Intergenerational and Social Transmission of a Smoking Culture: Theory and Evidence

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September 23, 2011

Extended abstract

In this paper we develop and test a model of smoking initiation that focuses on the potential role of parents and social norms. Empirically, children whose parents smoke are themselves more likely to smoke. But researchers have not established that this simple correlation reflects a causal relationship. Available evidence is mixed and often suspect because studies use poor data, small samples, fail to account for the endogeneity of parental smoking decisions, or fail to control for other transmission mechanisms of smoking, such as social influences (see Loureiro et al., 2010; Gohlmann, Schmidt, and Tauchmann, 2010; Powell and Chaloupka, 2005; and Avenevoli and Ries Merikangas, 2003 for a review of earlier studies). Our model is based on that by Bisin and Verdier (2001) on intergenerational cultural transmission, but it departs from it in a number of ways to account for the peculiarities of the smoking culture. In our model, youth are indeed more likely to smoke when their parents smoke (e.g. due to genetics, mimicking, or nicotine addiction from passive smoking). However, the model also allows children of non-smokers to start smoking as a way to rebel against anti-smoking pressure from their parents and/or because they adopt a smoker role-model from outside the

household. Similarly, our model allows children of smokers to refrain from smoking because their parents educate them about the associated health risks and/or because they adopt a non-smoker role model.

We test the implications of our model with data on smoking behavior from the Panel Study of Income Dynamics (PSID). To test the implied effect of parent smoking behavior we use smoking of up to three generations of related family members. To test the implied effect of social smoking norms, we merge data on smoking prevalence in each person's age-cohort. In the empirical analysis we carefully account for endogeneity between smoking participation of children and parents, instrumenting for the latter using taxes and new data on the information spread about the health risks of smoking, both measured at the time of parents' smoking initiation. We also account for endogeneity between the smoking behavior of children and their respective age-cohort by instrumenting for the cohort-specific smoking prevalence using out-of-state cigarette taxes.

This paper contributes in several ways to the theoretical and empirical literatures on the intergenerational and social transmission of behavior. In particular, we are the first to develop a model that explicitly assumes a mechanism by which parents and societies influence children's behavior. Because our assumptions are explicit, they can be tested and rejected. Second, our model describes conditions under which the parents' smoking behavior may become irrelevant to the smoking decisions of youths and, therefore, may exlpain the weak and inconsistent evidence of causality in the extant literature. Third, we use innovative data and a reliable identification strategy to empirically test the implications of our model. Finally, our results are policy relevant. In the empirical section, we identify whether and to what degree youth acquire their smoking preferences inside or outside the household. Our findings, therefore, can direct policy against youth smoking initiation either towards targeting parents or towards targeting the children themselves. More generally, our model serves to better understand the broader class of risky behavior to which smoking belongs.

References

[1] Avenevoli S. and Ries Merikangas K. 2003. "Familial influences on adolescent smoking." Addiction 98(Suppl. 1): 1-20.

[2] Bisin, A. and Verdier T. 2001. "The Economics of Cultural Transmission and the Dynamics of Preferences" Journal of Economic Theory, 97, 298-319.

[3] Gohlmann S., Schmidt C. M. and Tauchmann H. 2009. "Smoking Initiation in Germany: The role of Intergenerational Transmission". Health Economics, 19(2): 227-242.

[4] Loureiro M. L., Sanz-de-Galdeano A. and Vuri D. 2010. "Smoking Habits: Like Father, Like Son, Like Mother, Like Daughter?". Oxford Bulletin of Economics and Statistics, Vol. 72, Issue 6, pp. 717-743.

[5] Powell L. M. and Chaloupka F.J. 2005. "Parents, public policy, and youth smoking", Journal of Policy Analysis and Management, Volume 24, Issue 1, p. 93–112.