Migration and the Initiation of Cigarette Smoking among Chinese Adults: Evidence from Event History Analysis

Using data from a just completed national probability sample survey in China (N = 3,000) and event history analysis, we investigate the effect of migration on the initiation of tobacco use among Chinese adults.

The health damaging effect of cigarette smoking has been well documented. In the past century, new laws have been passed forbidding smoking in public places, and public campaigns have been launched to raise awareness of the hazardous effect of smoking, yet the number of smokers remains large and has even increased in some populations. A significant yet diminishing gender gap in smoking has been reported in many societies, as well as a highly persistent inverse relationship between socioeconomic status and smoking (Pampel 2001, 2006; Simantov, Schoen, and Klein 2000). The interesting research questions then become: (1) why do people smoke? And (2) why do poor people smoke more?

Medical research has revealed that cigarette smoking is primarily a manifestation of nicotine addiction, to which different individuals have different levels of susceptibility (Jarvis 2004). The process of determining whether and when one starts smoking is, however, primarily a social one (Jarvis and Wardle 1999). In Western industrial societies, children of low SES families have been shown to have higher risk of smoking mainly because they are more likely to be exposed to smokers and cigarettes, both inside and outside home.

Results obtained from China, however, suggest a quite different story. First, the SES gradient in smoking is much weaker in China than in Western industrialized societies. Smoking and cigarettes serve important social functions in Chinese society, not only prevalent among the low SES groups but also among the high SES groups (Pan 2004). Past research has shown, strikingly, that smoking is rather popular among medical doctors in China, which was largely responsible for the ineffectiveness of their anti-smoking counseling practices (Li and Rosenblood 1996).

Past research in China also suggests that migrant workers, who are predominantly of rural origin, have a lower risk of smoking than either non-migrant rural residents or urban residents (Hesketh, Ding, and Tomkins 2001). This provides stark contrast to results from other societies, where migrants tend to be most prone to smoking as well as other health damaging behaviors because of elevated level of stress, lack of social support, and discrimination and stigmatization (Li et al. 2006). Do these results reflect some distinctively Chinese pattern (and thus some social processes unique to the Chinese context) or are they mere statistical artifacts caused by

inadequate controls (for example, age) or the lack of rigorous probability sampling design (local study, convenient sample, etc.).

Few, if any, of the above mentioned studies were based on national probability samples, and none of them took the dynamic nature of smoking initiation into full consideration. The shortcomings are apparent: without a clearly defined population and rigorous sampling procedure, one cannot make any meaningful generalizations from their results; without event history data and dynamic statistical methods, one cannot distinguish important aspects of the smoking initiation process such as the timing (early initiation vs. late initiation) and the intensity (high prevalence vs. low prevalence), both of which are important because they suggest quite different intervention approaches.

In the present research, we aim to address these issues by estimating a dynamic event history model of smoking initiation using data from a nationally representative sample survey we just collected. Relying on retrospective information, we will estimate two sets of event history models. We will begin from a simple univariate event history model focusing on smoking initiation, treating family SES, sex, level of schooling, and migration status as time-constant or time-varying covariates. The goals for this model are to: 1) establish the change trajectory (hazard function) of smoking behavior, and 2) get good effect estimates of the important covariates that have been controversial in the past research. Based on these results, as the second step, we focus on the relationship between smoking initiation and residential mobility (migration) by estimating a parallel process model with an event history model for smoking and a binary outcome latent growth model for residential mobility. This model is a special case of the general latent variable modeling framework that has been under extensive development in recent years (Muthén 2007; Skrondal and Rabe-Hesketh 2004).

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