The Education Gradient in Self-Rated Health for Chinese Immigrants in the United States*

Ying-Ting Wang
Department of Sociology and Population Research Center
The University of Texas at Austin

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Research Objectives

This study investigates the weaker effect of education on health for Chinese immigrants in the United States, with a special focus on the hypothesis that immigrants "import" weaker education gradient to the US from China. Using the 2006-2009 National Health Interview Survey and the 2006 China Health and Nutrition Survey, I compare the education gradients in self-rated health for US-born non-Hispanic whites, for foreign-born Chinese Americans and the for native Chinese in China, and test the "importation" hypothesis.

Background

A vast literature has documented the positive association between education and health outcomes among different populations in the United States (Hummer, Benjamins, and Rogers 2004; Hummer and Lariscy 2011; Mirowsky and Ross 2003; Williams et al. 2010; Williams and Collins 1995). However, the education gradient in health is weaker for minority groups, especially those with higher proportions of immigrants (Acevedo-Garcia et al. 2010; Acevedo-Garcia, Soobader, and Berkman 2005; Goldman et al. 2006; Kimbro et al. 2008; McKinnon and Hummer 2007).

Researchers have proposed four possible explanations for the weaker education gradient in health for immigrants in the United States. First of all, researchers proposed that the education gradients in sending countries are possibly weaker than those in the United States (Goldman et al. 2006; Kimbro et al. 2008; Turra and Goldman 2007). That is, immigrants may be "importing" their socioeconomic gradient in sending countries to the United States. Second, health selection in the migration process makes the education gradient in health weaker for immigrants. The health selection is most profound for

less-educated immigrants (Buttenheim et al. 2010; Goldman et al. 2006; Kimbro et al. 2008), while the better health for high-socioeconomic status immigrants can be mostly explained by their socioeconomic status (Akresh and Frank 2008). This pattern makes the difference in health between the more-educated group and less-educated group less apparent. Third, more-educated immigrants might stay in the United States longer, and thus they are more subjected to adopt the unhealthy behaviors and then have worse health (Goldman et al. 2006; Kimbro et al. 2008; Turra and Goldman 2007). Therefore, the health advantage among more-educated immigrants may be less apparent.

Despite a few efforts to explain the weaker education gradient in health among immigrants and racial or ethnic minority groups, empirical studies examining "why" the weak gradient exists are sparse and mostly focus on Hispanic-origin Americans. For instance, there is only one study, to my knowledge, tested the "importation" hypothesis for Mexican Americans (Buttenheim et al. 2010). So far there is no study has analyzed the education gradients for Asian Americans.

In this paper, I examine the relationship between education and health for Chinese Americans with a special focus on the "importation" hypothesis, using both data from the United States and data from China. I investigate whether weak education gradient for Chinese Americans in the United States is, at least partly, due to the importing weaker education gradient in health by immigrants. If the foreign-born Chinese Americans in the United States do import a weak education gradient from China, we should expect the effect of education on health for Chinese in China is similar to it is for Chinese immigrants in the Unites States.

Data and Methods

Two datasets are used in this paper. The first one is the National Health Interview Survey. The NHIS is used for investigate the effect of education on health for Chinese immigrants in the Unites States. I used 4 waves (2006-2009) of NHIS to generate a sufficient large number of foreign-born Chinese Americans. The second dataset is the 2006 China Health and Nutrition Survey (CHNS). The CHNS was conducted in nine diverse provinces of China, and has detailed information about health, nutrition and demography of all members in the sampled household. The CHNS is used for investigate the effect of education on health for Chinese in China. I restricted the sample to adults aged 25-64 because, first, most of the adults at that age group have finished their education, and second, there might be some survivor biases among older respondents.

I used self-rated health to measure health status. The independent variables are age, gender, marital status, years in the United States (for Chinese immigrants in the NHIS only), employment status and smoking status. There are other factors can affect self-rated health, such as social support and family income, but due to data availability and comparability I could not include them in the analyses. The self-rated health is recoded into two categories: “excellent/very good/good” and “fair/poor”, and I used logistic regression to analyze the odds of reporting fair or poor health.

Results

First of all, Table 1 shows the results of odds ratio for education on fair or poor self-rated health for US-born non-Hispanic whites in the NHIS, foreign-born Chinese Americans in the NHIS and Chinese in the CHNS. The results of Table 1 show that education gradient in self-rated health for foreign-born Chinese Americans is weaker than

the gradients for US-born non-Hispanic whites. Increasing one year of education reduces the chances of reporting fair of poor health by 19% for US-born non-Hispanic whites and by 16% for foreign-born Chinese Americans, controlling all other independent variables.

Moreover, the results of logistic regression analyses do not support the "importation" hypothesis that education effect on heath in China is weaker than the education effect on health in the United States so that Chinese immigrants in the United States have a weaker education gradient in health. The results from Table 1 show that the effect of education on self-rated health is indeed much smaller for Chinese in the CHNS than the effect of education on self-reported health for US-born non-Hispanic whites. Increasing one year of education only reduces 4% of chances of reporting fair or poor health for Chinese in the CHNS when controlling all other independent variables. However, the effect of education on self-reported health for Chinese immigrants in NHIS is bigger than the effect of education for Chinese in CHNS. Chinese immigrants in the United States are not likely to import the education gradient in health to the United States.

Nevertheless, the results of logistic regression analyses show some evidences of positive education- and health-selection and no evidence of negative health assimilation for Chinese immigrants in the United States. In terms of education selection, the results from descriptive analysis (table not shown) show that about 68% of Chinese immigrants in the NHIS have more than high school degree while about 65% of the Chinese in the CHNS only have primary school or middle school degree. In terms of health selection, only 5.27% Chinese immigrants in the NHIS reported fair or poor health while 37.82% of Chinese in the CHNS reported fair or poor health. Furthermore, the duration in the United States appear to have no significant effect on Chinese immigrants' health in the logistic

regression analyses (table not shown), so there is no evidence of negative health assimilation.

Conclusion

Over all, this paper examines the relationship between education and self-rated health for Chinese Americans. The education gradient in self-rated health is weaker for Chinese immigrants in the United States than the gradient for US-born non-Hispanic whites. The results of logistic regression analyses show that the weaker education gradient for Chinese immigrants is not likely due to the importing of the weak education gradient in self-rated heath in China or negative health assimilation in the United States. Positive education- and health-selection of immigrants would more likely to account for the weak education gradient in health for Chinese immigrants.

Table 1. Odds ratios for the effect of education on fair or poor self-rated health for adults aged 25-64, the 2006-2009 National Health Interview Survey (NHIS) and the 2006 China Health and Nutrition Survey (CHNS)

	US-born Non-Hispanic whites				Foreign-born Chinese Americans					Chinese			
	NHIS (2006-2009), N=90751				NHIS (2006-2009), N=1871					CHNS (2006), N=7612			
Education (years)	0.76***	0.92***	0.81***	0.81***	0.89***	0.89***	0.89***	0.85***	0.84***	0.96***	0.96***	0.96***	0.96***
Additionally Controlled for[a]	-	employment status	smoking status	employment status and smoking status	-	duration	duration and employment status	duration and smoking status	duration, employment status and smoking status	-	employment status	smoking status	employment status and smoking status

Notes

a. All models are controlled for age, gender and marital status.

b.* p<0.05; ** p<0.01; *** p<0.001

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