Title
A Binational Perspective on Health Behavior and Health Status among Korean Immigrants in the U.S. and Koreans in Korea

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Introduction

The number of Asian immigrants to the U.S. has shown a rapidly growth after the 1965 Immigration and Nationality Act, which eliminated the quotas on the national origin. In 2014, the number of Asian immigrants was estimated to be 12.8 million, which is more than 25-fold increase from 491,000 in 1960. Currently, Asians represent 30 percent of the foreign-born population. According to the Migration Policy Institute, Korea belongs to the top five origin countries for Asian immigrants. There are approximately 1 million Korean immigrants in the U.S., which is about 2.4 percent of all immigrants. The size of Korean immigrants also grew about 27 times between the 1970s and 2010. Pew Research Center predicts that with the decline in immigration from Latin America, Asian immigrants will have the largest share among all U.S. immigrants by 2055 (Hipsman and Meissner, 2013).

Korean immigrants are one of the fastest growing groups of the US immigrant population (U.S. Bureau of Census 2000). As of 2015, the estimated number of Korean immigrants, who are mainly from South Korea, is approximately 1 million and that accounts for 2.4 percent of the total 43.3 million US immigrants (Zong and Batalova, 2017). The Korean immigrant population in the United States increased almost 26-fold between 1970 and 2015, from approximately 39,000 to 1.0 million. United States is destination for the largest South Korean emigrants in the world, followed by Japan, China, and Canada (Zong and Batalova, 2017)

The growth in the Korean American population has led to an increased interest in their health outcomes. But despite the growing population of Korean immigrants they are largely invisible in previous literature that focuses on Korean immigrant health in the United States.

A number of demographic, cultural and socioeconomic characteristics reveal the unique features of Korean immigrants in the United States. First, Korean immigrants have a relatively short immigration history (Jones et al., 2012). Korean immigration to the United States began in earnest in the 1880s, although the majority came after the Immigration Reform Act of 1965. Second, Korean immigrants have achieved economic success within a short period of time and now share acculturation-related problems with other ethnic groups. Third, Korean immigrants are usually located in or near large cities with Korean enclaves and tend to maintain their ethnic identity (Ra, Cho, and Hummer 2013). Finally, a high proportion of Korean immigrants (58 %) are engaged in self-employed small businesses; in contrast, self-employment rates are much lower among the Chinese (18 %) and Mexican (9 %) immigrant populations (Ra, Cho, and Hummer 2013). Despite the growing share of Asian immigrants, however, less is known about the health behaviors and conditions of this population.

Given these unique characteristics, it is clear that Korean immigrants should be considered and studied separately from other immigrant subgroups in order to thoroughly understand the risk factors that influence the health status and health behaviors of this unique and rapidly growing population.

Research has shown evidences of "healthy immigrant effect" for Hispanic/Latino immigrants to the U.S. by comparing the health status of immigrants to the U.S. born natives and their counterparts in the originating countries (Abraído-Lanza et al., 2005; Markides & Eschbach, 2005) and lower rates of preterm, low birth weight, and infant mortality (Hummer, Powers, Pullum, Ginger, & Frisbie, 2007; Wingate & Alexander, 2006). However, little work has been done to test the "healthy immigrant effect" for Asian immigrants including Koreans due to limitation of data that would allow researchers to test the hypothesis by enabling comparisons between those who migrate and those who do not. By linking the Korean Health Panel Data and the restricted files of the National Health Interview Survey data, I explore health selection of Korean immigrants in the United States. This study is the first work to explore whether the similar health selection is observed among Korean immigrants.

Conceptual Framework

My conceptual framework builds on the findings on the evidence of health selection of immigrants to the U.S. in the face of unique socioeconomic and psychological challenges taking place during migration and acculturation process. There are three main comparison groups that previous literature has used to study immigrant health status, behavior and self-rated health: 1) U.S. born native residents (white or black); 2) U.S. born individuals of the same race/ethnicity; and 3) individuals in their sending countries. The first group was most frequently employed as a comparison group to show evidence of healthy migrant effects especially for Hispanic/Latino immigrants. This study examines the role of migration and nativity on health status and self-rated health by comparing three groups that share the same Korean ethnicity: 1) Korean immigrants to the U.S., non-US citizens who were born in Korea and moved to the U.S.; 2) Korean Americans (2nd or older generations), U.S. born natives who identify them as "Korean-decent"; and 3) Koreans in Korea who are non-migrants residing in Korea. Comparing migrants with the population in their countries can help better understand the role of genetic predisposition, environmental exposures, and the processes of migration and assimilation.

Several Korean scholars have focused on health disparities within Korea by looking at the number of chronic diseases and self-rated health (Huh et al. 2010; Lee, 2010; Lee, 2005; Kim, 2007). There is a consensus in Korean literature that socioeconomic position and residential area are associated with health status for Korean adults residing in South Korea. Specifically, Lee (2005) finds that education and occupational status as well as urban residence are significantly associated with better chronic health condition and higher self-rated health. Using the Korean National Survey of Health and Nutrition of 2001, Lee suggests that those with high school diploma or higher education and in managerial and professional jobs showed more favorable health conditions in terms of the number of chronic diseases and self-rated health. For acute diseases, less association was observed with socioeconomic status, but higher association with the residential areas: people who live in Seoul or rural areas showed a higher number of acute diseases. Huh et al. (2010) moved the discussion of relationship between socioeconomic position and health status in a new perspective by applying the concept of "deprivation" from English social policy theorist Townsend (1979). In addition to material deprivation, they looked at socioeconomic deprivation which pays attention to availability of social network and support to examine one's socioeconomic status. Using their deprivation index, the authors find that material deprivation which results from income loss or other economic hardship is the main predictor of self-rated health status and the number of chronic diseases (Huh et al. 2010).

For Korean immigrants to the U.S., migration process entails challenges and risks, which may add to previous gradients of socioeconomic status in Korea. By constructing the groups that share similar demographic and socioeconomic characteristics between Korean immigrants in the U.S. and Korean non-migrants, the fundamental objective of this study to contribute to the literature on the role of migration in the presence of multiple layers of differences in socioeconomic positions in Korea and in the U.S. A main challenge in an attempt to compare the similar groups of people in Korea and the U.S. is that immigrants often experience changes in their educational qualification, occupation, and income when they move from one country to another. Koreans who might have been in professional and managerial positions in Korea might not have the same occupation or positions in the U.S.

Previous literature has used various health metrics to examine health disparities between immigrant and native populations, including mortality rates, life expectancy, disability measures, physical and cognitive functioning limitations, specific health problem/disease diagnosis, body mass index for excess weight and obesity, hospital visits, satisfaction with health, and self-assessed health status. In this paper, I measure health status by looking at the presence of chronic diseases, such as hypertension, diabetes, asthma, and cancer as well as self-rated health as it is a known significant predictor of mortality.

General health (self-rated) status

Self-reported health (SRH) has received scholarly attention from researchers in many disciplines such as sociology, economics, epidemiology, and medicine for its purely individual and subjective nature but close relationship to the objective biological indicators and death. It interests scholars in different fields for its connection to social, psychological, and biological experiences (Jylhä, 2009). Responses on self-assessment of health status is often used as an indicator of chronic medical conditions and predictor of mortality (citation). Most frequently, self-reported health is measured by asking a single question of "how would you rate your overall health" and giving an option of five response categories of poor, fair, good, very good, and excellent.

Reports of subjective perception of one's health have been another method of measuring physical well-being. There is also evidence that nativity and subjective health ratings are associated although the direction of the relationship appears to be inconclusive. Foreign-born Asians were more likely to report better health compared to their U.S.-born counterparts; this pattern was remarkably consistent across all Asian sub-ethnic groups (Frisbie, Cho, and Hummer 2001). However, other researchers have observed that Korean immigrants who were more familiar with the U.S. culture rated their health better than Korean immigrants who were not (Lee, Sobal, and Frongillo, 2000). These contrasting results may be due to a response bias in which U.S.-born individuals may have become more comfortable reporting negative states. It is unclear, however, whether higher likelihood of reporting poor health is due to the effect of nativity on health, nativity on response pattern, changes in perceived ''reference'' group (i.e., immigrants might rate their own health in comparison with either those in their native countries or their U.S.-born counterparts), or the interaction of these three (Huh et al 2007).

Diabetes

The current literature appears mixed with respect to the effect of nativity on diabetes. Some researchers have found that being born in the U.S. were related to elevated diabetes prevalence and risk factors (Huang et al. 1996; Popkin and Udry 1998) while others have found the evidence

for the opposite pattern (Hazuda et al. 1988). Some researchers have proposed that this relationship may depend on the ethnic group being studied. It was argued that the rate of disease among foreign-born immigrants will regress towards the mean disease rate in the host culture. Put differently, because the diabetes mellitus rates among native Mexicans are generally higher, Mexican immigrants to the U.S. would be benefited (Hazuda et al. 1988).

Hypertension

The reason chronically elevated blood pressure is receiving attention in measuring chronic health conditions is because it increases the risks of some major diseases including heart disease, stroke, congestive heart failure, chronic kidney disease, aortic aneurysm, and eye disease (cite). High blood pressure is often used as a risk measure for cardiovascular disease (Gee et al. 2006). According to Centers Disease Control and Prevention (CDC) reports that hypertension was at least partially responsible for 410,000 deaths in the US in 2014. The risk of cardiovascular disease is attributed to psychosocial process such as stress and personal characters. Huh and her colleagues report that foreign-born Asian immigrants and foreign-born Hispanic immigrants showed lower odds of heart disease compared to their U.S. born counterparts (Huh et al 2007).

Cancer

Unlike the case of hypertension or risk of cardiovascular disease, prior literature has shown that country of origin has little impact on cancer although this may not be universal across ethnic groups. Some argue that the offspring of Asian immigrants might have inherited their parents' protective genetic factors against ovarian cancer and, thus, being born in the U.S. does not appear to negatively influence them (Harrington et al. 1994). It has also been found that immigration-related factors such as birthplace have little effect on colorectal cancer rates (Le Merchand et al. 1997).
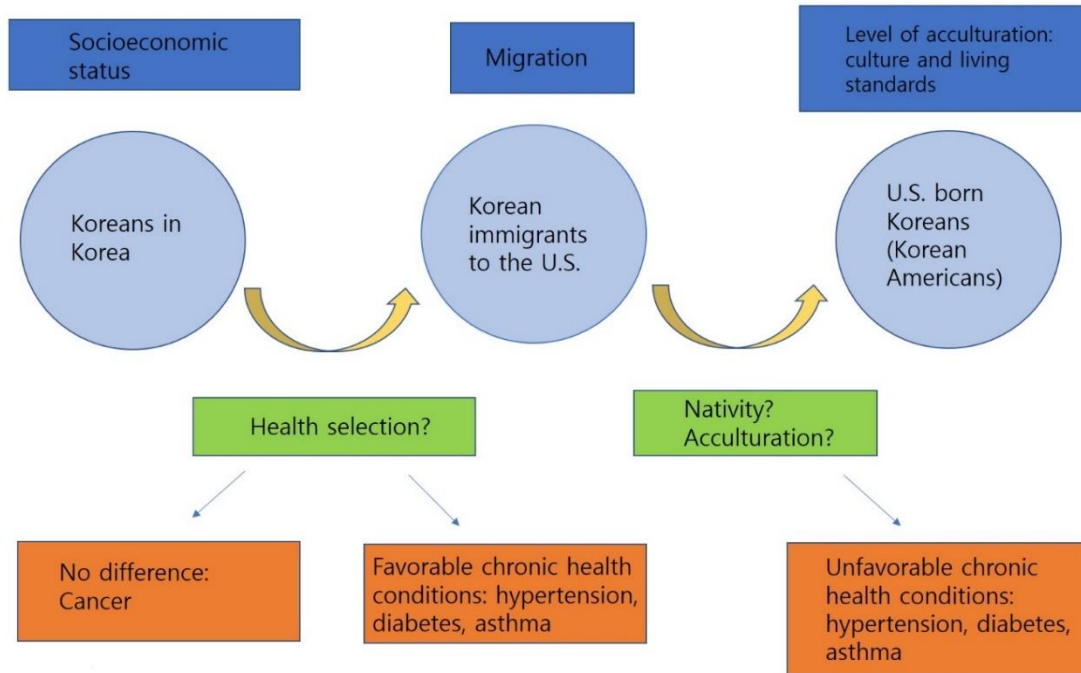
This generalization may not be appropriate for all types of cancer, however, as some Asian ethnic groups such as Asian Indian immigrants had the highest incidence of oral cancer, attributed to health behavioral factors (e.g., habitual use of tobacco mixed with chewing betel nut) (McCarthy et al. 2003). Moreover, some researchers have attributed increasing trends of prostate cancer rates in Asian countries to Westernization. Still, such rates may be affected by nativity distinctions (Hsing et al. 2000).

Body mass index and obesity

In a study that divided Korean immigrants into three different groups of traditional, bi-cultural, and acculturated Korean immigrants according to the levels of acculturation, Lee et al. (2000) find that more acculturated group of men showed higher body mass index (BMI). Yet, there was no statistically significant association between acculturation and BMI for Korean women.

Figure 1. presents processes that may influence health differences within and across the groups. Within Koreans in Korea, socioeconomic status is related to health disparity. In addition to socioeconomic position, Korean immigrants to the U.S. experiences migration processes that may be related to their health status. As the time spent in the U.S. increases, levels of acculturation to the host culture can also lead to differences in health status.

<Figure 1. Factors that influence health differences among Koreans by different migration status>

Socioeconomic status

Migration

Level of acculturation: culture and living standards

Koreans in Korea

Korean immigrants to the U.S.

U.S. born Koreans (Korean Americans)

Health selection?

Nativity? Acculturation?

No difference: Cancer

Favorable chronic health conditions: hypertension, diabetes, asthma

Unfavorable chronic health conditions: hypertension, diabetes, asthma

Therefore, I present the following hypotheses for my outcome variables of health status and self-rated health:

Hypothesis 1.
  I expect that there is health selection for Korean immigrants when compared to their counterparts in Korea and to U.S.-born Koreans. Korean immigrants will have fewer chronic diseases than U.S.-born Koreans and Koreans residing in Korea. I also predict that the Korean immigrants will be more likely to rate their health as better than their U.S.-born counterparts.

Hypothesis 2.
  Specifically, Korean immigrants will exhibit the lowest prevalence rates of hypertension, diabetes than U.S.-born Koreans and overall Koreans residing in Korea.

Hypothesis 3.
  Past research indicated that nativity may have little effect on cancer rates; it is hypothesized that cancer prevalence rates for Korean immigrants, Koreans in Korea, and U.S.-born Koreans will not be different from zero.

Hypothesis 4
  I also predict that the Korean immigrants will be more likely to rate their health as better than their U.S.-born counterparts.

Research Design

Data
    I employ the National Health Interview Survey (NHIS) 2008-2015; Household, Family, Person, Sample Adult, Sample Child, and Imputed Income Files. I use NHIS in-house data files on country of birth, U.S. citizenship status, the year respondent came to the U.S., and the duration of residence in the U.S., state of residence, urban/rural classification, sampling strata and primary sampling units.

To examine the health status and behavior of Koreans in South Korea, I use the Korean Health Panel (KHP) data. KHP is a panel data on medical costs, medical expenses, and health conditions of Korean people. It is designed to be comparable with NHIS of the U.S.

Korean Health Panel Data

Health: I divide health items into three broad categories of 1) chronic health conditions, 2) self-rated health, and 3) health behaviors. In Korean Health Panel, chronic health condition is measured under the survey item that asks whether the respondent has any chronic disease. Then, the interview records the response based on the 18 disease codes. For comparability with NHIS, I focus on diabetes, hypertension and cancer for chronic health conditions of Koreans in South Korea.

For self-rated health, respondents are asked about their health status from 2010 to 2015 in five categories of poor, fair, good, very good, and excellent. I recode them into a binary variable containing poor and fair as 0 and good and above as 1.

Analysis

In this paper, I explore whether there are differences in health status, health behaviors, and self-rated health between Korean immigrants in the U.S. and Koreans in South Korea using the 2008-2015 National Health Interview Survey and the Korean Health Panel data. I use multivariate analysis focusing on the odds ratio of health conditions, health behaviors and self-rated health to assess the role of migration, health selection, acculturation, and assimilation on these health outcomes. To strengthen comparability of the two data sets, I include commonly available a large set of demographic, health, and contextual factors known to be related to health behaviors and conditions to the logit regressions models.

I begin with exploring descriptive statistics for the full sample by migration status on individual and household demographic characteristics. Next, I examine the descriptive statistics for self-rated health, health behaviors, and health conditions for all groups. Then, I estimate logit regression on separate outcomes of self-rated health, health behaviors, health conditions first controlling for migration status only and then adding standard individual and household characteristics that are expected to be associated with these outcomes. On self-rated health and health outcomes, I further add information on health behavior as controls for the final model. I repeat this analysis for three subgroups divided by age (0-18; 18-64; and 65 or older). Results from these models will show how much of the patterns shown from the simple model are being driven by demographic, migration, and health characteristics.