

Estimating the causal impact of alcohol consumption on earnings using genotype as the instrumental variable*

Daiji Kawaguchi[†] Jungmin Lee[‡] Izumi Yokoyama[§]

January 21, 2016

Abstract

We estimate the causal impact of alcohol consumption on earnings using genotype as the instrumental variable (IV). Some East Asians are genetically inefficient at, or even incapable of, digesting alcohol because of the heterogeneity of aldehyde dehydrogenase (ALDH) that dissolves toxic acetaldehyde resulting from alcohol intake. We conduct original surveys covering about 2,000 prime-age males, and the survey collects information on a test result that identifies genotype, amount of alcohol consumption, earnings, and other demographic variables. We found that the genotype is a strong predictor of alcohol consumption, but is not relevant to earnings. In other words, we found no causal relationship between alcohol consumption and wages. While we replicate the finding of previous studies that moderate drinking increases earnings using the ordinary least squares (OLS) estimation, we fail to find a causal relationship in the IV estimation.

JEL Classification: C41; D12; I19

Keywords: Drinking; Wages; Genotype, Alcohol Patch Test

*This project has been financially supported by the Japan Science and Technology Agency (JST). In addition, the web survey in this study was conducted by Intage, a web-marketing survey company. We sincerely appreciate the help of all of those who have supported this project.

[†]Professor at Hitotsubashi University. Postal Address: 2-1, Naka, Kunitachi, Tokyo, Japan, 186-8601. Email: kawaguch@econ.hit-u.ac.jp. Phone: +81-42-580-8851.

[‡]Associate Professor at Sogang University. Postal Address: School of Economics ,Sogang University, Shinsudong, Mapo-gu, Seoul, Korea 121-742. Email: jungle@sogang.ac.kr. Phone: +82-2-705-8504. Fax: +82-2-705-8180,

[§]Assistant Professor at Hitotsubashi University. Postal Address: 2-1, Naka, Kunitachi, Tokyo, Japan, 186-8601. Email: izumi.yokoyama@r.hit-u.ac.jp. Tel: +81-42-580-8598. Fax: +81-42-580-8598.