Socioeconomic Status and Self-Rated Health in China

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Extended Abstract

Research Significance

The relationship between socioeconomic status (SES) and health has been of critical concern to social and behavioral scientists over the past several decades (Adler et al., 1993; House, 2001; Williams, 1990; Willams & Collins, 1995). To date, the graded relationship between SES and health has been well documented in most developed countries, with people with higher SES more likely to report better health, to have better mental health outcomes, and to experience greater levels of physical function and lower rates of disability and mortality at old age (Liang et. al, 1991; Marmot, 1999; Weich, Lewis, &Jenkins, 2003; Zimmer, Liu, Hermalin, & Chuang, 1998).

However, the robustness of the association between SES and health observed in Western industrialized nations remains a topic of open debate in other settings. China is one of those contested cases where the external validity of the SES-health gradient has been called into question. Over the past several decades, China has witnessed dramatic economic development under a market economy, together with increasingly pronounced economic disparities in most regions (Chang, 2002; World Bank 1997). A limited number of studies that have addressed the relationship between SES and health produced some paradoxical findings, including a positive association between SES and chronic diseases, that between SES and serious health conditions, and mixed effects of SES on functional status decline among elderly (Beydoun and Popkin, 2005; Liang, Liu, & Gu, 2001; Zimmer and Kwong, 2004). Recent evidence indicates that the improved social standing of many Chinese has been met with increased risk factors among the advantaged, such as smoking, heavy alcohol consumption, and a poor diet (Kim, Symons, & Popkin, 2003). Others suggest that higher levels of education may not be beneficial for health because "intellectuals were often targets for persecution during numerous political upheavals (e.g., the Cultural Revolution)" (Liang, Liu, & Gu 2001: 1127).

This study aims to document the relationship between SES and self-rated health in the general adult Chinese population, with an emphasis on disentangling the underlying mechanisms, including the effect of economic resources, social support, and health behavior. While existing research on SES and health in China often alludes to these mediating factors, they do not map out the specific contributions of different proximate determinants, partly due to data limitation. In addition, most of them focus on the elderly population, which is certainly the population that is more at risk of a range of health problems. However, we argue that it is essential to study the linkage between SES and health for a much broader age spectrum, because of the cumulative effect of SES through the life course as well as its interaction with cohort-specific life experiences.

Data and Variables

We will use data from the China Health and Nutrition Survey (CHNS), an ongoing collaborative project of the Carolina Population Center at the University of North Carolina, Institute of Nutrition and Food Hygiene, and the Chinese Academy of Preventive Medicine in Beijing. The survey was designed to study how social and economic transformations in Chinese society affect the nutritional, demographic, and health status of its population. It has collected panel data on individuals, households, and their communities. The survey covers eight provinces and autonomous regions in China: Liaoning, Jiangsu, Shandong, Henan, Hubei, Hunan, Guangxi, and Guizhou. A third of China's population (approximately 450 million) lives in these provinces, which vary substantially in geography and economic development. So far five waves of the data have been collected (1989, 1991, 1993, 1997, 2000, 2004). We will use the most recent wave of the survey (2004) as a starting point and will include panel data in follow up analysis. Our sample consists of adults over the age of 25 (N=9237).

The data are ideally suited for this study. The CHNS collects extensive information on health, including a variety of indicators on health outcomes, measures of health behavior, and access to health care. The following question was asked of each household member regarding one's health: "How would you describe your health compared to that of other people of your age?" The responses range from 1 to 4, indicating excellent to poor health. We will start with this measure of self-reported health as our main dependent variable, which has been used extensively in U.S. based research.

Our key independent variables are measures of SES. The CHNS not only includes basic questions on education and occupation, but also covers very detailed information on home assets, employment sector (state, collective, and private), and income from different sources. Based on our previous research, we propose to use four different measures of SES: education, per capita family income, employment sector, as well as an index for the household's aggregate asset ownership. In developing countries, where measuring household income poses methodological difficulties, the indicators of household ownership and amenities have proven to be valid proxies of household living standards (Montgomery et al., 2000).

Another attraction of the CHNS data lies in its rich data on the proximate determinants of health. The CHNS provides rich information on health behavior, including smoking, drinking, dietary knowledge, and data on height and weight, which can be used to construct BMI (Body Mass Index, as a proxy of diet). We will also use variables on health insurance and accessibility to health care facilities as measures for resources. Finally, we include variables of social support, including family size, marital status, and proximity to parents.

Analytical Strategies

In the first part of the study, we will begin with a set of bivariate analyses in which we assess the relationship between SES measures and self-reported health, between SES measures and the proximate determinants of health, and between the proximate determinants of health and self-reported health. Results of the bivariate analyses will inform us on our selection of the variables for the multivariate analysis. Because our dependent variable (self-rated health) is ordinal in nature, we propose to use a series of ordered logit models to examine the relationship between SES and self-reported health. We will estimate both the direct and indirect effect of SES on self-reported health, as well as the mediating effects of the proximate determinants (health behavior, social support, and access to health care). We will include a set of control variables in the models, including the basic demographic measures such as age and gender. We are also interested in testing if there exists any interaction between age and SES, as rising economic disparity is a relatively recent phenomenon in China, and thus may have differential effects on different age cohorts. Given the sharp contrast in economic conditions, health care systems, and cultural practices in urban and rural China, we will stratify the sample into rural and urban areas.

Preliminary Results

In our preliminary bivariate analysis, we start with the relationship between one of the key SES indicators, education, and self-rated health. We use a categorical variable to measure education because the general education level of the Chinese population is not high, with a great number of adults, particularly those who live in the rural areas and who are older, having no education at all. College education is still considered largely a privilege. Figure 1 clearly shows an Education-Health gradient in both rural and urban China, although the relationship seems to taper off at the higher levels of education.

Interestingly, education is negatively related to a set of measures of health life style in our study (see Figures 2-5). Although education is found to positively affect one's dietary knowledge, such knowledge fails to translate to healthy behaviors. For example, persons with higher education are more likely to smoke and drink heavily than those with lower education. The finding regarding the relationship between education and being overweight is mixed. In urban areas, education has a positive relationship with being overweight. However, in rural areas, the relationship is just the opposite. Figure 6 shows that people with higher education are more likely to have medical insurance than their low-educated counterparts, particularly so in urban areas. It should be noted that persons in urban areas are much more likely to have medical insurance than people in rural areas. We hypothesize that the economic advantages among the Chinese with high SES will offset some of the negative effects of health behaviors. This hypothesis can be formally tested in our multivariate analysis.

Figure 1: Self-rated Health among Chinese with Different Education Level

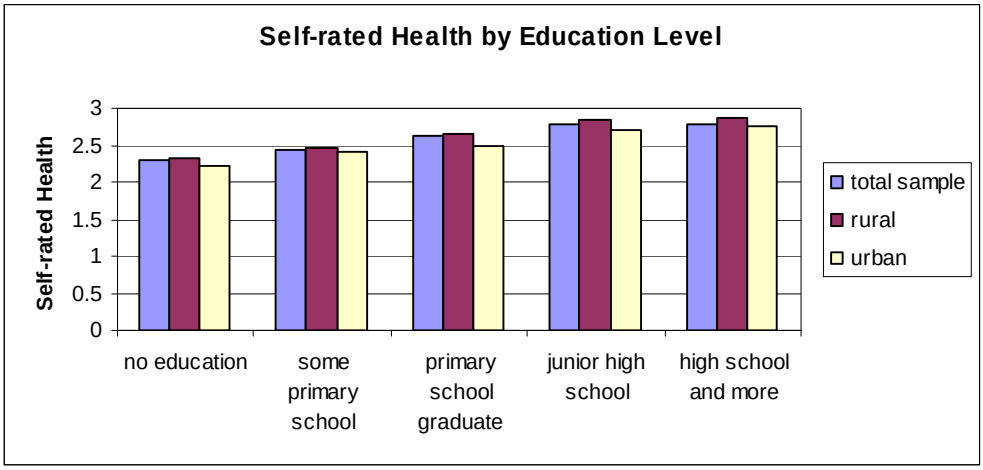

Figure 2: Proportion of Smoking among Chinese with Different Education Level

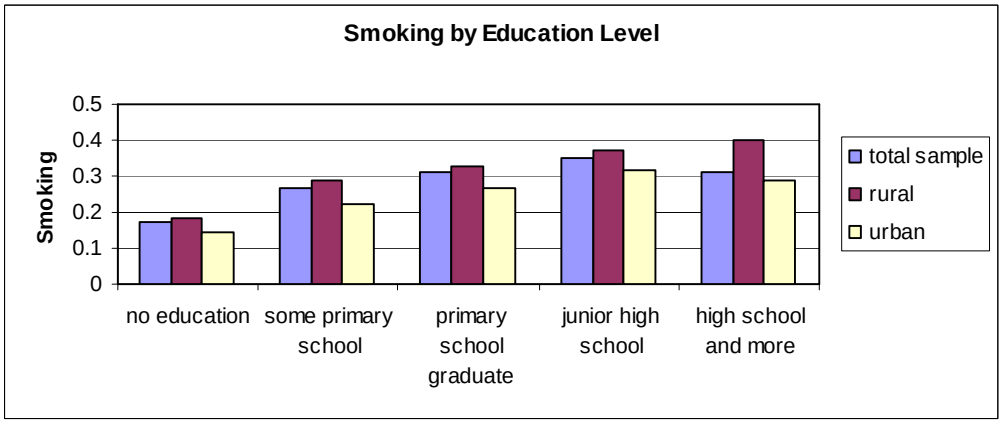

Figure 3: Proportion of Heavy Drinking among Chinese with Different Education Level

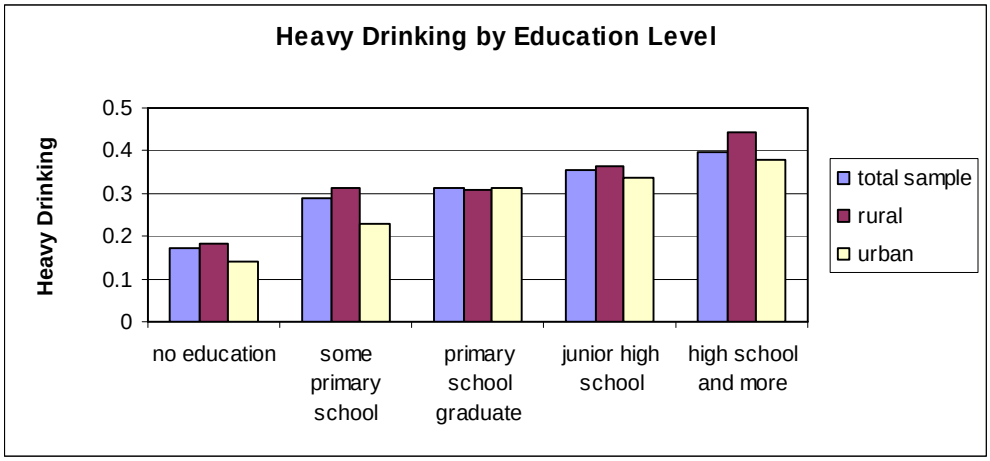

Figure 4: Proportion of Overweight among Chinese with Different Education Level

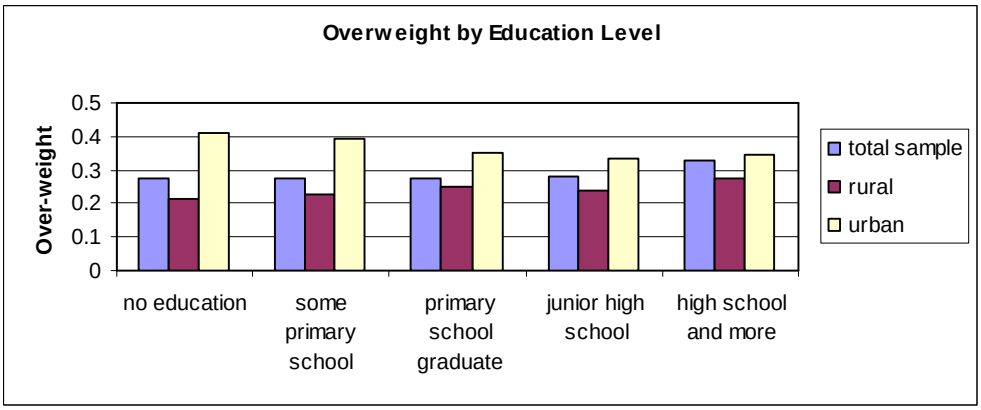

Figure 5: Diet Knowledge among Chinese with Different Education Level

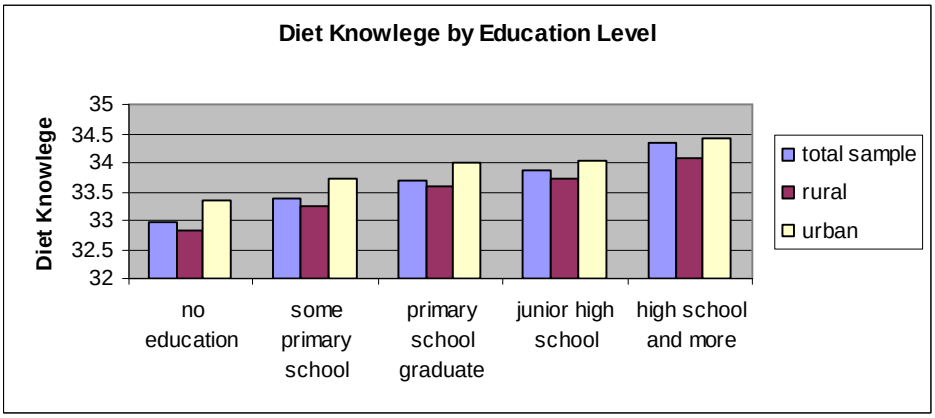

Figure 6: Proportion of Having Medical Insurance among Chinese with Different Education Level