

# Schoolmate Peer Effects in Education and Delinquency

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January 22, 2016

## Abstract

This paper explores how two types of reference groups, *friends* and *same-grade schoolmates*, affect students' grades, alcohol drinking and cigarette smoking by introducing multiple networks into a network-based social interactions model. I develop a theoretical framework where conformity to the social norms of these two reference groups is the driving mechanism of peer effects, and provide the identification conditions for the corresponding econometric model. Applying this model to data from Add Health, I find that both friends and same-grade schoolmates have endogenous peer effects on GPA, but only friends matter to alcohol drinking and cigarette smoking. Furthermore, the results show that *same-gender* schoolmates in the same grade have larger effects on all three outcomes than *opposite gender* schoolmates in the same grade. In particular, drinking behaviors of *opposite gender* schoolmates negatively affect a student's drinking behavior, which suggests the presence of the taste for *deviating* from the social norm of others different from an individual.

**Keywords:** Social networks, peer effects, identification, Add Health

**JEL Classification Codes:** Z13, C31, J13, I21, I12

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