

This research investigates the causal relationships between Social Security eligibility age, especially, the earliest eligibility age (EEA) at 62, and the elderly's health outcomes and health behaviors. Given that the U.S. population is aging, understanding such relationships is important. Several papers examined how retirement impacts health outcomes (Charles, 2004; Neuman, 2008; Insler, 2014; Fitzpatrick and Moore, 2018). However, knowledge about these relationships remains limited. Therefore, this paper examines the relationships between EEA and physical and mental health as well as smoking and drinking behaviors by exploiting regression discontinuity designs.

The main specifications of this research are donut-hole regression discontinuity designs. The cutoff is the EEA. To allow time for respondents to adjust, this paper creates a donut hole by dropping observations from interviews taken within three months after the EEA, and estimates parametric regressions and local nonparametric regressions. For local nonparametric regressions, this study follows the procedures suggested by Calonico et al. (2014, 2017) and Cattaneo et al. (2018). To alleviate short-run anticipation impacts, this research makes a larger donut hole by dropping observations from interviews taken within a three-month period before and after the EEA, and conducts similar estimations (Hausman and Rapson, 2018). This is performed for all respondents, and then for males and females. For robustness checks, all regressions are re-estimated, controlling for predetermined covariates. The study also checks for bandwidth robustness.

RAND Health and Retirement Study (HRS) data, public survey data of HRS, and restricted data of HRS are used. To examine the relationship between EEA and physical health, this study uses an indicator for self-reported poor health as a dependent variable. However, this methodology might suffer from justification or role bias. Therefore, this research regresses a dummy variable for self-reported poor health on variables related to doctor-diagnosed health problems, difficulties with activities of daily living, difficulties with instrumental activities of daily living, and other functional limitations by logistic regressions to predict probabilities for poor health (Bound, 1999; Insler, 2014). These predicted probabilities are additional dependent variables used to examine the relationship between EEA and physical health. Moreover, the dependent variable is a dummy variable for poor mental health in the regression models for mental health. The dependent variables for the regression models for smoking behaviors include indicators for smoking and heavy smoking and the number of cigarettes smoked per day. Similarly, in the regression models for drinking behaviors, the dependent variables are indicators for drinking and at-risk drinking as well as the number of days of drinking per week and the number of drinks in a day of drinking. Fitzpatrick and Moore (2018) found that male mortality increased by two percent within one month after EEA. This implies a sample endogeneity problem if all samples are used for the analysis. Therefore, only respondents who were born in 1949 or before and lived for at least 64 years, are used for the analysis of this study. This study conducts robustness checks using different death age cutoffs for the composition of the analysis sample.

The results are as follows. First, at EEA, the probability of receiving Social Security benefits increases by over 30 percentage points. Second, tuning into EEA has negligible impacts on physical health. Third, such turn of age leads to decreases in the probability of smoking, the number of cigarettes smoked per day, and the probability of heavy smoking. Fourth, evidence suggests males drink more often after EEA. These findings are quite robust. Fifth, EEA might have some negative effects on the mental health of males. However, this finding is not robust.