

Thesis Abstract

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| Title of Thesis | Impact of Retirement on Health |
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| Author's Name | Koryu Sato |
| Supervisor | Haruko Noguchi and Hideo Owan |

This dissertation comprises three essays on the impacts of retirement on health. The first chapter examined the associations of retirement with cardiovascular disease and risk factors. I found a 2.2%-point decrease in the risk of heart disease and a 3.0%-point decrease in physical inactivity among retirees, compared with their working counterparts. In both sexes, retirement was associated with a decreased heart disease risk, while decreased smoking rates were observed only among women. Notably, people with high educational levels showed associations between retirement and decreased risks of stroke, obesity, and physical inactivity. Individuals who retired from non-physically demanding occupations exhibited reduced risks of heart disease, obesity, and physical inactivity, whereas those who retired from physically demanding jobs indicated an increased risk of obesity.

The second chapter investigated the impacts of retirement on cognitive function, physical independence, and self-rated health. Among men, statistically significant associations were not found, except for the realm of self-rated health, where male retirees demonstrated a 0.100 standard deviation (SD) argumentation. Conversely, female retirees showed a 0.100 SD increase in cognitive function, a 3.8%-point increase in physical independence, and a 0.193 SD increase in self-rated health concerning health outcomes. Moreover, female retirees curtailed 4.3% points in physical inactivity and 1.9% points in smoking with respect to health behaviors.

The final chapter explored the heterogeneity of retirement's impact on cognitive function using a machine-learning-based approach. The local average treatment effect indicated that retirees could recall 1.348 more words than their working counterparts. Additionally, the effects of retirement were heterogeneous, especially beneficial for women, people with higher educational attainment, elevated assets and income, those engaged in professional clerical, or part-time occupations, those with favorable health conditions, and those frequently engaged in physical activity.

In summary, this study discerned that, on average, retirement engenders beneficial effects on health. However, these effects are heterogeneous depending on individuals' characteristics. Additionally, the findings also suggest that post-retirement health behaviors may induce the heterogeneous effects on health.

The papers on which the chapters are based are as follows; the first chapter has been published in *International Journal of Epidemiology*, titled "Retirement and Cardiovascular Disease: A Longitudinal Study in 35 Countries," coauthored by Haruko Noguchi, Kosuke Inoue, Ichiro Kawachi, and Naoki Kondo; the second chapter has been presented as a

working paper in *the Social Science Research Network (SSRN)*, titled “Sex Differences in the Impact of Retirement on Health: Evidence from 35 Countries,” coauthored by Haruko Noguchi; the final chapter has been presented as a working paper in *SSRN*, titled “Heterogeneous Treatment Effect of Retirement on Cognitive Function,” coauthored by Haruko Noguchi and Kosuke Inoue.