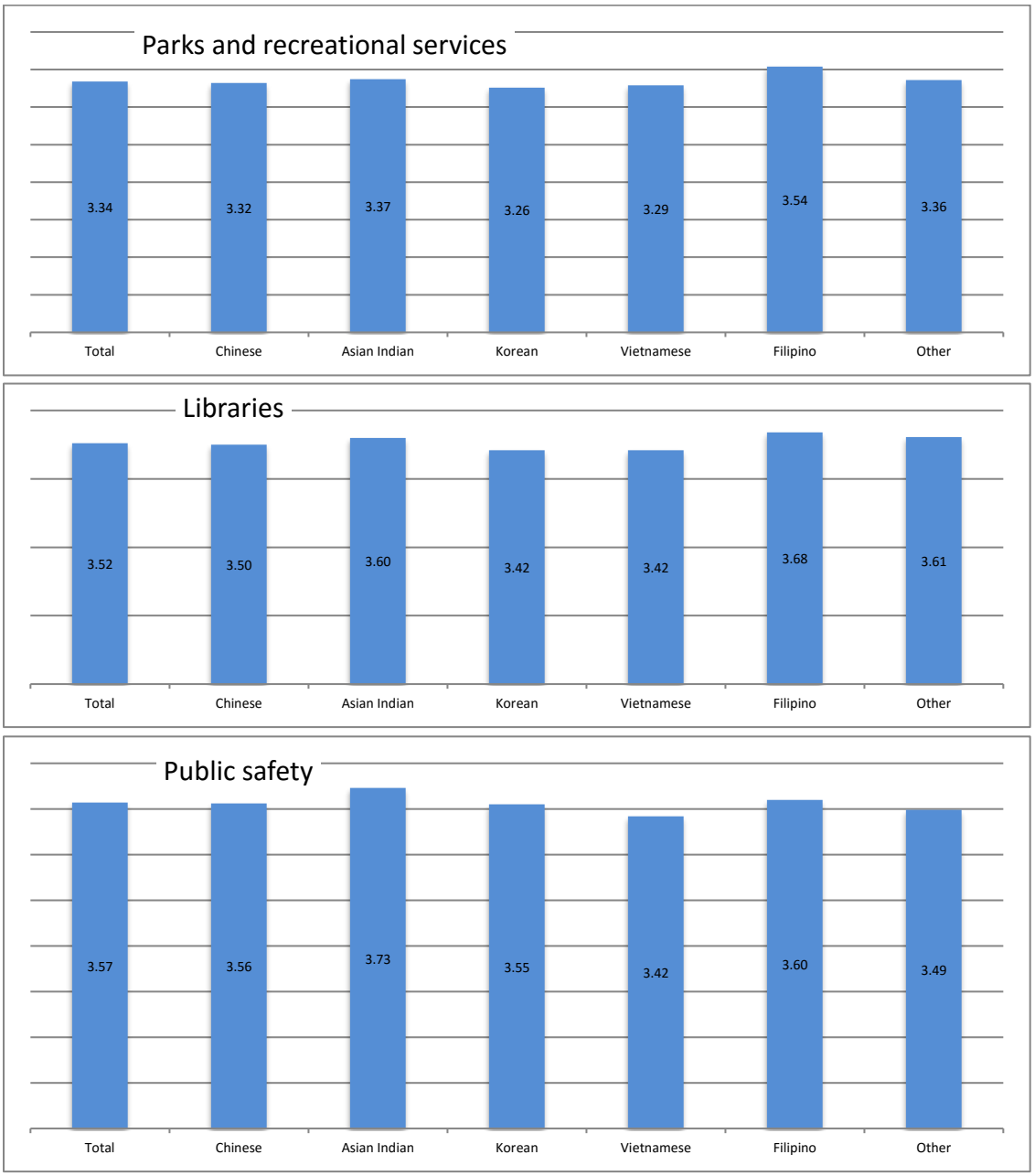
Table 21
Evaluation of the City of Austin of the Overall Sample and Subgroups

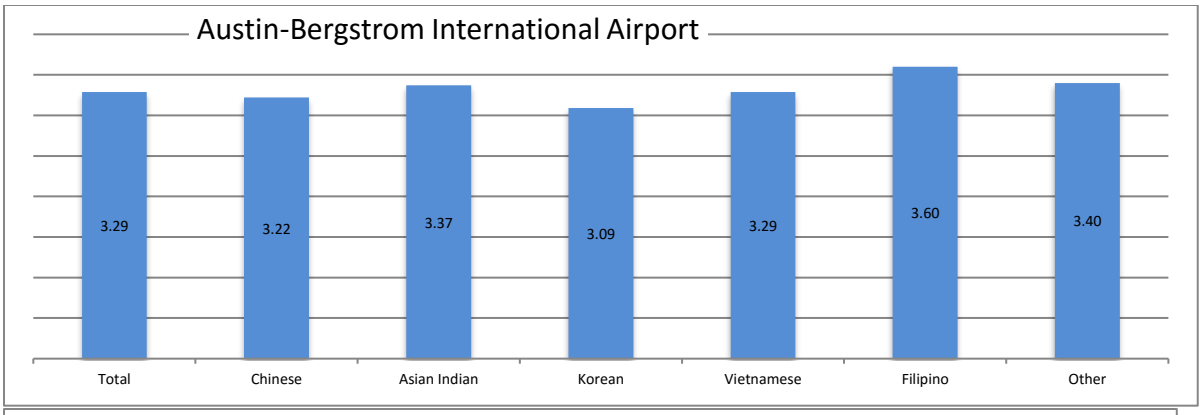
	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Safety							
Poor	2.0	1.9	1.3	2.6	0.8	4.2	4.1
Fair	18.4	19.0	13.4	15.3	26.6	16.6	19.2
Good	57.9	55.0	57.9	66.8	57.3	54.1	51.4
Excellent	21.7	24.1	27.4	15.3	15.3	25.1	25.3
Traffic							
Poor	25.0	26.1	22.9	22.8	21.0	33.5	35.4
Fair	33.3	38.9	29.4	32.2	32.1	32.3	34.0
Good	32.6	26.6	34.8	38.6	39.4	24.9	21.5
Excellent	9.0	8.4	12.9	6.4	7.5	9.3	9.0
Quality of life							
Poor	0.6	0.6	0.7	0.6	0.4	0.4	1.4
Fair	15.4	14.0	9.3	13.6	23.7	15.9	21.2
Good	63.3	63.3	66.4	70.4	60.0	53.9	55.5
Excellent	20.7	22.0	23.7	15.3	15.9	29.8	21.9
Quality of services							
Poor	2.1	1.6	1.6	2.6	2.6	1.2	4.8
Fair	24.8	23.5	16.3	36.5	28.1	19.5	24.1
Good	57.1	58.5	62.9	53.4	55.8	54.1	51.0
Excellent	16.0	16.5	19.2	7.5	13.5	25.3	20.0

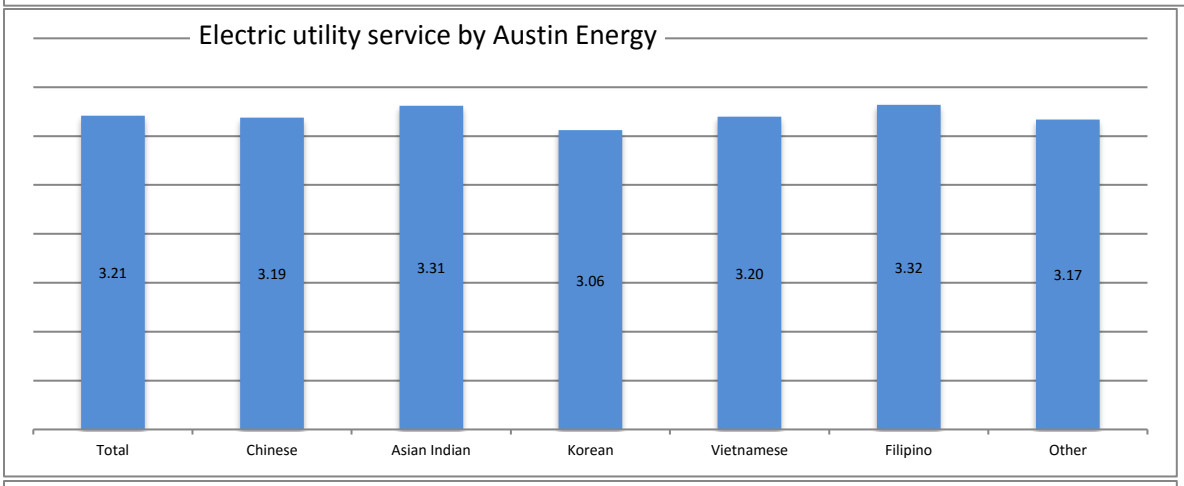
In addition, the level of satisfaction with various types of City services was rated on a 4 point scale, ranging from 1 (not at all satisfied) to 4 (very much satisfied). Participants' responses are presented in Figure 31 and Table 22.

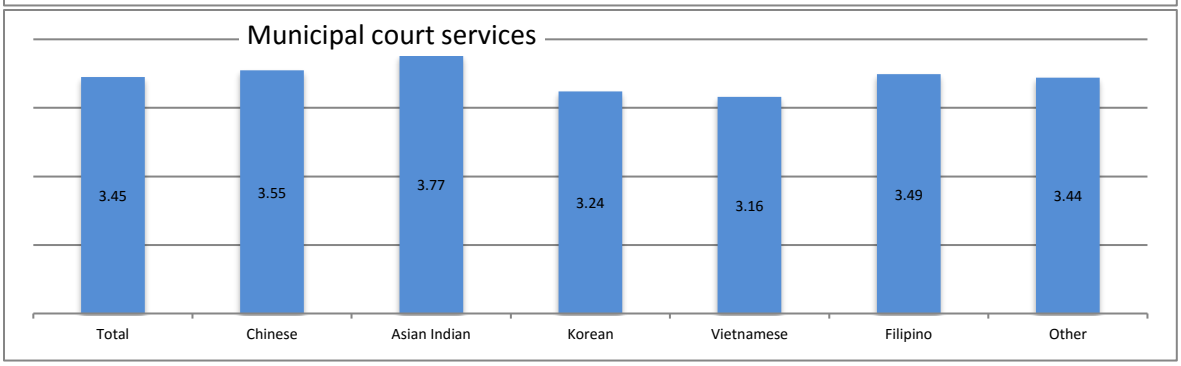
Figure 31

Mean Satisfaction Scores with City Services of the Overall Sample and Subgroups




Austin-Bergstrom International Airport
3.29
3.22
3.37
3.09
3.29
3.60
3.40
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


Electric utility service by Austin Energy
3.21
3.19
3.31
3.06
3.20
3.32
3.17
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


Municipal court services
3.45
3.55
3.77
3.24
3.16
3.49
3.44
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other

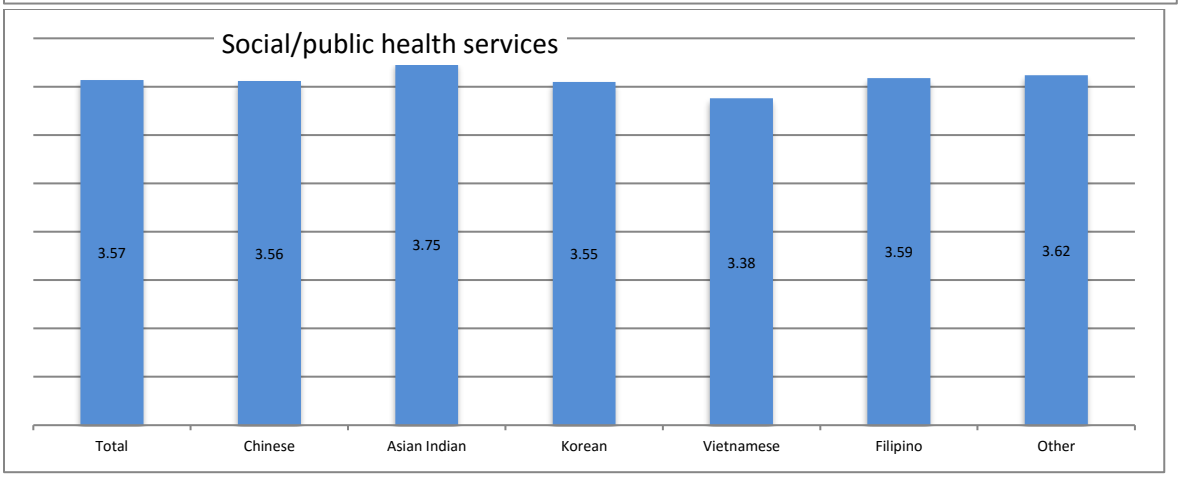

Social/public health services
3.57
3.56
3.75
3.55
3.38
3.59
3.62
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other

Table 22

Satisfaction with City Services of the Overall Sample and Subgroups

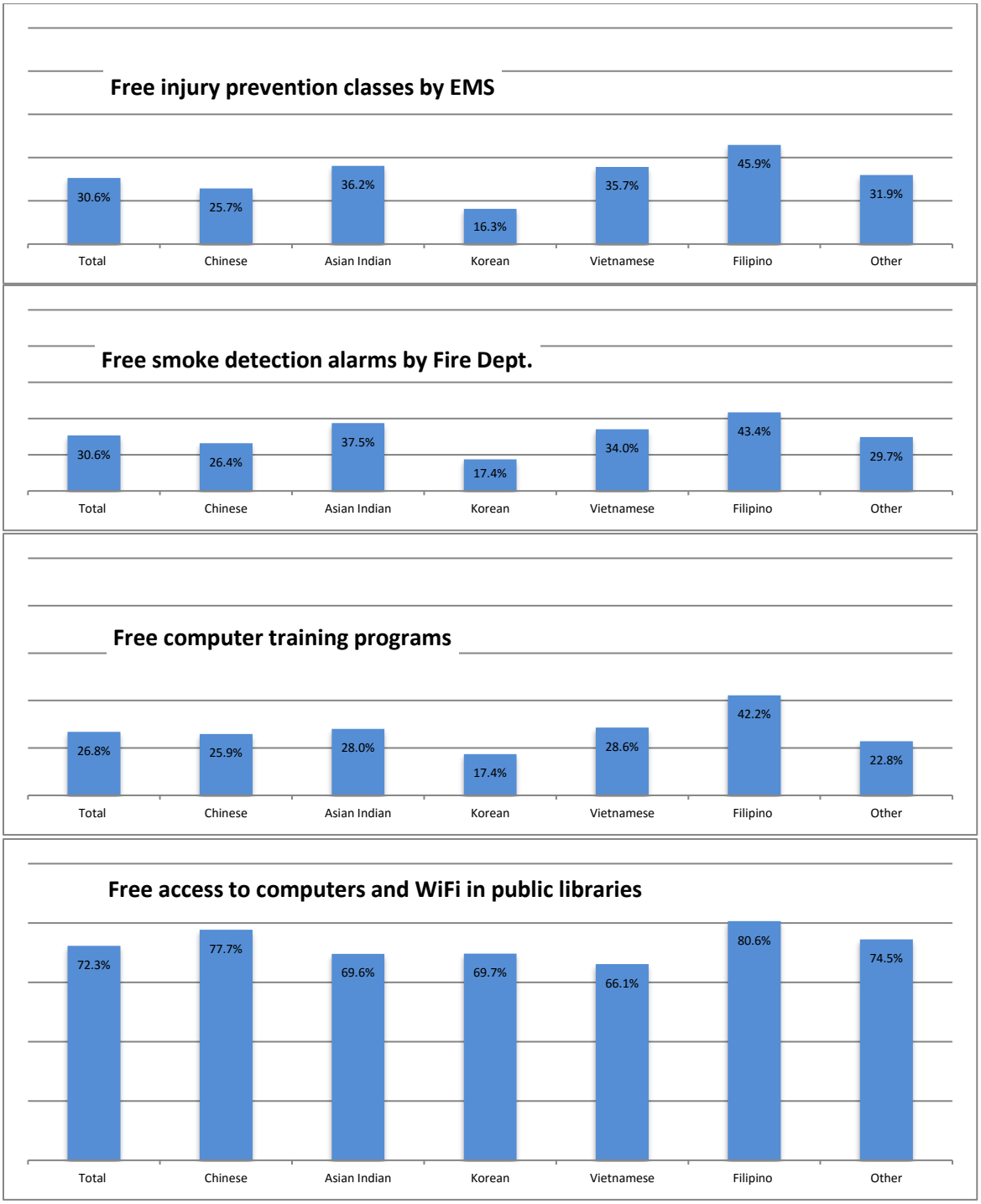
	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Parks and recreational services							
Not at all satisfied	1.0	0.3	1.7	1.4	0.9	0	2.3
Not very much satisfied	8.1	6.0	8.2	10.3	10.1	4.1	11.4
Pretty much satisfied	59.9	64.1	52.4	66.4	65.6	47.7	51.5
Very much satisfied	31.0	29.6	37.8	21.8	23.3	48.1	34.8
Libraries							
Not at all satisfied	1.1	0.6	2.0	1.3	0.9	0.5	0.9
Not very much satisfied	6.6	4.6	8.1	9.0	6.6	2.8	8.8
Pretty much satisfied	60.2	63.4	49.5	66.9	67.7	49.3	57.9
Very much satisfied	32.2	31.4	40.5	22.8	24.8	47.5	32.5
Public safety (i.e. police, fire, and ambulance)							
Not at all satisfied	0.7	0.2	0.9	1.1	0.9	0	1.8
Not very much satisfied	6.4	5.8	4.8	7.6	6.8	4.1	14.0
Pretty much satisfied	62.6	69.0	52.0	71.9	64.2	54.1	57.0
Very much satisfied	30.2	25.0	42.3	19.4	28.1	41.8	27.2
Austin-Bergstrom International Airport							
Not at all satisfied	1.4	0.7	2.6	2.2	0.6	0.4	0.8
Not very much satisfied	9.0	8.1	9.8	11.6	9.4	3.4	9.8
Pretty much satisfied	57.8	69.1	42.0	69.4	58.7	44.1	53.4
Very much satisfied	31.8	22.1	45.7	16.8	31.3	52.1	36.1
Electric utility service by Austin Energy							
Not at all satisfied	2.3	1.0	2.4	2.3	2.3	4.1	4.4
Not very much satisfied	10.2	8.7	10.0	13.3	9.4	9.1	11.9
Pretty much satisfied	61.6	70.1	49.7	70.9	63.5	46.5	60.7
Very much satisfied	25.9	20.2	37.9	13.5	24.7	40.3	23.0
Municipal court services (i.e. traffic, fine collection)							
Not at all satisfied	3.4	2.3	1.5	5.7	4.4	1.9	5.7
Not very much satisfied	17.0	13.1	9.3	29.5	19.5	12.3	19.0
Pretty much satisfied	60.9	73.3	54.8	57.8	60.5	52.6	60.0
Very much satisfied	18.8	11.3	34.4	7.1	15.6	33.2	15.2
Social/public health services							
Not at all satisfied	2.0	1.5	1.7	3.2	1.7	1.4	4.0
Not very much satisfied	11.3	9.1	8.9	22.3	11.2	5.2	10.9
Pretty much satisfied	63.6	74.4	51.0	64.8	66.3	55.2	66.3
Very much satisfied	23.1	15.0	38.4	9.7	20.8	38.2	18.8

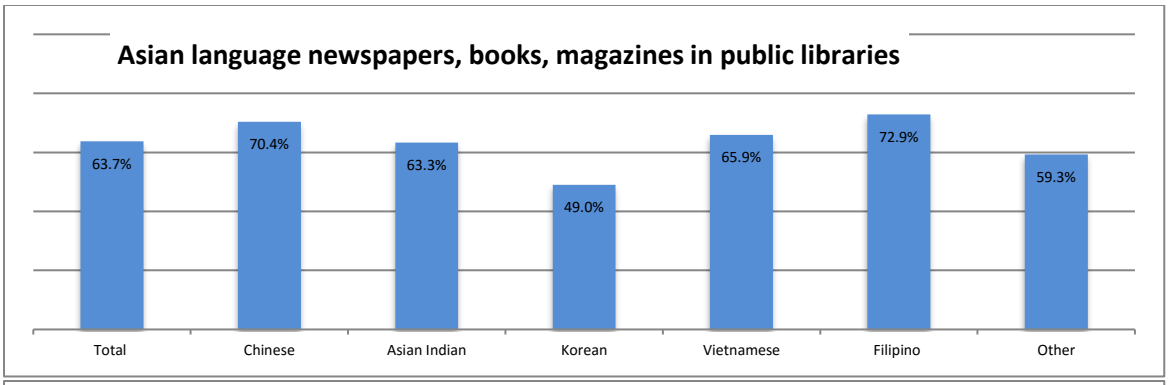
3. 10. 3. Awareness of City Services

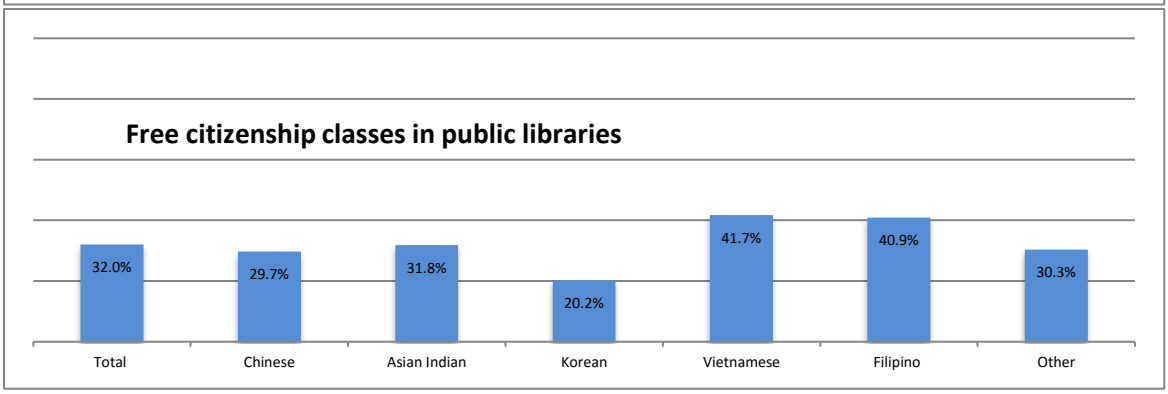
The survey also included information on the awareness of City services and resources that could be beneficial to the sample, and results are summarized in Figure 32.

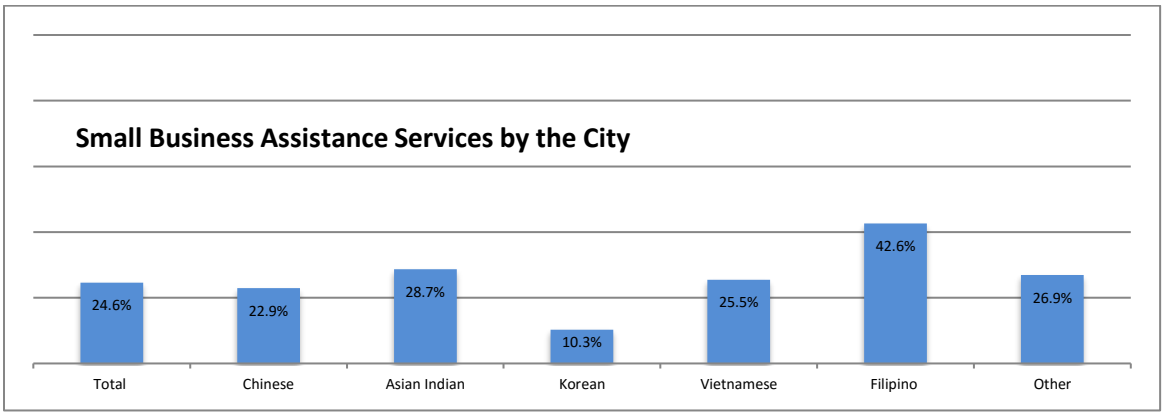
Figure 32

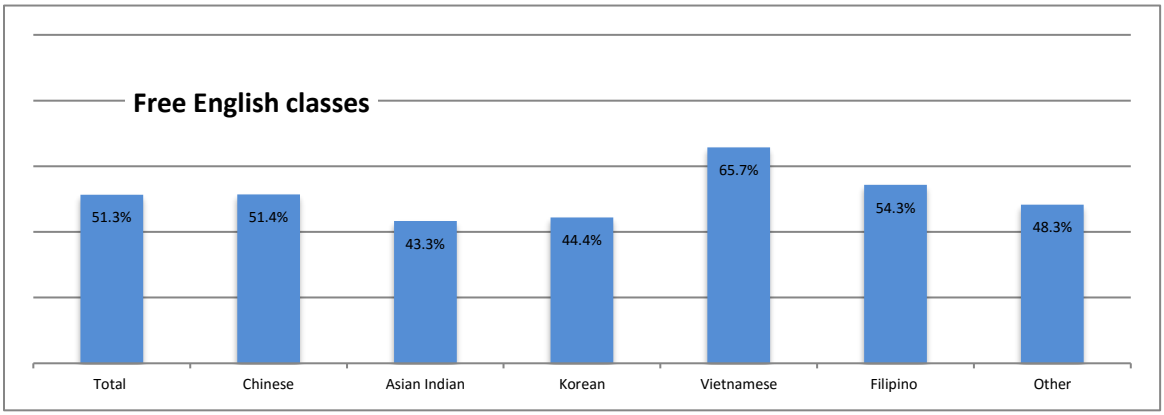
Awareness of City Services and Resources of the Overall Sample and Subgroups

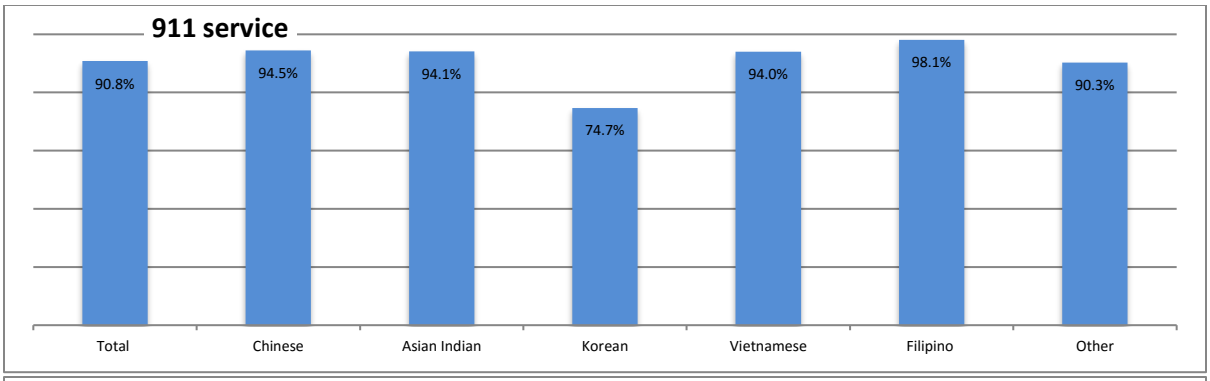


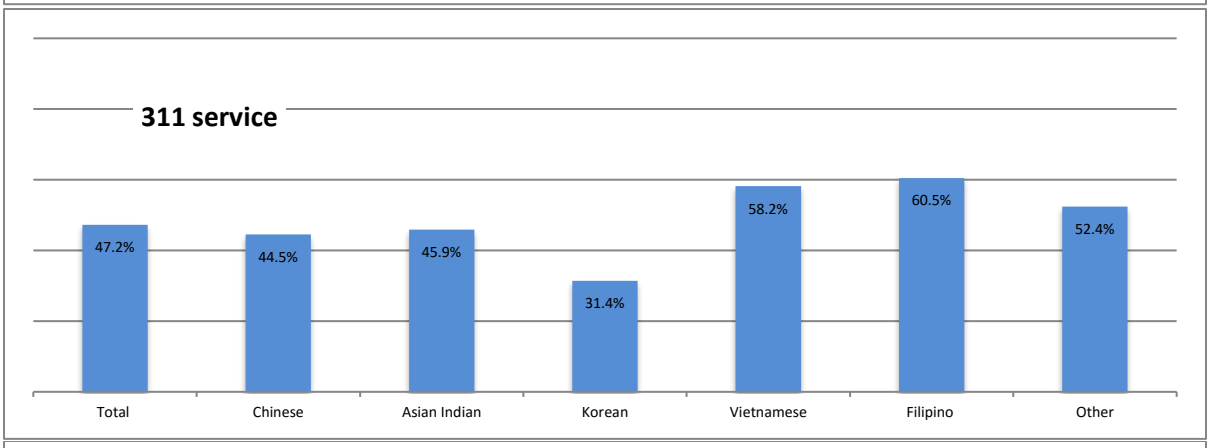

Asian language newspapers, books, magazines in public libraries
63.7%
70.4%
63.3%
49.0%
65.9%
72.9%
59.3%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other

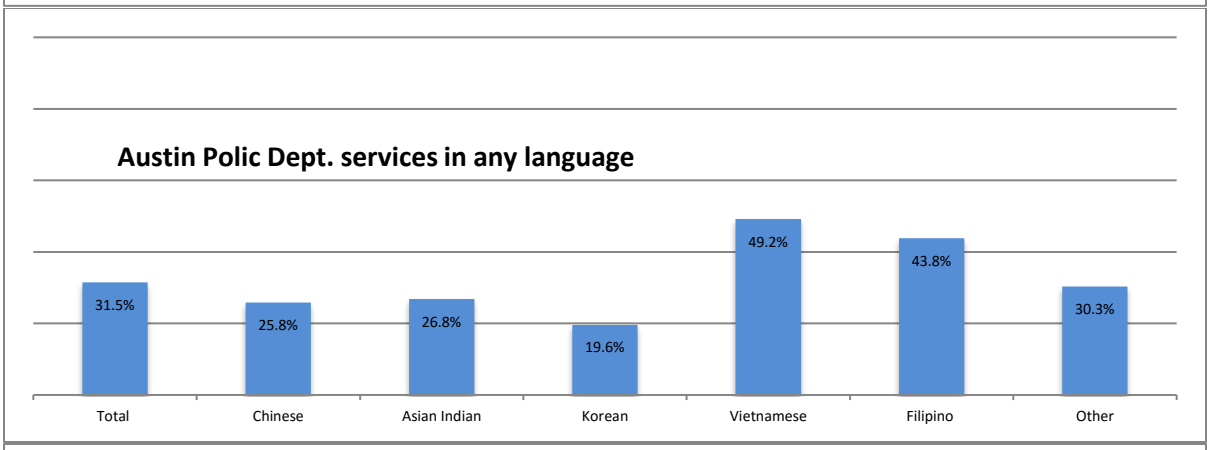

Free citizenship classes in public libraries
32.0%
29.7%
31.8%
20.2%
41.7%
40.9%
30.3%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other

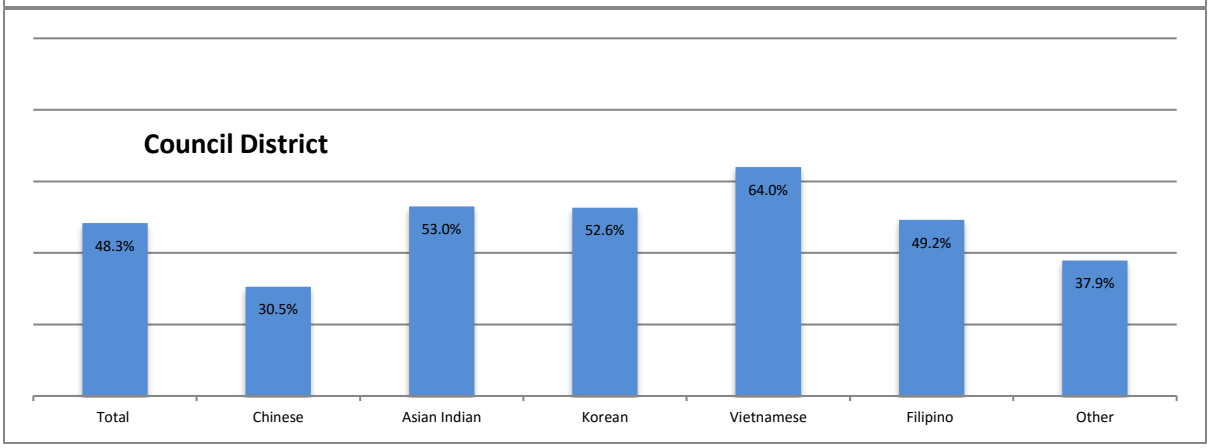

Small Business Assistance Services by the City
24.6%
22.9%
28.7%
10.3%
25.5%
42.6%
26.9%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


Free English classes
51.3%
51.4%
43.3%
44.4%
65.7%
54.3%
48.3%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


911 service
90.8%
94.5%
94.1%
74.7%
94.0%
98.1%
90.3%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


311 service
47.2%
44.5%
45.9%
31.4%
58.2%
60.5%
52.4%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


Austin Polic Dept. services in any language
31.5%
25.8%
26.8%
19.6%
49.2%
43.8%
30.3%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


Council District
48.3%
30.5%
53.0%
52.6%
64.0%
49.2%
37.9%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other

The survey also included items on the Asian American Resource Center (AARC). According to survey results, only 34.4% of the overall sample had heard of the Asian American Resource Center (AARC). Asian Indians were the least aware of the center (23.4%), and Chinese were the most aware of it (48.1%). Frequency of AARC visits was low with 67.2% of the overall sample 'never' visiting the center and only 4.8% visiting it 'often'.

Figure 33
Awareness of Asian American Resource Center (AARC) of the Overall Sample and Subgroups

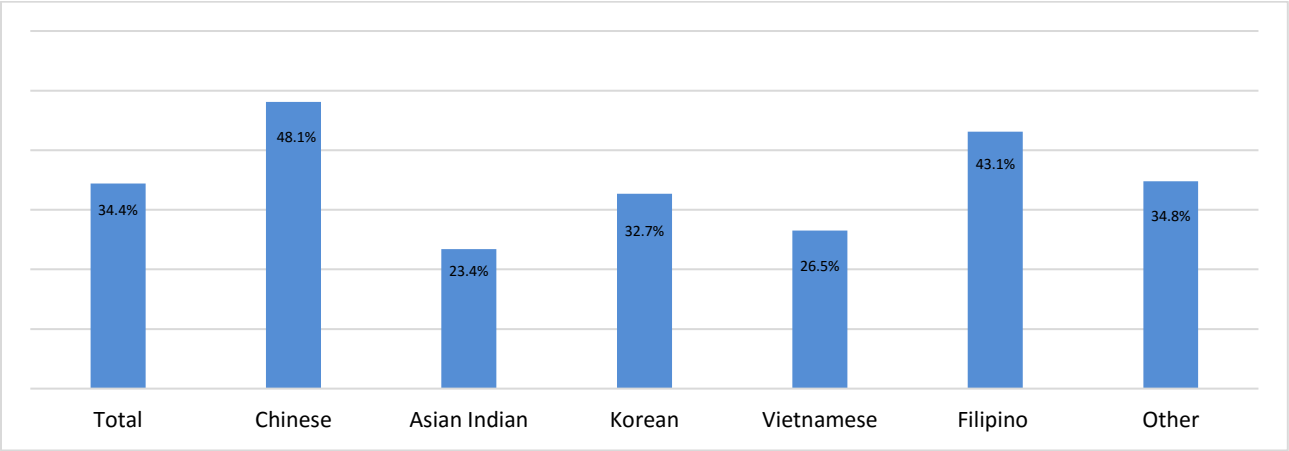
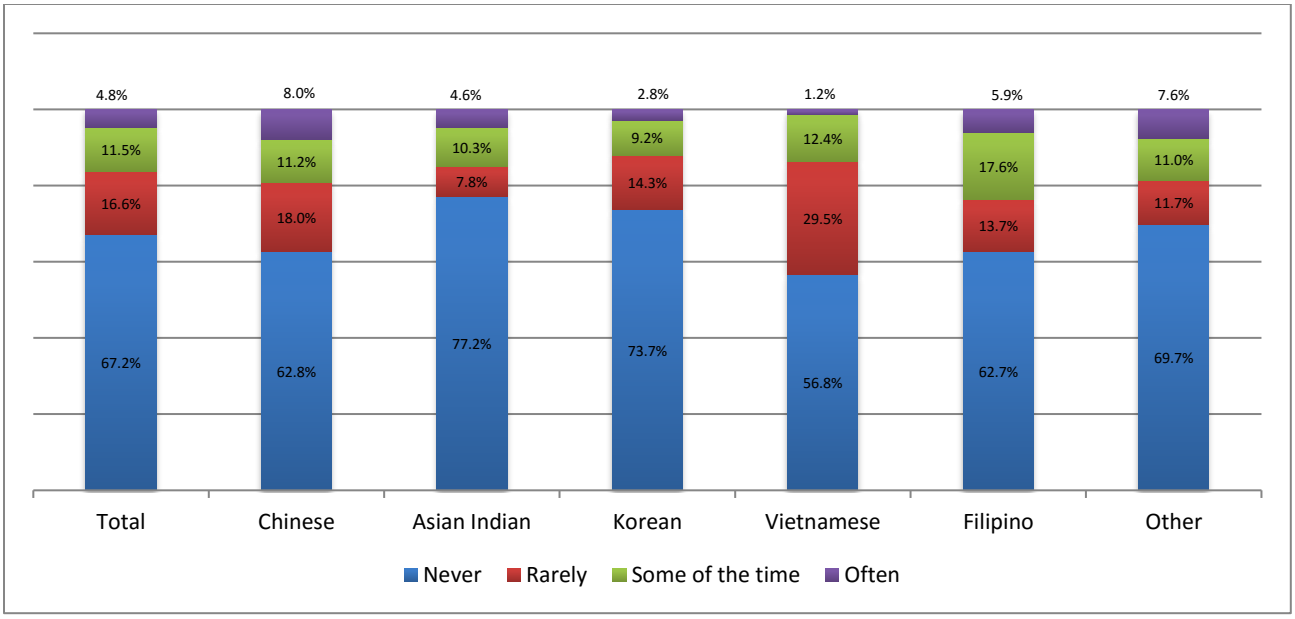


Figure 34
Utilization of Asian American Resource Center (AARC) of the Overall Sample and Subgroups

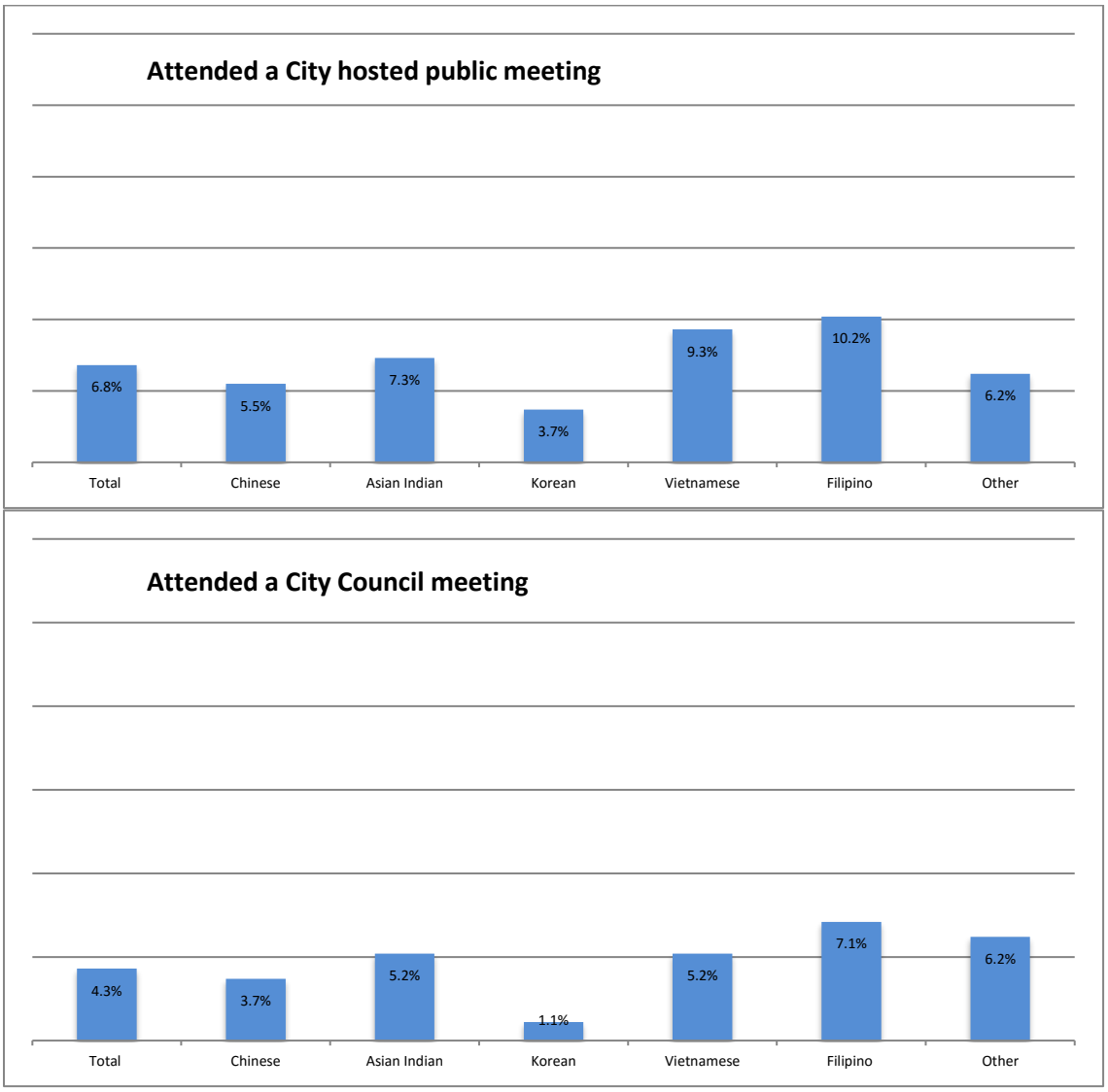


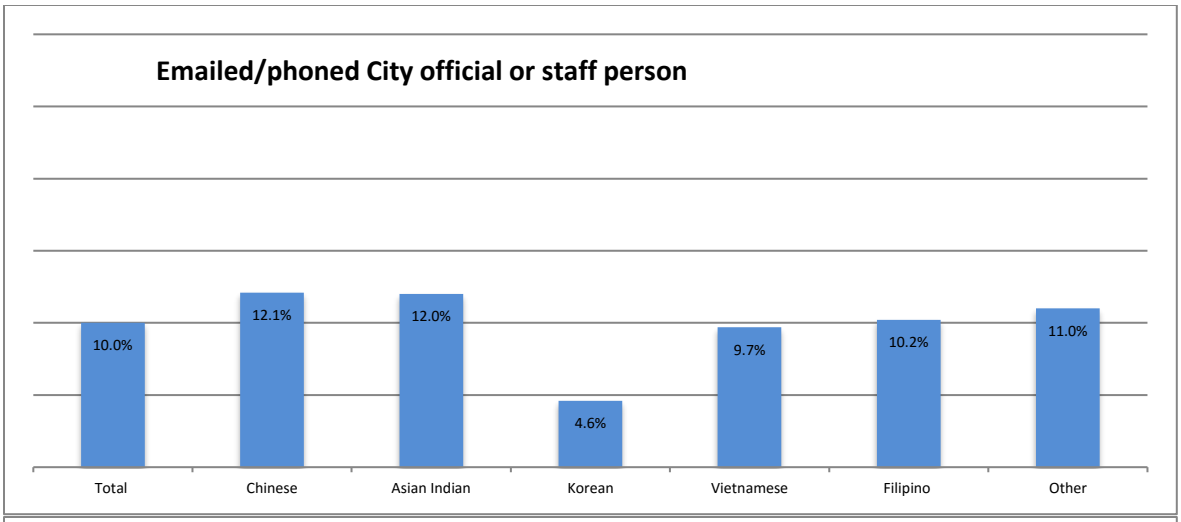
3. 10. 4. Civic Engagement

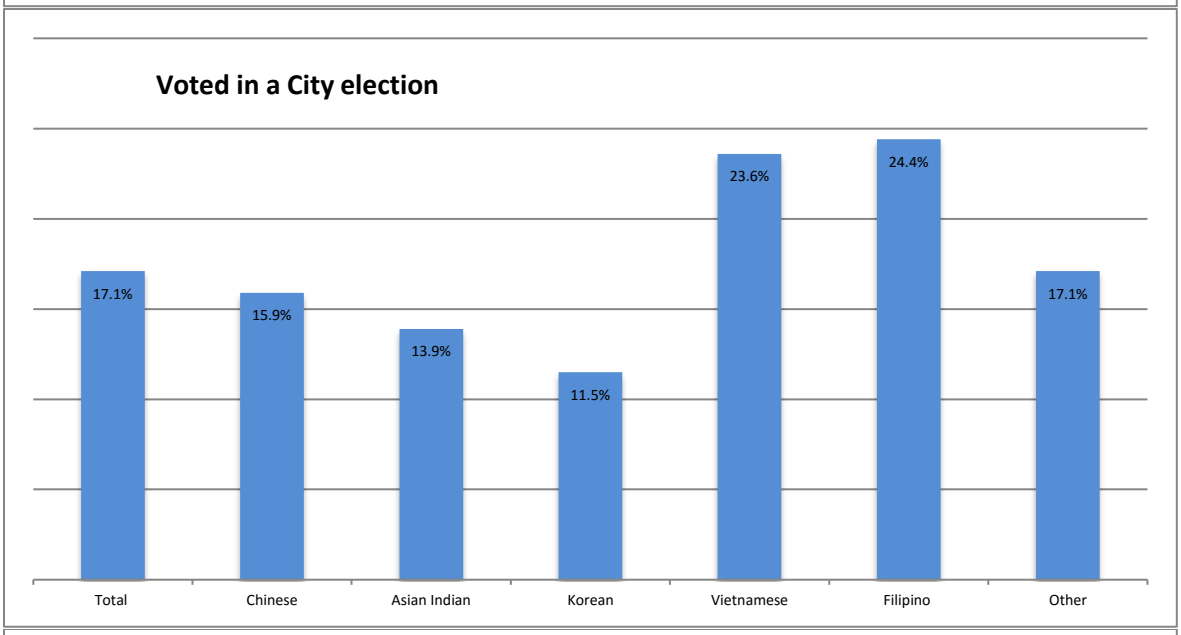
Questions were asked to gauge civic engagement of the Asian population in Austin. As shown in Figure 35, the level of involvement is generally low throughout the sample.

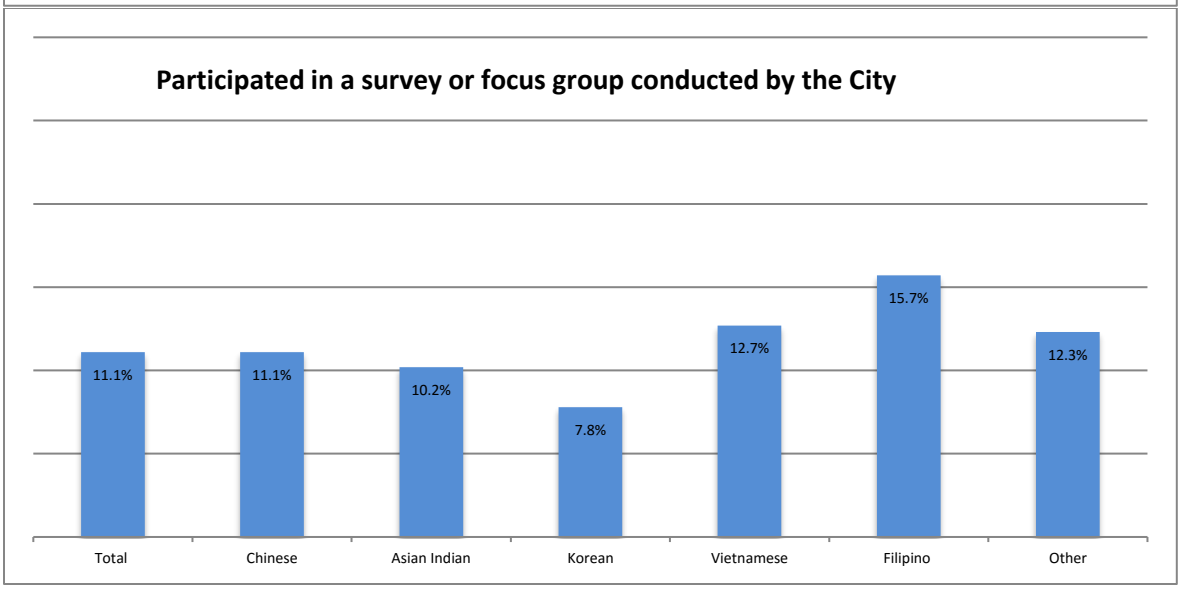
Figure 35

Civic Engagement of the Overall Sample and Subgroups




Emailed/phoned City official or staff person
10.0%
12.1%
12.0%
4.6%
9.7%
10.2%
11.0%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


Voted in a City election
17.1%
15.9%
13.9%
11.5%
23.6%
24.4%
17.1%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other


Participated in a survey or focus group conducted by the City
11.1%
11.1%
10.2%
7.8%
12.7%
15.7%
12.3%
Total
Chinese
Asian Indian
Korean
Vietnamese
Filipino
Other

3. 10. 5. Communications-Related Items

As shown in Table 23, participants' interest regarding the opportunity to keep informed about City events and City government was mixed with most of the sample being 'somewhat interested' (45.7%). Results also revealed that satisfaction with City government efforts to inform City services, issues, events, and programs was neutral with 52.1% of the overall sample being neither 'satisfied' nor 'dissatisfied.'

Table 23

Interest in Keeping Informed about City Events/Government and Satisfaction with City's Effort to Keep Residents Informed

	%						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Level of interest in keeping informed about City events and City government							
Not at all interested	6.1	5.7	2.7	8.1	9.1	5.1	6.9
Not interested	19.6	20.1	10.4	30.3	23.8	11.0	18.6
Somewhat interested	45.7	45.2	52.1	44.0	40.0	48.8	42.8
Interested	22.4	23.6	27.1	15.3	21.6	22.8	23.4
Very interested	6.2	5.4	7.7	2.4	5.5	12.2	8.3
Satisfaction with City government efforts to inform City services, issues, events, and programs							
Very dissatisfied	3.3	1.8	3.5	5.0	3.6	3.1	2.8
Somewhat dissatisfied	14.2	11.5	18.2	15.5	10.1	15.6	16.6
Neither satisfied or dissatisfied	52.1	61.9	43.2	65.9	49.7	31.3	46.2
Somewhat satisfied	25.3	19.7	27.9	12.7	33.8	38.7	26.9
Very satisfied	5.1	5.1	7.1	.9	2.7	11.3	7.6

Participants were asked about where they received City-related information. Websites were the most popular City-based source (53.5% of the overall sample), ethnic source (41.1% of the overall sample), and general source (47.3% of the overall sample). TV/radio stations were the second most popular City-based source (49.3% of the overall sample), and general source (35% of the overall sample) while receiving information from people (32.1%) was the second most popular ethnic source. The results are summarized in Table 24.

Table 24
Source of City-Related Information of the Overall Sample and Subgroups

	%[1]						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
City-based source							
Newspaper, newsletter, magazine	40.2	42.6	38.7	32.6	40.9	48.0	44.5
TV/radio station	49.3	42.6	47.7	41.7	56.9	67.5	52.1
Website	53.5	62.7	58.2	33.8	48.9	63.5	58.2
Social networking service	29.9	31.1	35.8	20.2	25.5	44.0	24.0
People (e.g. city staff)	19.4	16.0	25.2	11.5	15.4	34.5	25.3
Other	3.6	3.2	6.2	2.6	1.8	2.8	5.5
Ethnic source							
Newspaper, newsletter, magazine	31.1	24.2	18.5	48.1	45.5	20.6	24.0
TV/radio station	27.6	23.5	24.9	16.8	37.7	41.7	32.2
Website	41.1	45.2	46.1	26.8	40.1	45.6	45.2
Social networking service	24.7	24.4	29.5	15.7	20.2	37.3	30.1
People	32.1	17.3	20.6	53.8	40.7	38.1	31.5
Other	2.4	2.2	3.7	1.3	1.0	2.8	6.2
General source							
Newspaper, newsletter, magazine	27.9	23.6	22.1	33.2	32.5	29.8	32.2
TV/radio station	35.0	28.1	30.2	43.8	34.9	45.6	37.7
Website	47.3	50.6	49.8	38.1	43.3	55.2	54.1
Social networking service	27.1	26.0	31.7	25.5	20.2	36.9	26.7
People	22.5	13.5	19.6	28.3	23.6	33.7	30.1
Other	2.6	1.7	3.4	1.7	3.4	1.6	5.5

[1] multiple responses allowed

The survey also included a question on preferred type of communication for City-related information. As shown in Table 25, websites were the most preferred type of communication across all groups except for Vietnamese. Vietnamese preferred TV/radio stations (35.8%) as the source of information slightly more than a website (33%). The preference of websites was particularly high among Chinese (49.3%).

Table 25
Preferred Type of Communication for City-Related Information of the Overall Sample and Subgroups

	%[1]						
	Total (*N*=2609)	Chinese (*n*=640)	Asian Indian (*n*=574)	Korean (*n*=471)	Vietnamese (*n*=513)	Filipino (*n*=265)	Other (*n*=146)
Newspaper, newsletter, magazine	14.7	12.9	10.5	20.2	17.7	13.0	13.3
TV/radio station	22.1	16.3	20.8	19.2	35.8	20.3	22.3
Website	39.4	49.3	35.1	43.3	33.0	29.3	41.1
Social networking service	17.4	17.7	17.5	13.9	17.7	22.7	16.1
People	4.1	3.3	3.3	6.0	5.1	3.4	1.8
Email	19.9	23.8	26.3	11.5	10.1	24.6	27.7
Other	5.6	4.0	9.2	3.7	3.9	7.2	6.3

[1] multiple responses allowed

At the end of the survey questionnaire, an open-ended question was asked to describe any concerns that participants may have as an Austin resident. A total of 1,324 individuals indicated their concerns, and traffic was ranked highest, being mentioned by 54.9% of the respondents. Other priority issues included high living cost (9.7%) and safety (7.9%).

CHAPTER 4: PRESENTATION OF HETEROGENITY WITHIN GROUP: AN EXAMPLE OF THE CHINESE SAMPLE

Within-group heterogeneity is a unique challenge in the Asian American population. This Chapter is devoted to introduce a way to further explore the issue by using the Chinese sample as an example. As noted, the category of Chinese is broad, encompassing diverse individuals whose family origin can be traced back to Chinese speaking countries, such as mainland China, Taiwan, Hong Kong, Macau, and Singapore. Despite the shared cultural and linguistic heritage, each group presents with distinctive characteristics in terms of place of origin, history, political ideology, and national identity (Danico & Ocampo, 2014). Nonetheless these groups have often been lumped together. Even the racial/ethnic category employed in the U.S. Census does not make distinctions among various groups within the broad category of Chinese. Recognizing the heterogeneity, this Chapter reports the similarities and differences among subgroups on major characteristics.

Among the overall sample of Chinese (n = 640), 578 participants (90%) reported their place of origin. The information was gathered through a question: *"Where did you and your family originally come from?"* As shown in Table 26, two major places of origin reported were mainland China (52.4%) and Taiwan (37.5%). Thus, the subsequent analyses are based on three groups: individuals from mainland China, Taiwan, and other places, including Hong Kong, Macau, Singapore, Malaysia, and other areas.

Table 26
Composition of the Sample in Terms of Place of Origin (n = 578)

	N	%
Mainland China	303	52.4
Taiwan	217	37.5
Hong Kong	44	7.6
Macau	1	0.2
Singapore	3	0.5
Malaysia	6	1.0
Other	4	0.7

In terms of survey language (Table 27), the percentage of the sample that used non-English versions of the questionnaire was 80.5% in the mainland Chinese sample, 71% in the Taiwanese sample, and 62.1% in the other group.

Table 27
Survey Language Used by Subgroups

	%		
	Mainland Chinese (n = 303)	Taiwanese (n=217)	Other (n=58)
English	19.5	29.0	37.9
Chinese (traditional version)	14.5	65.9	37.9
Chinese (simplified version)	66.5	5.1	24.1

4. 1. Socio-demographic Characteristics

Table 28 presents socio-demographic characteristics of the subgroups. With the mean age of 47.5 (*SD* = 17.6), the Taiwanese sample was older than the other two groups. It was notable that more than 34% of the Taiwanese sample was comprised with individuals aged 60 or older. The three groups were quite comparable in terms of gender and marital status; however, the Taiwanese sample was better positioned in terms of the level of education and financial status. More than 88% of the Taiwanese sample had a high school education and beyond. The rate of unmet financial need in the Taiwanese sample was 13.9%, lower than the 18.2% or 20% observed in the other two groups.

Table 28
Socio-demographic Characteristics of the Subgroups

	M±SD or %		
	Mainland Chinese (n = 303)	Taiwanese (n=217)	Other (n=58)
Age	42.4±19.2	47.5±17.6	45.7±17.5
18-39	51.8	35.0	41.4
40-59	24.8	30.9	34.5
≥ 60	23.4	34.1	24.1
Gender			
Male	43.8	40.0	37.5
Female	56.2	60.0	62.5
Marital status			
Married	33.4	35.6	32.8
Not married	66.6	64.4	67.2
Education			
< High school	14.2	11.6	24.6
≥ High school	85.8	88.4	75.4
Income			
$0–$29,999	38.2	25.1	29.6
$30,000–$59,999	16.9	20.6	16.7
$60,000 and over	44.9	54.3	53.7
Unmet financial need			
No	81.8	86.1	80.0
Yes	18.2	13.9	20.0

4. 2. Immigration and Acculturation

As shown in Table 29, a vast majority of the mainland Chinese sample (95.7%) were foreign-born immigrants. The rate of U.S.-born was about 10% both in the Taiwanese sample and the other group. Mainland Chinese had the lowest years of residence in the U.S. (*M* = 9.70, *SD* = 10.1), whereas Taiwanese had the highest (*M* = 21.1, *SD* = 13.4). Three quarters of the Taiwanese sample had been in the U.S. more than 10 years. With respect to English proficiency, the proportion of individuals with limited English proficiency (LEP) was highest in the mainland Chinese sample (81.1%), followed by the Taiwanese sample (72.1%) and the other group (62.1%). All groups presented comparable scores in the level of cultural familiarities with the mainstream culture and the culture of origin, ethnic identity, and sense of belonging to the community of ethnic origin.

Table 29
Immigration-related Characteristics of the Subgroups

	M±SD or %		
	Mainland Chinese (n = 303)	Taiwanese (n=217)	Other (n=58)
Nativity			
U.S.-born	4.3	10.1	10.3
Foreign born	95.7	89.9	89.7
Years in the U.S.	9.70±10.1	21.1±13.4	19.2±13.9
≤ 10 years	60.9	25.0	28.1
> 10 years	39.1	75.0	71.9
English speaking ability			
Not at all	23.9	12.6	15.5
Not well	31.9	36.3	19.0
Well	25.2	23.3	27.6
Very well	18.9	27.9	37.9
Familiarity with the culture and custom of mainstream America			
	2.39±0.79	2.70±0.78	2.89±0.79
Familiarity with the culture and custom of ethnic origin			
	3.13±0.65	3.13±0.62	3.00±0.59
Sense of identity with people of ethnic origin			
	3.18±0.71	3.33±0.69	3.33±0.60
Sense of belonging to the community of ethnic origin			
	3.03±0.74	3.14±0.69	2.93±0.65

4. 3. Physical Health and Service Use

Table 30 presents information on health status and health service use of the subgroups. Across the groups, hypertension was identified as the most prevalent disease. About 25% of the mainland Chinese sample, 36% of the Taiwanese sample, and 26% of the other group had at least one chronic disease. The percentage of the individuals who rated their health as either 'fair' or 'poor' was highest in the mainland Chinese sample (21.7%), followed by the other group (13.8%) and the Taiwanese sample (12.5%).

With respect to health care access, mainland Chinese sample was particularly disadvantaged: more than 21% of the mainland Chinese sample had no health insurance, about 44% had no usual place for care, and about 14% reported unmet healthcare needs.

Table 30
Health Status and Health Service Use of the Subgroups

	%		
	Mainland Chinese (n = 303)	Taiwanese (n=217)	Other (n=58)
Chronic disease			
Hypertension	11.7	14.3	17.5
Heart disease	5.0	4.1	3.5
Stroke	1.0	0.9	0
Diabetes	6.7	8.8	7.0
Cancer	1.7	1.8	5.2
Arthritis	9.7	9.2	12.1
Hepatitis	1.0	3.2	0
Kidney problem	3.7	0.9	3.4
Asthma	3.0	8.8	5.3
Chronic Obstructive Pulmonary Disease	0.7	1.4	0
Self-rated health			
Excellent	15.3	17.5	13.8
Very good	33.7	38.2	44.8
Good	29.3	31.8	27.6
Fair	19.7	11.1	12.1
Poor	2.0	1.4	1.7
Health Insurance			
No	21.4	9.3	15.5
Usual Place for Care			
No	43.9	27.9	33.9
Unmet Healthcare Needs			
Yes	13.9	7.4	10.3

4. 4. Mental Health and Service Use

As shown in Table 31, all three groups reported comparable scores in quality of life and satisfaction with life. Both mainland Chinese and Taiwanese samples presented quite similar mean scores of K6. When the cutoff score (≥ 6) was applied, about 37% of each group fell in the category of mental distress.

With regard to mental health service use, general practitioners or medical doctors were most often used (11.3% in the mainland Chinese sample, 13.4% in the Taiwanese sample, and 15.8% in the other group). It is notable that 7% of the mainland Chinese sample reported religious advisors as a source of mental health care.

More than 27% of the Taiwanese sample and the other group thought that depression is a sign of personal weakness. At 40.3%, the rate was particularly high in the mainland Chinese sample. The other group was more likely to associate depression with shame (6.9%) than the mainland Chinese (3.4%) and Taiwanese (4.6%) samples. On the other hand, mainland Chinese and Taiwanese samples (18% in each group) were more likely to associate depression with family disappointment compared to the other group (12.3%). The proportion of individuals who believed antidepressant medicines are addictive ranged from 41.8% to 46.2%.

Table 31
Mental Health Status and Mental Health Service Use of the Subgroups

	M±SD or %		
	Mainland Chinese (n = 303)	Taiwanese (n=217)	Other (n=58)
Mental health status			
Quality of life	7.12±1.77	7.64±1.55	7.38±1.48
Satisfaction with life	10.1±2.54	10.5±2.30	10.1±2.36
K6 scores	4.72±3.83	4.92±4.07	5.50±3.94
Mental distress	36.6	36.8	41.4
Use of mental health services			
Psychiatrist	3.3	0.9	1.7
General practitioner or medical doctor	11.3	13.4	15.8
Psychologist, counselor, social worker	4.0	1.8	3.4
Religious advisor	7.0	4.1	3.4
Stigma relating to mental health			
Depression_personal weakness	40.3	27.6	27.6
Depression_shame	3.4	4.6	6.9
Depression_family disappointment	18.1	17.7	12.3
Antidepressants_addictive	46.2	45.3	41.8

4. 5. Social and Community Resources

As part of personal resources, social network, family solidarity, community social cohesion, and religiosity were assessed. As shown in Table 32, mainland Chinese and Taiwanese samples presented higher scores in both network with family and friends than the other group. A similar pattern was observed in family solidarity and community social cohesion. A substantial proportion of the mainland Chinese sample (72.3%) had no religious affiliation. Overall, the Taiwanese sample showed a strong engagement with religion.

Table 32
Social and Community Resources of the Subgroups

	M±SD or %		
	Mainland Chinese (n = 303)	Taiwanese (n=217)	Other (n=58)
Social network			
Family network	7.93±2.77	8.08±3.13	6.89±3.60
Friend network	8.61±3.24	8.88±3.07	7.76±4.12
Family solidarity	34.7±6.19	34.0±5.92	32.3±6.63
Community social cohesion	17.3±3.32	17.6±3.25	15.7±3.59
Religious affiliation			
None	72.3	27.0	45.6
Protestant	18.2	46.5	42.1
Catholic	0	2.3	5.3
Hindu	1.4	0	0
Muslim	0	0	0
Buddhist	7.8	23.7	7.0
Other	0.3	0.5	0
Frequency of attending religious services			
Never/seldom	66.4	32.9	48.3
A few times a year	10.7	11.1	6.9
Once or twice a month	7.4	6.9	5.2
Once or more a week	15.4	49.1	39.7
Importance of religion			
Not at all important	33.4	9.7	25.9
Not very important	37.2	19.9	22.4
Somewhat important	16.9	28.7	22.4
Very important	12.5	41.7	29.3

4. 6. Life in the City of Austin

This section includes information on the length of residence in Austin, ratings of the city and its services, awareness of city resources, and civic engagement of the subgroups. With an average of over 13 years, the Taiwanese sample presented the longest residence in Austin among the three groups. Responses to the questions on evaluations of the City were quite similar across the groups. It was notable that the overall rate of civic engagement was quite low in all groups. Voting rate in city election, for example, was 8.1% in the mainland Chinese sample, 12.9% in the Taiwanese sample, and 17.2% in the other group. Among the three groups, Taiwanese were most likely to be aware of the AARC (63.7%) and to use the facility (46.3%).

Table 33
Experiences in the City of Austin of the Subgroups

	M±SD or %		
	Mainland Chinese (n = 303)	Taiwanese (n=217)	Other (n=58)
Length of residence in Austin	5.62±7.03	13.1±11.0	12.1±11.9
Ratings of the City of Austin			
To live	3.21±0.69	3.38±0.62	3.16±0.74
To raise children	3.18±0.73	3.35±0.67	3.10±0.78
To work	3.24±0.69	3.35±0.64	3.07±0.65
To build a small business	2.78±0.78	3.02±0.79	2.75±0.79
To retire	2.84±0.89	3.03±0.78	2.67±0.99
To enjoy arts and culture	3.04±0.80	3.19±0.74	2.84±0.81
Evaluation of the City of Austin			
Safety	3.02±0.71	3.06±0.73	2.86±0.71
Traffic	2.29±0.94	2.17±0.90	2.11±0.84
Quality of life	3.02±0.64	3.17±0.57	2.87±0.66
Quality of services	2.94±0.67	2.87±0.66	2.81±0.71
Civic engagement			
Attended a city hosted public meeting	4.0	6.5	6.9
Attended a city council meeting	3.4	2.8	6.9
Emailed/phoned city official or staff person	9.8	13.6	8.6
Voted in city election	8.1	12.9	17.2
Awareness and use of AARC			
Awareness of AARC	41.7	63.7	40.4
Use of AARC	35.8	46.3	22.4

CHAPTER 5: DISCUSSION

Responding to the dramatic increase of the Asian American population in the City of Austin (City of Austin, 2013; U.S. Census Bureau, 2012) and the general paucity of information on Asian Americans (Ghosh, 2003, 2009; Islam et al., 2010; Trinh-Shevrin et al., 2009; Yoo et al., 2013), the Asian American Quality of Life (AAQoL) survey was designed to explore the status and characteristics of Austin's Asian American residents. The goal was to identify critical needs of this emerging population and suggest ways to address them. Data from 2,609 survey participants offered a wealth of information on various aspects of their lives. In this section, major findings are discussed along with their implications for services and policies.

Reaching out to the Asian American Population

A substantial proportion of Asian Americans comprises foreign-born immigrants who face linguistic barriers (Pew Research Center, 2015), but national surveys are often unable to address their cultural and linguistic challenges (Barnes et al., 2008; Ngo-Metzger et al., 2004). Many population-based surveys either use English as their primary survey language or lack sufficient multilingual speakers to contact potential respondents, which limits the participation of persons with limited English proficiency. This systematic exclusion is troublesome because findings based on English-proficient samples of Asian Americans are likely to be biased upward and reinforce the "model minority" myth (Islam et al., 2010; Trinh-Shevrin et al., 2009; Yoo et al., 2013).

The AAQoL survey attempted to revisit the status and characteristics of Asian Americans, using a sample that reflects cultural and linguistic diversity and socioeconomic status. To reach out to diverse groups of Asian Americans and increase the representativeness of the sample, culturally and linguistically sensitive approaches were employed. These strategies included providing not only Asian language versions of the survey questionnaire but also research personnel (e.g., recruiters and survey assistants) who shared the languages and cultures of the target populations. Furthermore, a strong partnership between the research team and key individuals and organizations within ethnic communities facilitated the participation of community members. The fact that among a total of 2,609 AAQoL survey participants, almost half (48.5%) used non-English versions of the survey questionnaire indicates that our culturally and linguistically sensitive approaches enabled many individuals who are conventionally unrepresented to be included. The use of non-English versions of the survey questionnaire was notably high in Chinese (68.6%), Korean (78.8%), and Vietnamese (71.3%).

Linguistic and Cultural Challenges

A majority of the survey participants (90.8% of the overall sample) were foreign-born immigrants, and more than 62% reported that they spoke English less than 'very well.' Given that the reported LEP rate in the Asian American population in the U.S. Census is 36% (Pandya et al., 2011), the rate observed in the present sample is notably high. With

the use of a culturally and linguistically sensitive approach, the AAQoL survey reached out to many individuals with language barriers. Among subgroups, Koreans presented the highest rate of LEP (79.2%), followed by Vietnamese (72.9%) and Chinese (71.7%). This finding is in line with the Census report that Chinese, Vietnamese, and Korean are ranked as the 2nd, 3rd, and 4th languages spoken by LEP individuals in the U.S., following after Spanish (Pandya et al., 2011). The three groups also reported a high rate of experiencing racial discrimination (32.4%−36.4%).

LEP has been identified as a major source of the vulnerabilities in immigrant populations (Derose, Escarce, & Lurie, 2007; Diwan, 2008; Jang et al., 2016; Ponce et al., 2006), and perceived racial discrimination has shown to be associated with adverse physical and mental health outcomes (Gee & Ponce, 2010; Pascoe & Richman, 2009; Yip, Gee, & Takeuchi, 2008). The notably high rates of LEP and the experience of discrimination in the present sample call attention for further investigations and interventions. Findings also identified Chinese, Korean, and Vietnamese as a priority group in efforts to address linguistic barriers.

Physical Health and Access to Care

More than 28% of the overall sample had at least one chronic disease in the list. Three most prevalent diseases were Hypertension (15.2%), Diabetes (8.0%), and Arthritis (7.5%). There were also ethnic variations in the disease prevalence. For example, the prevalence of hepatitis was quite high in Vietnamese (5.0% vs. 2.0% in the overall sample). About 11% of the overall sample rated their health either 'fair' or 'poor.'

With regard to health behaviors, more than 9% of the Korean and Vietnamese samples used tobacco products. Vietnamese also presented the highest rate of potential drinking problems (8.6%). Koreans and Filipinos were shown to be least likely engaged in physical exercise and a healthy diet. The overall findings suggest the need for programs for health promotion.

Acting on the national priority of eliminating disparities in health care, the U.S. has been making progress in reducing health care access gaps (Smedley, Stith, & Nelson, 2002; U.S. Department of Health and Human Services [DHHS], 2016). However, members of racial/ethnic minority groups continue to experience health burdens and inequities in health care disproportionately (AHRQ, 2008; U.S. DHHS, 2016). Lack of health insurance is a widely-known risk factor that prohibits timely use of health services (Lillie-Blanton & Hoffman, 2005). In the present sample, about 15% of the overall sample had no health insurance coverage. This rate of uninsured is higher than the 11% reported in the U.S. general population (Ward, Clarke, Freeman, & Schiller, 2015). At 18.3%, Koreans presented a notably high rate of being uninsured, and this finding is in line with literature (Brown, Ojeda, Wyn, & Levan, 2000; Ryu, Young, & Kwak, 2002). The high rate of self-employment in Koreans could be attributable to the finding (Ryu et al., 2002). Expanding health insurance coverage has been an important strategy to reduce

racial/ethnic disparities in health care (Carrasquillo, Carrasquillo, & Shea, 2000; Lillie-Blanton & Hoffman, 2005).

Another factor that influences healthcare access is whether one has a usual place for care (a provider or facility where one regularly receives care). Studies show that individuals with such a medical home are more likely to obtain the needed health service in a timely manner and enjoy favorable health status (AHRQ, 2008). In the present sample, the proportion of the sample without a usual place for care was 38%. The comparable rate in the U.S. general population was 26.7% (Horner-Johnson & Dobbertin, 2014). It is interesting to note that more than half (50.8%) of Asian Indians had no usual place for care despite their high rate of being insured (almost 90%).

Unmet health care need (i.e., the experience of not being able to receive needed medical care) is an important index of health care access (AHRQ, 2008). In the present sample, more than 11% reported an experience of unmet health care needs during the past 12 months. The rate was particularly high in Koreans (15.4%) and Vietnamese (17.1%). It is interesting to note that these high rates of unmet health care needs are inconsistent with the findings from national data. According to the Medical Expenditure Panel Survey (MEPS), of all racial/ethnic groups, Asian Americans have the lowest rate (2.8%) of unmet health care needs (Chevarley, 2010). This rate is almost half of the rate observed in non-Hispanic Whites (5.8%). The rate of unmet health care needs in the AAQoL sample is 2.3 times higher than that found in non-Hispanic Whites and 4.1 times higher than that in Asian Americans in the MEPS. With the inclusion of a considerable number of non-English-speaking individuals, our sample provided a contrary picture of health care access, challenging the existing myth of a model minority.

With regard to barriers to health care, about 20% of the sample reported the need for transportation and interpretation. The need for interpretation was particularly high in Koreans (29.5%), Chinese (24.0%), and Vietnamese (22.4%). These three groups were also likely to experience communication problems in medical settings and prefer to have medical providers with the same ethnic background. The overall findings suggest their heightened burden in medical services due to language barriers and identify them as a group to be prioritized in language services for medical services. They would be greatly benefited from assistance from bilingual and bicultural health navigators or community health workers.

Mental Health and Service Utilization

According to the finding from a national survey (Forman-Hoffman et al., 2014), about 18% of the U.S. adult population had mental distress (Kessler 6 score ≥ 6) and about 3% had a serious mental illness (SMI, Kessler 6 score ≥ 13). In the AAQoL sample, the prevalence of mental distress and SMI was 44.2% and 6.1%, respectively. With the rate of 54.6% for mental distress and 9.2% for SMI, Vietnamese were found to be at a particular risk for mental health problems.

Despite the high levels of mental distress, the use of mental health services was relatively low. During the past 12 months, only about 5% of the overall sample had received treatment from mental health professionals such as a psychiatrist, psychologist, professional counselor, marriage therapist or social worker. The reliance on general practitioners or religious leaders for mental health needs was high, probably due to stigma attached to mental health service use and limited availability of culturally and linguistically appropriate mental health services. It is notable that about half of the sample indicated their preference for ethnic concordance with mental health providers.

Mental health service use in individuals with limited English proficiency is a critical issue. Provision of language assistance services to patients and training of providers in cultural competence has been emphasized in health services research and practice (Derose et al., 2007; Ponce et al., 2006). Indeed, with the increasing availability of interpretation and translation services in health care settings, problems associated with limited English proficiency have been reduced (Ginsberg, Martin, Andrulis, Shaw-Taylor, & McGregor, 1995). However, language barriers remain a critical unsolved obstacle to mental health services where much of diagnosis and treatment relies on verbal –and private– communication (Sentell, Shumway, & Snowden, 2007). When there is an absence or lack of mental health providers who offer culturally and linguistically appropriate services, telecounseling may be a viable mode of mental health service delivery. The President's New Freedom Commission on Mental Health (2003) has recommended the use of "health technology and telehealth to improve access and coordination of mental health care, especially for Americans in remote areas in underserved populations (p. 79)." While attention has been devoted primarily to the value of telehealth for rural communities, it also has the potential to meet the critical mental health care needs of the linguistically isolated as well. Successful implementation of a telecounseling program has been conducted with individuals with LEP (e.g., Jang et al., 2014; Yeung et al., 2009), and it could serve as a service delivery model for Asian Americans who live in the areas that lack culturally and linguistically appropriate mental health services.

It is also interesting to note that despite the high levels of mental health problems and low levels of service use, the reported rate of unmet mental health care needs (i.e., the experience of needing emotional or mental care but could not get it) was low, with an overall average of 6.9%. This finding suggests a possible lack of awareness of mental health problems in Asian Americans. Given that self-recognition is an initial step in help seeking for mental health care (Goldsmith, Jackson, & Hough, 1988; Pescosolido, 1999), attention needs to be paid to increase the knowledge and awareness about mental health issues in Asian Americans.

The AAQoL sample was also found to be prone to misconceptions and negative beliefs about mental health and treatment. It is striking that more than one third of the sample (37.1%) thought that depression is a sign of personal weakness, a figure that is considerably higher than the 22% found in a national survey (Mental Health America, 2007). A substantial proportion of the sample (44.4%) also showed a general lack of

apprehension toward medications, believing that antidepressants are addictive. The percentages of the sample that associated mental illness with shame (9%) and with family disappointment (19%) were also higher than those observed in studies with non-Asian populations (Cooper et al., 2003; Givens, Houston, Van Voorhees, Ford, & Cooper, 2007; Jang, Chiriboga, Herrera, Martinez-Tyson, & Schonfeld, 2011). This finding reflects cultural norms related to family expectations and interpersonal communication among Asian Americans (Leong & Lau, 2001; Lin & Cheung, 1999). Based on the family-oriented cultural values and collectivism, Asian Americans may feel a greater sense of obligation and responsibility toward their family; they may fear disappointing the family and may not want to burden them. These cultural perceptions associated with mental health and treatment should be taken into consideration when developing intervention programs for Asian Americans. For example, family involvement in the process of mental health care seeking and treatment is strongly encouraged.

Strength of Asian Americans and Future Directions

In general, the AAQoL sample demonstrated a fairly high level of family solidarity, religiosity, and community social cohesion. These psychosocial resources would not only have a direct impact on their health and well-being but also buffer the negative consequences of various types of life stress. The underlying mechanisms should be further explored in order to properly utilize those assets in intervention programs and services.

It should be noted that the current report is based on descriptive analyses. Efforts continue in exploring the associations among variables and estimating prediction models. The identification of risk and protective factors will facilitate ways to protect and improve the health and well-being of the target population. As demonstrated in our Chapter 4, the heterogeneity of the individuals lumped into the same group category requires attention. Our subgroup analyses of the sample with family origin from Chinese speaking countries identified the differences and similarities across individuals from mainland China, Taiwan, and other areas. It should be noted that the subgroup analyses presented in Chapter 4 is one of many examples of within-group heterogeneity in the Asian American population. Exploration of within-group variations will not only help better understand the population but also facilitate efforts to develop targeted interventions. The uniqueness observed in subgroups should be considered in strategizing outreach and service delivery plans for those communities.

The present study sheds light on the importance of using culturally and linguistically sensitive approaches to reach out to the Asian American population, and it provides an opportunity to reflect on the myth of Asian Americans as a model minority. The AAQoL survey also offers information on the awareness of and satisfaction with City resources and services, which will assist various City departments to better serve Asian American residents. Furthermore, the findings suggest implications for interventions with respect to subgroups to be prioritized and areas to be targeted.

REEFERENCES

Agency for Healthcare Research and Quality (2008). *National healthcare disparities report 2008*. Rockville, MD: Agency for Healthcare Research and Quality.

Alegria, M., Vila, D., Woo, M., Canino, G., Takeuchi, D., Vera, M., ... & Shrout, P. (2004). Cultural relevance and equivalence in the NLAAS instrument: Integrating etic and emic in the development of cross-cultural measures for a psychiatric epidemiology and services study of Latinos. *International Journal of Methods in Psychiatric Research*, *13*(4), 270-288.

Alzheimer's Disease International. (2002). *World Alzheimer Report 2012: Overcoming the stigma of dementia*. Retrieved from http://www.alz.co.uk/research/WorldAlzheimerReport2012.pdf

Barnes, P. M., Adams, P. F., & Powell-Griner, E. (2008). *Health characteristics of the Asian adult population: United States, 2004-2006*. Hyattsville, MD: National Center for Health Statistics.

Brown, E., Ojeda, V., Wyn, R., & Levan, R. (2000). *Racial and ethnic disparities in access to health insurance and health care.* Los Angeles, CA: UCLA Center for Health Policy Research and Henry J. Kaiser Family Foundation.

Carrasquillo, O., Carrasquillo, A., & Shea, S. (2000). Health insurance coverage of immigrants living in the United States: Differences by citizenship status and country of origin. *American Journal of Public Health, 90*, 917-923.

Chevarley, F. M. (2010). *Percentage of persons unable to get or delayed in getting needed medical care, dental care, or prescription medicines: United States, 2007*. Rockville, MD: Agency for Healthcare Research and Quality. Retrieved from http://www.meps.ahrq.gov/mepsweb/data_files/publications/st282/stat282.pdf

City of Austin. (2013). *City Council Resolution No. 20131024-085*. Retrieved from http://www.austintexas.gov/edims/document.cfm?id=229571

Cooper, L., Gonzales, J., Gallo, J., Rost, K., Meredith, L., Rubenstein, L., …& Ford, D. E. (2003). The acceptability of treatment for depression among African-American, Hispanic, and White primary care patients. *Medical Care, 41,* 479–489.

Danico, M. Y., & Ocampo, A. C. (2014). *Asian American Society –An Encyclopedia*. Thousand, CA: SAGE.

Derose, K. P., Escarce, J. J., & Lurie, N. (2007). Immigrants and health care: Sources of vulnerability. *Health Affairs, 26*(5), 1258-1268.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment*, *49*, 71-75.

Diwan, S. (2008). Limited English proficiency, social network characteristics, and depressive symptoms among older immigrants. *Journal of Gerontology: Social Sciences, 63B*(3), S184-S191.

Dobbs, D., Park, N. S., Jang, Y., & Meng, H. (2015). Awareness and completion of advance directives in older Korean-American adults. *American Journal of the Geriatric Society.* doi: 10.1111/jgs.13309

Drentea, P. (2002). Retirement and mental health. *Journal of Aging and Health, 14,* 167-194.

Forman-Hoffman, V. L., Muhuri, P. K., Novak, S. P., Pemberton, M. R., Ault, K. L., & Mannix, D. (2014). Psychological distress and mortality among adults in the US household population. *CBHSQ Data Review*. Retrieved from http://www.samhsa.gov/data/sites/default/files/CBHSQ-DR-C11-MI-Mortality-2014/CBHSQ-DR-C11-MI-Mortality-2014.htm

Frisbie, P., Cho, Y., & Hummer, R. A. (2001). Immigration and the health of Asian and Pacific Islander adults in the United States. *American Journal of Epidemiology, 153*(4). 372-380.

Gee, G. C., & Ponce, N. (2010). Associations between racial discrimination, limited English proficiency, and health-related quality of life among 6 Asian ethnic groups in California. *American Journal of Public Health*, *100*(5), 888–895.

Ghosh, C. (2003). Healthy people 2010 and Asian Americans/Pacific Islanders: Defining a baseline of information. *American Journal of Public Health, 93,* 2093-2098.

Ghosh, C. (2009). Asian American health research: Baseline data and funding. In C. Trinh-Shevrin, N.S. Islam, & M.J. Rey (Eds.), *Asian American Communities and Health: Context, Research, Policy and Action* (p. 50-72). San Francisco, CA: Jossey Bass.

Ginsberg, C., Martin, V., Andrulis, D., Shaw-Taylor, Y., & McGregor, C. (1995). *Interpretation and translation services in health care: A survey of U.S. public and private teaching hospitals.* Washington, DC: National Public Health and Hospital Institute.

Givens, J., Houston, T., Van Voorhees, B., Ford, D., & Cooper, L. (2007). Ethnicity and preference for depression treatment. *General Hospital Psychiatry, 29,* 182–191.

Goldsmith, H. F., Jackson, D. J., & Hough, R. L. (1988). A process model of seeking mental health services: A proposed framework for organizing the research literature on help seeking. In H. F. Goldsmith, R. Bell, D. J. Jackson (Eds.), *Needs Assessment: Its Future.* Washington, DC: National Institute of Mental Health.

Horner-Johnson, W., & Dobbertin, K. (2014). Usual source of care and unmet health care needs: Interaction of disability with race and ethnicity. *Medical Care, 52(10),* S40-S50.

Islam, N. S., Khan, S., Kwon, S., Jang, D., Ro, M., & Trinh-Shevrin, C. (2010). Methodological issues in the collection, analysis, and reporting of granular data in Asian American populations: Historical challenges and potential solutions. *Journal of Health Care for the Poor and Underserved, 21*, 1354-1381.

Israel, B., Schulz, A., Parker, E. A., & Becker, A. B. (1998). Review of community-based research: Assessing partnership approaches to improve public health. *Annual Review of Public Health, 19,* 173–202.

Jang, Y., Chiriboga, D. A., Herrera, J., Martinez-Tyson, D., & Schonfeld, L. (2011). Attitudes toward mental health services in Hispanic older adults: The role of misconceptions and personal beliefs. *Community Mental Health Journal, 47,* 164-170.

Jang, Y., Chiriboga, D. A., Molinari, V., Roh, S., Park, Y., Kwon, S., & Cha, H. (2014). Telecounseling for the linguistically isolated: A pilot study with older Korean immigrants. *The Gerontologist, 54*(2), 290-296.

Jang, Y., Yoon, H., Park, N. S., & Chiriboga, D. A. (2016). The health vulnerability of immigrants with limited English proficiency: A study of older Korean Americans. *Journal of the American Geriatrics Society.*

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S.L., ... & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalence and trends in non-specific psychological distress. *Psychological Medicine, 32*(6), 959–976.

Kessler, R. C., Barker, P. R., Colpe, L. J., Epstein, J. F., Gfroerer, J. C., Hiripi, E., ... & Zaslavsky, A. M. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry*, *60*(2), 184-189.

Kuo, J., & Porter, K. (1998). *Health status of Asian Americans: United States, 1992-94*. Hyattsville, MD: National Center for Health Statistics.

Lee, S. K., & Cheng, Y. Y. (2006). Reaching Asian Americans: Sampling strategies and incentives. *Journal of Immigrant and Minority Health, 3,* 245-250.

Leong, F., & Lau, A. (2001). Barriers to providing effective mental health services to Asian Americans. *Mental Health Services Research, 3,* 201-214.

Lillie-Blanton, M., & Hoffman, C. (2005). The role of health insurance coverage in reducing racial/ethnic disparities in health care. *Health Affair, 24,* 398-408.

Lin, K., & Cheung, F. (1999). Mental health issues for Asian Americans. *Psychiatric Services, 50,* 774-780.

Lin-Fu, J. S. (1988). Population characteristics and health care needs of Asian Pacific Americans. *Public Health Reports, 103*(1), 18-27.

Lubben, J., & Gironda, M. (2003). Centrality of social ties to the health and well-being of older adults. In B. Berkman and L. Harootyan (Eds.), *Social Work and Health Care in an Aging Society: Education, Policy, Practices, and Research* (p.319-350), New York, NY: Springer Publishing Company.

Lubben, J., Blozik, E., Gillmann, G., Iliffe, S., von Renteln Kruse, W., Beck, J. C., & Stuck, A. E. (2006). Performance of an abbreviated version of the Lubben Social Network Scale among three European community-dwelling older adult populations. *The Gerontologist, 46*(4), 503-513.

Mental Health America. (2007). *Mental Health America attitudinal survey.* Retrieved January 11, 2016, from www.mentalhealthamerica.net

Ngo-Metzger, Q., Kaplan, S. H., Sorkin, D. H., Clarridge, B. R., & Phillips, R. S. (2004). Surveying minorities with limited-English proficiency: Does data collection method affect data quality among Asian Americans? *Medical Care, 42,* 893–900.

Pandya, C., McHugh, M., & Batalova, J. (2011). *Limited English Proficient Individuals in the United States: Number, Share, Growth, and Linguistic Diversity*. Washington, DC: Migration Policy Institute.

Pascoe, E. A., & Richman, L. S. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin, 135(4),* 531-554.

Pescosolido, B. A. (1999). *Social network theories, findings and challenges for epidemiology, health services and policy*. Retrieved from http://www.seiservices.com/nida/1014059/Materials/07%20Bernice%20Pescosolido_NIDA_1-13-2010_FINAL.pdf.

Pew Research Center. (2015). *The rise of Asian Americans*. Retrieved from http://www.pewsocialtrends.org/files/2013/04/Asian-Americans-new-full-report-04-2013.pdf.

Ponce, N. A., Hays, R. D., & Cunningham, W. E. (2006). Linguistic disparities in healthcare access and health status among older adults. *Journal of General Internal Medicine, 21*, 786-791.

President's New Freedom Commission on Mental Health. (2003). *Outline of the final report for the President's New Freedom Commission on Mental Health*. Retrieved from http://www.mentalhealthcommission.gov/reports/.

Ryu, H., Young, W., & Kwak, H. (2002). Differences in health insurance and health service utilization among Asian Americans: Method for using the NHIS to identify unique patterns between ethnic groups. *International Journal of Health Planning and Management, 17*, 55-68.

Sampson, R. J., Morenoff, J. D., & Felton, E. (1999). Beyond social capital: Spatial dynamics of collective efficacy for children. *American Sociological Review, 64*(5), 633-660.

Sentell, T., Shumway, M., & Snowden, L. (2007). Access to mental health treatment by English language proficiency and race/ethnicity. *Journal of General Internal Medicine, 22*, 289-293.

Smedley, B. D., Stith, A. Y., Nelson, A. R. (2002). *Unequal treatment: Confronting racial and ethnic disparities in health care*. Washington, DC: National Academies Press; 2002.

Trinh-Shevrin, C., Islam, N. S., & Rey, M. J. (2009). *Asian American communities and health: Context, research, policy and action*. San Francisco, CA: Wiley, Jossey-Bass.

U.S. Census Bureau (2012). *The Asian population: 2010*. Retrieved from https://www.census.gov/prod/cen2010/briefs/c2010br-11.pdf

U.S. Department of Health & Human Services (2016). *A nation free of disparities in health and health care*. Retrieved from http://minorityhealth.hhs.gov/npa/files/plans/hhs/hhs_plan_complete.pdf.

U.S. Office of Management and Budget (1997). *The 1997 revisions to the standards for the classification of federal data on race and ethnicity.* Retrieved from http://www.whitehouse.gov/omb/fedreg_1997standards

Wallerstein, N. B., & Duran, B. (2006). Using community-based participatory research to address health disparities. *Health Promotion Practice, 7,* 312–323.

Ward, B. W., Clarke, T. C., Freeman, G., & Schiller, J. S. (2015). *Early release of selected estimates based on data from the January-September 2014 National Health Interview Survey*. Hyattsville, MD: National Center for Health Statistics.

Yeung, A., Johnson, D. P., Trinh, N. H., Weng, W. C., Kvedar, J., & Fava, M. (2009). Feasibility and effectiveness of telepsychiatry services for Chinese immigrants in a nursing home. *Telemedicine Journal and e-Health, 15*(4), 336-341.

Yi, S. S., Kwon, S. C., Sacks, R., & Trinh-Shevrin, C. (2016). Persistence and health-related consequences of the model minority stereotype for Asian Americans. *Ethnicity and Disease, 26,* 133–138.

Yip, T., Gee, G. C., & Takeuchi, D. T. (2008). Racial discrimination and psychological distress: The impact of ethnic identity and age among immigrant and United States-born Asian adults. *Developmental Psychology, 44(3),* 787-800.

Yoo, G. J., Le, M. N., & Oda, A. Y. (2013). *Handbook of Asian American Health*. New York: Springer.