

Health Impacts on Future Labor Market Outcome - Exploring PSID Siblings

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Recent population surveys include various questions on one's health condition: self-reported health status, functional limitation or depression measurement, which leads to increasing empirical research on health impact [Steffick (2002), Case, Fertig and Paxon (2003), Almond (2003), Behrman and Rosenzweig (2004), etc.]. These studies suggest that significant health impact on labor market outcome might not be limited to only senior or disadvantaged groups but might have more general implications in the labor market.

My research paper focuses on measuring early health impact on subsequent labor outcome – wage and employment status. One's health status changes over lifetime with some persistency. Health impact on labor outcome therefore can vary, depending on the period in which health condition is measured: Adulthood health status can be related more directly to labor market outcome, while childhood health status is indirectly related to future labor market outcome through permanent health and/or education attainment. This paper links health disparity in young adulthood to adulthood wage and employment status by exploring the Panel Study of Income Dynamics. It also examines whether sibling health status plays a significant role in determining one's own economic behavior in the labor market.

Self-reported health status (henceforth SRHS) has been used commonly because it reflects individual's general health status in a single value, which is useful to researchers in the study of the association between an individual's health and his or her subsequent socioeconomic status. Measuring return to health is prone to various biases due to the comprehensive nature of health and unobservable heterogeneity. Although recent studies show long term health impact with richer covariates, few studies have dealt explicitly with the measurement error and omitted variable bias together. Regarding SRHS, perception of health condition is likely affected by various other factors at the time of interview. Lee (1982) discussed the

simultaneous effects of health and wages, which disturbs estimating gradient of health impact. For example, one might attribute unemployment to poor health resulting in exaggerating correlation between poor health and poor labor market outcome. Exploring long term health impact reduces concern on the simultaneous impact in that early health status cannot be directly affected by labor market outcome in one's later lifetime.

Another major issue in measuring return to health is omitted variable bias especially through unobservable family background. Family background has been considered an important factor in the return to health, in terms of subsequent economic outcome: those with better family background are likelier to be healthier and likelier to obtain higher education through family support. To measure return to health, it is important to control for observable and unobservable family heterogeneity.

Bearing in mind these potential bias sources, in this research project I investigate a long term health impact on labor market outcome with respect to wage and working probability. Various methods are used to deal with potential bias. First, I use a sibling model to control for family background heterogeneity. Second, I reduce measurement error and omitted variable bias generated from subjective components in health measurement, by cooperating with relatively objective health measurement. Adopting the method used in Bound et al (1999) and Bound (1991), I include functional limitation variables¹ in the health equation, then allow residuals to be correlated between employment equation and health equation.

Empirical results from preliminary analysis suggest that health is a significant determinant of future labor market outcome even after controlling for family background, and controlling for measurement error from subjective health evaluation. In addition, sibling's health also plays an important role in determining an individual's future working status. This can contribute further to the between-siblings model. Differentiating values between siblings to control for unobservable family background, one can cause substantial bias exaggeration if one ignores the independent sibling health impact. Exploring men and women separately, further examination on employment status provides the insight that women's labor outcome is more responsive to sibling's health condition. The subjective component in SRHS seems to play an important role: long term return to health is not significant in terms of wage when we

¹ I use two variables asking: "Do you have any trouble either walking several blocks or climbing a few flights of stairs, because of your health?" and "Do you have trouble bending and lifting because of your health?"

control for subjective health components while the long run health impact on employment status becomes even more significant. More severe and objective component in health disparity is more associated with working probability.

Overall, this paper answers a general and fundamental question on the association between health and labor outcome, hence can trigger further research on return to health. Since the empirical findings are based on the young adult, who has received less attention in the study on return to health, this also can direct attention to young adulthood and lead to further study on young adulthood health disparity. Econometric methods to identify and disentangle bias sources in this paper impart useful information pertinent to the study of health implications in the labor market. The sibling health impact finding not only improves understanding of bias source in between-siblings model, but also provides valuable insight into women's labor supply.