

Healthy Migrant Effect on Smoking Behavior Among Asian Immigrants in the United States

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Abstract Healthy migrant effect (HME) of immigrants has been evidenced in various health aspects. However, few studies have explored the applicability of HME on Asian immigrants' health risk behavior-smoking. This study used three waves of Current Population Survey–Tobacco Use Supplement data, 1998–1999, 2005–2006, and 2010–2011, to compare the rates of being a current smoker among Asian immigrants and United States born citizens. Further, the odds ratios of gender, age, marital status, socioeconomic status, years of migration, and citizenship status on the likelihood of being a current smoker were examined. Across the three waves, Asian immigrants smoked at a much lower rate than their native-born counterparts. The gender gap of being a current smoker was much wider among Asian immigrants. The longer the Asian immigrants stayed in the United States, the more likely they were to become current smokers. These data confirmed the association of HME and Asian immigrants' smoking behavior, and also provided strong evidence of the importance of smoking prevention among Asian immigrants. This study also implied the possibility of a decline in the effectiveness of HME on Asian immigrants as the time they spent in the United States increased.

Keywords Healthy migrant effect · Asian immigrants · Smoking

Introduction

Studies on recent immigrants' health status revealed a healthy migrant effect (HME), whereby the health status of foreign-born immigrants was better than that of native-born citizens of the receiving countries. The HME on general health status was documented among immigrants of major immigrants-receiving countries: United States, Canada, UK, and Australia [1–3]. Its existence was also associated with the low mortality rate of immigrants in North America from all causes combined and from major causes, such as cardiovascular diseases and lung cancers [4]. The low mortality rate of a specific immigrant group, Latino immigrants, in the United States was likewise recognized [5].

One widely accepted explanation of the existence of HME is that immigrants self-select into the migration process [6]; only those who are healthier and with a higher socioeconomic status than the general population in their home countries will successfully migrate to the chosen destination countries. At the same time, higher socioeconomic status is also associated with better health. Therefore, the better health status of recent immigrants may be due to their superior socioeconomic status.

According to United States Census Bureau, in 2010, 13 % of the United States total population are foreign-born [7]; and more than a quarter of these foreign-born residents come from Asia [7]. The Asian population is the fastest growing racial minority in the United States and more than 60 % of its growth is due to the increase of the foreign-born population [8].

Few studies have examined the applicability of HME on Asian immigrants' health risk behavior-smoking. Although the smoking rate in the United States has been declining in the past several decades, smoking remains one of the major

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risk factors of many chronic diseases and cancers [9]. Reducing tobacco consumption is an important objective of Healthy People 2020 in the United States [10].

Asian countries' smoking rate is much higher than that of the United States. For instance, according to World Health Organization's tobacco control survey, between 2011 and 2013, the current cigarette smoking rates in China, Philippines, and South Korea, were all between 27 and 28 %; and the smoking rate of the United States was only 19 % [11]. As the tobacco industry from the Western world shifts its attention away from shrinking home market to the growing Asian market, Asian countries are facing more economic obstacles in reducing the smoking rate. At the same time, although most Asian countries have signed the World Health Organization's tobacco-control treaty, cigarette smoking is still an important integrated part of local culture, which is hard to eliminate. The smoking status of Asian immigrants is an important component of their health profile.

Recent studies have found that foreign-born Asian immigrants' smoking rate is lower than the general United States population [12–15]. For instance, in Baluja, Park, and Myers' study [13], they reported that in years 1995–1996 and 1998–1999, foreign-born Asian immigrants smoking rate was 11.8 %, whereas the smoking rate of native-born (all races combined) was 22.6 %. However, these studies were all cross-sectional, which only examined the phenomena at one point in time. Critics argued that the low smoking rate of Asian immigrants was only temporary [14]. To test the extent of HME on Asian immigrants' smoking behavior, a longitudinal study provides more reliable evidence.

The main objective of this study is to reveal whether the HME extends to smoking prevalence among Asian immigrants in the United States from 1998 to 2011. To achieve the objective, this study will examine three waves of Current Population Survey–Tobacco Use Supplement (CPS–TUS) data to discover [1] whether immigrants from Asian countries have a lower rate of smoking than the United States born natives, and [2] how differences in individual characteristics contribute to the odds of being a current smoker between Asian immigrants and United States native-born population.

Factors

According to a systematic review of factors associated with smoking among Asian American adults [16], acculturation was one of the most often-reported factors. Acculturation was negatively associated with males' smoking but was positively associated with females' smoking [17]. Acculturation itself is a complex process; English language

proficiency and duration of stay in the United States are two often used proxy measures. Since the surveys from the CPS–TUS 1998–1999, 2005–2006, and 2010–2011 were all conducted in either English or Spanish, participating Asian immigrants would need to have some proficiency in English skills. This study therefore uses years of migration as an indicator to measure immigrants' acculturation status: the longer the length of migration, the more they are acculturated. Another acculturation variable included in this study is citizenship status, which legally defines the tie of an immigrant to the United States.

The other most frequently reported factor associated with smoking described by Zhang and Wang [16] was education. According to their review, studies consistently found education to be associated negatively with smoking prevalence; the higher the education, the less likely for an individual to be a smoker. This study also includes other factors that were generalized in Zhang and Wang's study; these are age, gender, income, and marital status. A previous study found that those who were male, younger, and not married were more likely to smoke than their counterparts [18].

Methods

Data

This study uses data from three waves of the CPS–TUS data: 1998–1999, 2005–2006, and 2010–2011. CPS is a multistage, stratified, and national representative survey of the civilian non-institutionalized population of 15 years and older residing in the United States [19]. It is a monthly survey of over 50,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics [19]. Seventy percent of the surveys were conducted by telephone and 30 % conducted in person. Since 1992, National Cancer Institute sponsored the inclusion of TUS to CPS in selected months [19]. The 1998–1999 data consisted of samples collected in September, January, and May. The 2005–2006 data and 2010–2011 data were collected in May, August, and January.

There are several advantages of using CPS–TUS data. First, it is used in various studies on the smoking behavior of the United States population and immigrants; which makes the generalizability of the results of this study with other studies possible. Secondly, CPS is one of very few national probability samples with reliable information on respondents' immigration status [20, 21].

The major limitation of the CPS–TUS dataset is that all the surveys used in this study were conducted in either English or Spanish, which systematically excluded immigrants with limited English skills. As a result, the sample

might underestimate the prevalence of the smoking behavior of Asian immigrants, since English skills are associated with the educational achievements of immigrants.

Sample

This study is limited to individuals from age 18–79. Foreign born Asian immigrants are the focus of this study. They are considered as first generation immigrants. Respondents who were born in Asian countries and defined themselves as “Asian only” for the question of “Race” were included. The reference group of the study is the remaining United States born population, which contains people of all racial and ethnic backgrounds who were born in the United States.

Statistical Methods

Analyses were conducted with SPSS version 22.0 (SPSS, Inc., 2012, Chicago Ill) using the original dataset provided by the National Bureau of Economic Research (<http://www.nber.org/data/cps.html>). Missing data (i.e., “Don’t know” responses and refusals) were excluded. All estimates were weighted by CPS–TUS survey weights, which account for selection probabilities from the sampling design and adjust for survey nonresponse. Logit models were used to obtain odds ratios of the impact of independent variables on the risk of being a current smoker.

Dependent and Independent Variables

Respondents’ smoking status was defined as “current smoker” if they were “some days smoker” or “every day smoker” based on CPS–TUS recode variable “smoking status”; whereas, they were defined as “non-current smoker” if they were either “former smoker” or “never smoker”. “Current smoker” was the most inclusive category; using this measure as an indicator of smoking prevalence captured all the active smokers, whether they were casual or daily smokers.

The independent variables examined were gender with female as the reference, age group with age less than 30 as the reference, education with less than high school diploma as the reference, household income with less than \$15,000 as the reference, and marital status as not married (included those who were divorced, widower or widow, and never being married) as the reference. For Asian immigrants, two additional independent variables were included. They were years of migration with less than 10 years as the reference and citizenship status with not United States citizen as the reference.

This study was approved by the Molloy College Institutional Review Board.

Results

Table 1 presents the weighted sample characteristics of Asian immigrants (AIs) and United States born citizens (UBCs) from 1998 to 2011. As indicated, AIs’ population increased from 2.9 % of the total sample to 5.2 %. Compared to UBCs, AIs were more likely to be married. Meanwhile, AIs were also younger, richer, and better educated than the UBCs, which supported the self-selection theory discussed earlier. From 1998 to 2011, AIs’ years of migration increased, which corresponded to the increased percentage of naturalized citizens.

Figure 1 reveals that the smoking prevalence declined in both AIs and UBCs consistently whether from a total sample’s perspective or at gender specific level. Even when only limited to male respondents, Asian males still smoked much less than their American counterparts. The gender gap among the UBCs was not as dramatic as among AIs.

Table 2 shows the descriptive statistics of current smokers. Once again, the gender gap of smokers of AIs was greater than that of the United States born population, which increased from 1998–1999 to 2010–2011. Female AIs’ smoking prevalence was only 1/4 of male smokers in 2010–2011, when the male and female UBCs continuously smoked at a comparable rate. Across the three waves, smoking prevalence among married individuals declined and it was evidenced in both AIs and UBCs. It was apparent that among the UBCs, the higher the income and educational achievement, the lower the smoking prevalence; but this distinction was not noticeable among AIs, possibly due to their high socioeconomic status. As noted in Table 1, among all AIs, the percentages of longer years of migration increased from 8.1 to 25.5 %; the years of migration among current Asian smokers became shorter. In 1998–1999, the majority of current smokers among AIs were those who had come to the United States 10–20 years prior; however, in 2010–2011, the majority of current smokers in AIs were those who came to the United States less than 10 years ago.

The results of Table 3 show that male AIs had much higher odds of being a current smoker than female AIs. In the wave of 2010–2011, an Asian male was almost six times more likely to be a current smoker than an Asian female. Among UBCs, in 1999, 2006, and 2011, males were significantly 1.3 times more likely to be smokers than females. Across the three waves, age, education, and income were negatively associated with the likelihood of being a current smoker of both AIs’ and UBCs’ groups. Among AIs, the longer they migrated to the United States

Table 1 Weighted ample descriptive statistics (all in percentages): selected demographic and socioeconomic characteristics among U.S. born citizens and Asian immigrants, 1998–1999, 2005–2006, and 2010–2011

| | 1998–1999 | | 2005–2006 | | 2010–2011 | |
|---------------------------|-----------|-------|-----------|-------|-----------|-------|
| | US Born | Asian | US Born | Asian | US Born | Asian |
| % of Total sample | 97.1 | 2.9 | 94.3 | 3.7 | 94.8 | 5.2 |
| <i>Gender</i> | | | | | | |
| Female | 51.6 | 51.8 | 51.3 | 52.1 | 51.5 | 52.0 |
| Male | 48.4 | 48.2 | 48.7 | 47.9 | 48.5 | 48.0 |
| <i>Age</i> | | | | | | |
| <30 | 23.0 | 23.3 | 23.4 | 18.5 | 23.9 | 17.6 |
| 30–39 | 21.9 | 29.4 | 17.9 | 27.7 | 16.5 | 23.8 |
| 40–49 | 21.9 | 23.8 | 21.0 | 22.8 | 18.7 | 23.3 |
| 50–59 | 15.1 | 12.6 | 19.0 | 16.7 | 19.3 | 17.1 |
| 60–69 | 10.0 | 7.2 | 11.4 | 9.8 | 13.9 | 11.3 |
| 70–79 | 8.1 | 3.9 | 7.3 | 4.5 | 7.8 | 6.9 |
| <i>Marital status</i> | | | | | | |
| Not marri | 42.9 | 31.0 | 46.2 | 30.2 | 49.1 | 31.8 |
| Married | 57.1 | 69.0 | 53.8 | 69.8 | 50.9 | 68.2 |
| <i>Education</i> | | | | | | |
| Less high | 13.2 | 10.7 | 10.5 | 7.8 | 9.5 | 9.8 |
| High Sch | 33.3 | 18.1 | 30.8 | 15.7 | 30.0 | 18.0 |
| Some col | 28.3 | 19.8 | 30.7 | 16.7 | 30.8 | 17.8 |
| College | 17.1 | 30.4 | 18.8 | 36.2 | 19.5 | 31.5 |
| Master | 8.0 | 21.1 | 9.3 | 23.6 | 10.1 | 22.9 |
| <i>Income</i> | | | | | | |
| <\$15,000 | 16.1 | 15.1 | 12.6 | 11.1 | 13.5 | 11.1 |
| \$15–\$29 | 20.7 | 18.9 | 15.8 | 12.3 | 16.3 | 14.4 |
| \$30–\$39 | 13.8 | 13.2 | 11.9 | 9.2 | 11.4 | 9.7 |
| \$40–\$59 | 20.7 | 18.5 | 18.8 | 15.2 | 17.8 | 15.5 |
| \$60–\$74 | 9.8 | 11.1 | 11.4 | 10.8 | 10.5 | 11.4 |
| >\$75 | 18.9 | 23.2 | 29.6 | 41.4 | 30.5 | 37.8 |
| <i>Years of migration</i> | | | | | | |
| <10 years | | 34.8 | | 30.4 | | 25.0 |
| 10–20 years | | 36.3 | | 27.4 | | 26.5 |
| 20–30 years | | 20.9 | | 31.7 | | 22.9 |
| >30 years | | 8.1 | | 10.5 | | 25.5 |
| <i>Citizenship status</i> | | | | | | |
| No citizn | | 50.6 | | 45.8 | | 40.9 |
| Yes citizn | | 49.4 | | 54.2 | | 59.1 |

All bivariate tests were done by Pearson Chi-square tests and were all statistically significant ($p < 0.01$)

the more likely they were in the status of being a current smoker; however, being a naturalized United States citizen reduced the odds ratio of being a current smoker.

Discussion

The findings of this study confirmed the existence of HME among Asian immigrants in terms of their health risk

behavior-smoking. From 1998 to 2011, the smoking prevalence of Asian immigrants was lower than the United States born group, which is consistent with a recent study on migrants' smoking status in the United States [12]. In addition, when looking at gender discrepancies, female Asian immigrants smoke at a much lower rate than their male counterparts. Consistent with the findings of previous studies [10, 12], the gender gap among Asian immigrants is larger than for the United States born. First generation

Table 2 Weighted sample descriptive statistics (all in percentages): selected demographic and socioeconomic characteristics among current smokers of U.S. born citizens and Asian immigrants, 1998–1999, 2005–2006, and 2010–2011

| | 1998–1999 | | 2005–2006 | | 2010–2011 | |
|---------------------------|-----------|-------|-----------|-------|-----------|-------|
| | US Born | Asian | Us Born | Asian | Us Born | Asian |
| % of Total sample | 98.5 | 1.5 | 98.4 | 1.6 | 98.2 | 1.8 |
| <i>Gender</i> | | | | | | |
| Female | 47.9 | 25.9 | 47.7 | 22.6 | 47.4 | 19.5 |
| Male | 52.1 | 74.1 | 52.3 | 77.4 | 52.6 | 80.5 |
| <i>Age</i> | | | | | | |
| <30 | 26.0 | 27.5 | 27.0 | 23.4 | 25.9 | 17.9 |
| 30–39 | 24.5 | 31.2 | 19.1 | 29.1 | 18.3 | 26.0 |
| 40–49 | 24.1 | 21.1 | 23.9 | 23.2 | 20.5 | 22.7 |
| 50–59 | 14.9 | 9.4 | 18.6 | 12.9 | 20.7 | 19.4 |
| 60–69 | 7.0 | 8.3 | 8.5 | 9.9 | 11.0 | 10.5 |
| 70–79 | 3.5 | 2.4 | 3.0 | 1.5 | 3.6 | 3.6 |
| <i>Marital status</i> | | | | | | |
| Not marri | 53.5 | 40.1 | 58.4 | 45.0 | 62.1 | 61.7 |
| Married | 46.5 | 59.9 | 41.6 | 55.0 | 37.9 | 38.3 |
| <i>Education</i> | | | | | | |
| Less high | 19.2 | 13.4 | 17.1 | 11.2 | 16.5 | 13.8 |
| High sch | 41.5 | 23.2 | 40.4 | 24.3 | 41.0 | 26.3 |
| Some col | 27.7 | 24.0 | 30.8 | 22.3 | 31.4 | 18.7 |
| College | 9.0 | 28.0 | 9.3 | 31.9 | 8.5 | 24.7 |
| Master | 2.6 | 11.4 | 2.4 | 10.3 | 2.6 | 16.5 |
| <i>Income</i> | | | | | | |
| <\$15,000 | 23.0 | 17.9 | 20.1 | 13.5 | 22.5 | 14.7 |
| \$15–\$29 | 24.4 | 24.3 | 20.7 | 16.0 | 22.1 | 17.7 |
| \$30–\$39 | 14.5 | 15.9 | 14.0 | 13.5 | 13.6 | 9.9 |
| \$40–\$59 | 19.4 | 17.6 | 19.2 | 18.7 | 17.5 | 16.7 |
| \$60–\$74 | 7.6 | 7.8 | 9.4 | 12.0 | 8.3 | 12.8 |
| >\$75 | 11.0 | 16.5 | 16.6 | 26.3 | 16.0 | 28.2 |
| <i>Years of migration</i> | | | | | | |
| <10 years | | 32.3 | | 50.5 | | 58.3 |
| 10–20 years | | 40.0 | | 29.6 | | 25.7 |
| 20–30 years | | 21.7 | | 14.1 | | 14.4 |
| >30 years | | 6.0 | | 5.7 | | 1.6 |
| <i>Citizenship status</i> | | | | | | |
| No citizn | | 56.8 | | 51.6 | | 51.0 |
| Yes citizn | | 43.2 | | 48.4 | | 49.0 |

All bivariate tests were done by Pearson Chi-square tests and were all statistically significant ($p < 0.05$)

Asian immigrants are not only healthier physically, but they also have better health behaviors than their United States born counterparts.

Meanwhile, the longer an Asian immigrant stays in the United States, the more likely he/she will become a current smoker, which is an undesirable outcome of their acculturation process, this is consistent with a recent study on the healthy and unhealthy assimilation effects on immigrants' smoking rate [22]. The negative effect of

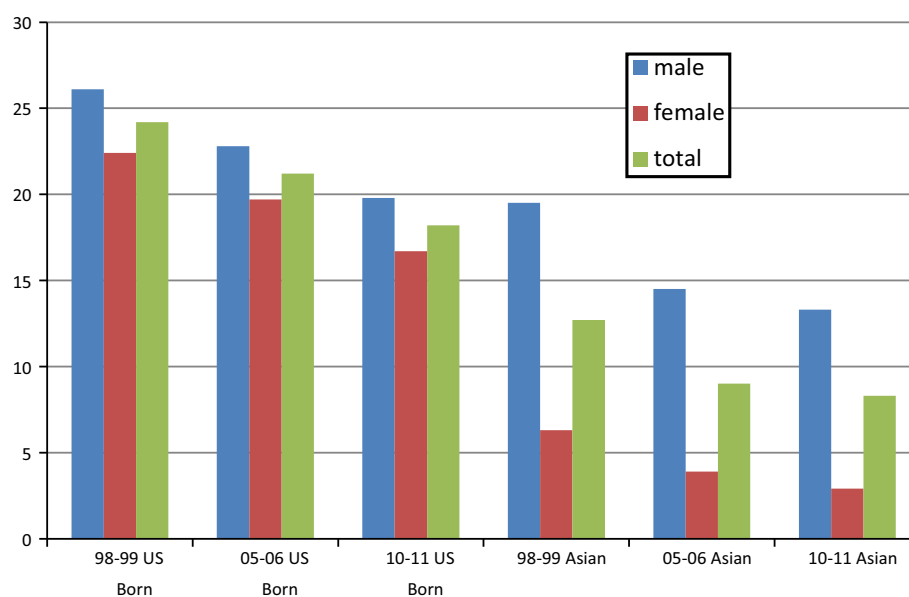
length of stay on smoking status also echoes a downward health trajectory in new non-European immigrants in Canada [23]. At the same time, the association of length of stay and the increased odds of being a smoker also suggested a possible protective effect, which is consistent with the finding of a previous study on this effect of the immigrant generation on smoking [10]. In other words, if one regards the HME as an advantage new Asian immigrants had when they first migrated to the United States

Table 3 Adjusted odds ratio estimates for current smoking status among Asian immigrants and U.S born citizens

| | 1999 | | 2006 | | 2011 | |
|---|-----------------------------|---------------------|---------------------|---------------------|---------------------|----------------------|
| | US OR (95 % CI) | Asian OR (95 % CI) | US OR (95 % CI) | Asian OR (95 % CI) | US OR (95 % CI) | Asian OR (95 % CI) |
| | <i>Gender (ref: female)</i> | | | | | |
| Male | 1.304 (1.303–1.305) | 3.950 (3.925–3.976) | 1.265 (1.233–1.298) | 4.729 (4.679–4.762) | 1.260 (1.259–1.261) | 5.919 (5.879–5.958) |
| <i>Age (ref: <30)</i> | | | | | | |
| 30–39 | 0.266 (0.266–0.267) | 0.481 (0.472–0.491) | 0.286 (0.267–0.307) | 0.277 (0.270–0.284) | 0.373 (0.372–0.373) | 0.551 (0.5542–0.561) |
| 40–49 | 0.196 (0.196–0.196) | 0.423 (0.415–0.431) | 0.195 (0.182–0.209) | 0.195 (0.190–0.200) | 0.237 (0.237–0.238) | 0.297 (0.292–0.301) |
| 50–59 | 0.187 (0.186–0.187) | 0.524 (0.514–0.535) | 0.188 (0.175–0.201) | 0.228 (0.223–0.234) | 0.246 (0.245–0.246) | 0.316 (0.311–0.321) |
| 60–69 | 0.227 (0.227–0.228) | 0.624 (0.612–0.637) | 0.226 (0.211–0.242) | 0.331 (0.323–0.339) | 0.259 (0.258–0.259) | 0.306 (0.301–0.310) |
| 70–79 | 0.464 (0.463–0.465) | 0.487 (0.477–0.498) | 0.385 (0.358–0.414) | 0.277 (0.270–0.284) | 0.412 (0.411–0.413) | 0.464 (0.457–0.472) |
| <i>Marital status (ref: not married)</i> | | | | | | |
| Married | 0.680 (0.679–0.680) | 0.716 (0.712–0.721) | 0.686 (0.667–0.705) | 0.504 (0.500–0.507) | 0.678 (0.678–0.679) | 0.549 (0.546–0.553) |
| <i>Education (ref: less than high school)</i> | | | | | | |
| High sch | 0.179 (0.179–0.179) | 0.337 (0.333–0.342) | 0.162 (0.149–0.175) | 0.204 (0.202–0.207) | 0.155 (0.155–0.155) | 0.402 (0.398–0.407) |
| Some col | 0.233 (0.233–0.234) | 0.326 (0.322–0.329) | 0.209 (0.194–0.225) | 0.238 (0.235–0.240) | 0.202 (0.202–0.203) | 0.356 (0.353–0.359) |
| College | 0.333 (0.332–0.334) | 0.381 (0.377–0.385) | 0.293 (0.272–0.316) | 0.288 (0.285–0.292) | 0.285 (0.284–0.285) | 0.595 (0.589–0.601) |
| Master | 0.656 (0.655–0.658) | 0.439 (0.435–0.444) | 0.592 (0.547–0.641) | 0.413 (0.409–0.418) | 0.646 (0.645–0.648) | 0.708 (0.702–0.715) |
| <i>Income (ref: <\$15,000)</i> | | | | | | |
| \$15–\$29 | 0.500 (0.500–0.501) | 0.746 (0.738–0.754) | 0.395 (0.377–0.414) | 0.779 (0.770–0.787) | 0.417 (0.416–0.417) | 0.656 (0.650–0.663) |
| \$30–\$39 | 0.592 (0.591–0.593) | 0.693 (0.686–0.700) | 0.476 (0.457–0.497) | 0.709 (0.702–0.716) | 0.487 (0.487–0.488) | 0.748 (0.741–0.755) |
| \$40–\$59 | 0.667 (0.666–0.668) | 0.798 (0.789–0.806) | 0.536 (0.512–0.561) | 0.568 (0.562–0.574) | 0.542 (0.541–0.543) | 0.951 (0.941–0.961) |
| \$60–\$74 | 0.752 (0.751–0.753) | 0.913 (0.904–0.922) | 0.641 (0.616–0.667) | 0.721 (0.714–0.728) | 0.640 (0.639–0.641) | 0.787 (0.780–0.794) |
| >\$75 | 0.884 (0.882–0.886) | 1.319 (1.303–1.336) | 0.736 (0.728–0.800) | 0.659 (0.653–0.666) | 0.788 (0.787–0.789) | 0.689 (0.683–0.696) |
| <i>Years of migration (ref: <10 years)</i> | | | | | | |
| 10–20 years | | 1.715 (1.690–1.741) | | 1.754 (1.728–1.779) | | 1.206 (1.194–1.219) |
| 20–30 years | | 1.115 (1.100–1.130) | | 1.371 (1.354–1.390) | | 1.958 (1.939–1.976) |
| >30 years | | 0.941 (0.929–0.954) | | 1.137 (1.123–1.151) | | 1.086 (1.077–1.095) |
| <i>Citizenship status (ref: not citizen)</i> | | | | | | |
| U.S. citizen | | 0.657 (0.652–0.661) | | 0.696 (0.691–0.701) | | 0.758 (0.753–0.763) |

All log-likelihood ratio tests were statistically significant ($p < 0.05$)

Fig. 1 (Weighted) Percentage of current smokers among Asian immigrants and U.S. born citizens from 1998–2011. All Pearson Chi-square tests were statistically significant ($p < 0.05$)



this advantage diminished as their time in the United States increased.

Limitations

Results and interpretation of this analysis should include a consideration of its limitations. In this study, the specific ethnic group differences among Asian immigrants were not explored due to insufficient sample sizes. However, the intragroup difference of Asian immigrants of various ethnic backgrounds does exist and should be explored when possible [24, 25]. Further research is needed to confirm these observations among immigrants of other Asian ethnic groups.

As stated before, the CPS–TUS surveys used by this study were all given either in English or Spanish, which prevented Asian immigrants with low English skills from participating; and it may underestimate the smoking prevalence of Asian immigrants. English language proficiency has long used as an important indicator of acculturation. Low or no English skill was associated with low social economic status [17]. Surveys in additional languages specifically targeting these populations can provide a more inclusive picture of their smoking prevalence. Finally, this study relies on self-reported smoking status, which might underestimate the actual prevalence of smoking.

Contributions

There is a growing interest among scholars and policy-makers on the health risk behaviors of Asian immigrants as

their proportion in terms of the overall US population has increased dramatically in recent years. However, information regarding their health behavior is still very limited. This study addressed an unanswered question on the applicability of the HME on Asian immigrants smoking prevalence across a three time periods. The results of this study suggest that smoking prevention may be more important than smoking cessation among Asian immigrants, since recent Asian immigrants were much less likely to be smokers than the general United States population and their length of stay in the United States increased the likelihood of them being smokers.

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Conflict of interest None.

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