

# IMPACT OF RETIREMENT ON HEALTH

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## Abstract

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.

## Acknowledgments

Three studies constituting this dissertation were supported by the Japan Society for the Promotion of Sciences (grant number: 20K18931, 23H03164) and the Health Care Science Institute Research Grant. The funders had no role in the study design; in the collection, analysis, and interpretation of the data; in the writing of the report; or in the decision to submit the article for publication. There are no conflicts of interest to declare. This dissertation used data or information from: the Harmonized SHARE dataset and Codebook, Version F as of June 2022; the Harmonized ELSA dataset and Codebook, Version G.2 as of July 2021; the Harmonized CRELES dataset and Codebook, Version A as of August 2016; the Harmonized MHAS dataset and Codebook, Version C as of September 2022; RAND HRS Longitudinal File 2018 (V2) and the Harmonized HRS dataset and Codebook, Version C as of January 2022; the Harmonized CHARLS dataset and Codebook, Version D as of June 2021; the Harmonized JSTAR dataset and Codebook, Version B as of August 2014; and the Harmonized KLoSA dataset and Codebook, Version D.2 as of July 2021. The survey harmonization was funded by the National Institute on Aging (grant number: R01 AG030153, RC2 AG036619, R03 AG043052) and conducted by the Gateway to Global Aging Data in collaboration with the research team of the surveys. The HRS was sponsored by the National Institute on Aging (grant number: NIA U01AG009740) and was conducted by the University of Michigan. The MHAS received support from the National Institute on Aging (grant number: R01 AG018016) in the United States and the Instituto Nacional de Estadística y Geografía (INEGI) in Mexico. The harmonized datasets and more information are available through the Gateway to Global Aging Data website (<https://g2aging.org/>). The studies used publicly available data that obtained informed consent from all participants and ethical approval from relevant local ethics committees. Thus, the Ethics Committee of Kyoto University exempted this study from review.

I am profoundly grateful to my dissertation committee: Haruko Noguchi, Hideo Owan, and Toshiaki Iizuka for their unwavering dedication in providing invaluable feedback. Haruko Noguchi's encouraging attitude consistently left me feeling positive after our interactions. Although I had prior publications in epidemiology, venturing into economics was a new endeavor for me. I extend my heartfelt thanks to her for patiently and meticulously correcting my papers. I am also deeply appreciative of Hideo Owan, who generously shared his profound expertise. His comments consistently delved to the core of my research and

significantly contributed to its refinement. Despite residing in Kyoto, he extended online facilities and warmly welcomed me to his seminars, offering a precious opportunity to stay updated on current evidence and connect with colleagues in the field of personnel economics. Choosing to pursue my doctoral degree at Waseda University, where Professors Noguchi and Owan were based, was unquestionably the correct decision. Furthermore, I extend my utmost gratitude to Toshiaki Iizuka for agreeing to serve on my committee despite his affiliation with a different university. His outstanding work in the field of health economics has always been an inspiration to me, and he remains one of my key role models. I consider it an honor to have him as a committee member.

I would like to express my sincere thanks to the coauthors of the three studies that constitute this dissertation. The study presented in the first chapter was coauthored by Haruko Noguchi, Kosuke Inoue, Ichiro Kawachi, and Naoki Kondo; the second chapter was coauthored by Haruko Noguchi; and the third chapter was coauthored by Haruko Noguchi and Kosuke Inoue. Ichiro Kawachi, my advisor at Harvard University, introduced me to the allure of research, shaping my decision to pursue this path. Naoki Kondo, my supervisor at Kyoto University, welcomed me into a wonderful research environment despite my prior role at the Ministry of Health, Labour and Welfare. Kosuke Inoue, my colleague at Kyoto University, has not only been a brilliant collaborator but also a kind and supportive friend. Our lunchtime discussions, spanning both research and personal life, were invaluable to me. Without the contributions of any one of them, my dissertation would not have reached completion. I am also grateful for the insightful comments from fellow members of Noguchi's and Owan's seminars, as well as other conference attendees.

I also extend my gratitude to my parents. Tragically, my father passed away from a heart attack due to overwork when I was just a year old. Despite the circumstances, the Ministry of Health, Labour and Welfare initially did not recognize his death as a workplace-related injury, necessitating a legal battle that lasted 18 years for compensation. Ultimately, we prevailed in court, and the compensation enabled me to pursue higher education. Motivated by this experience, I aspired to delve into health economics with the aim of contributing to the creation of a healthier society. I remain committed to publishing valuable research while treasuring the legacy my parents have left me.

Lastly, my deepest appreciation goes to my wife and two children, who have consistently stood by my side throughout this journey.