

MAX PLANCK INSTITUTE  
FOR DEMOGRAPHIC RESEARCH

# Volunteering during early retirement years reduces depression

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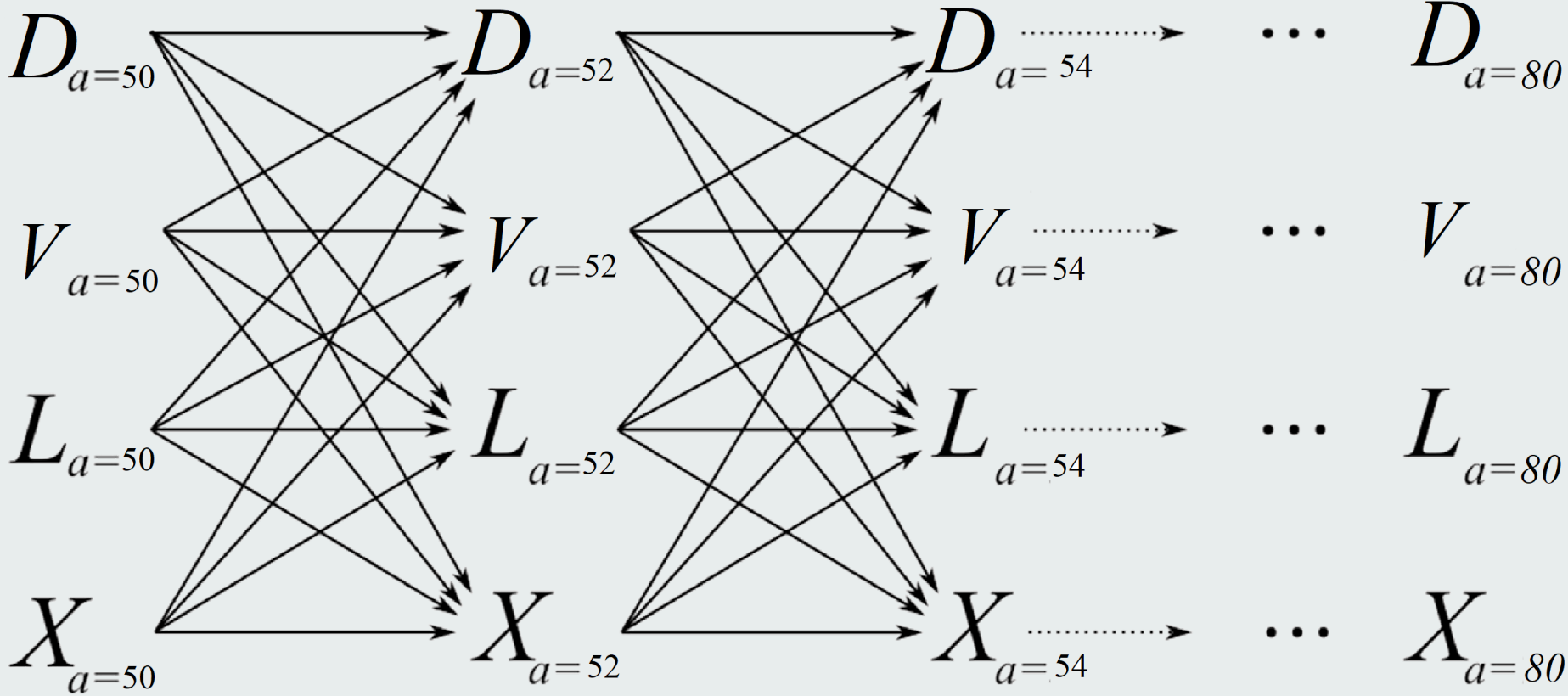
EAPS Working Group Health, Morbidity and Mortality

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# What do we do?

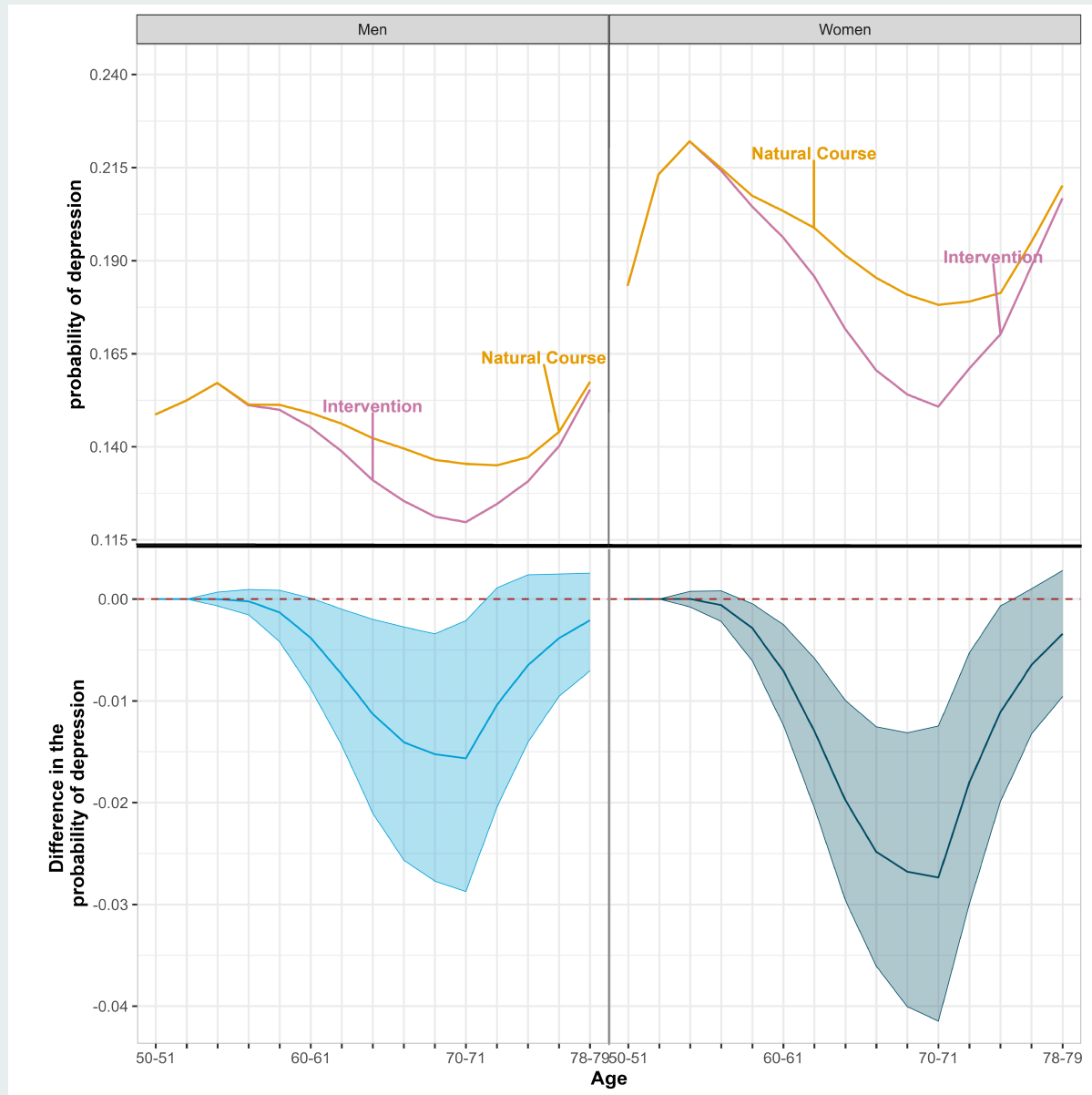
- 1) Does volunteering reduce depression among early retirees?
- 2) How do the effects of volunteering vary by gender, race/ethnicity and education
- 3) Do limitations in ADLs mediate the effect volunteering on depression?
  - Volunteering <-> Depression
  - Depression -> Retirement -> Volunteering
  - Depression -> ADLs and Volunteering

Simplified directed acyclic graph (DAG) showing the single-year cross-lagged structure whereby Depression (D), Volunteering (V), labor force participation (L) and time-varying confounders (X) are associated across age (a) 50 to 80 - HRS data 1998-2018

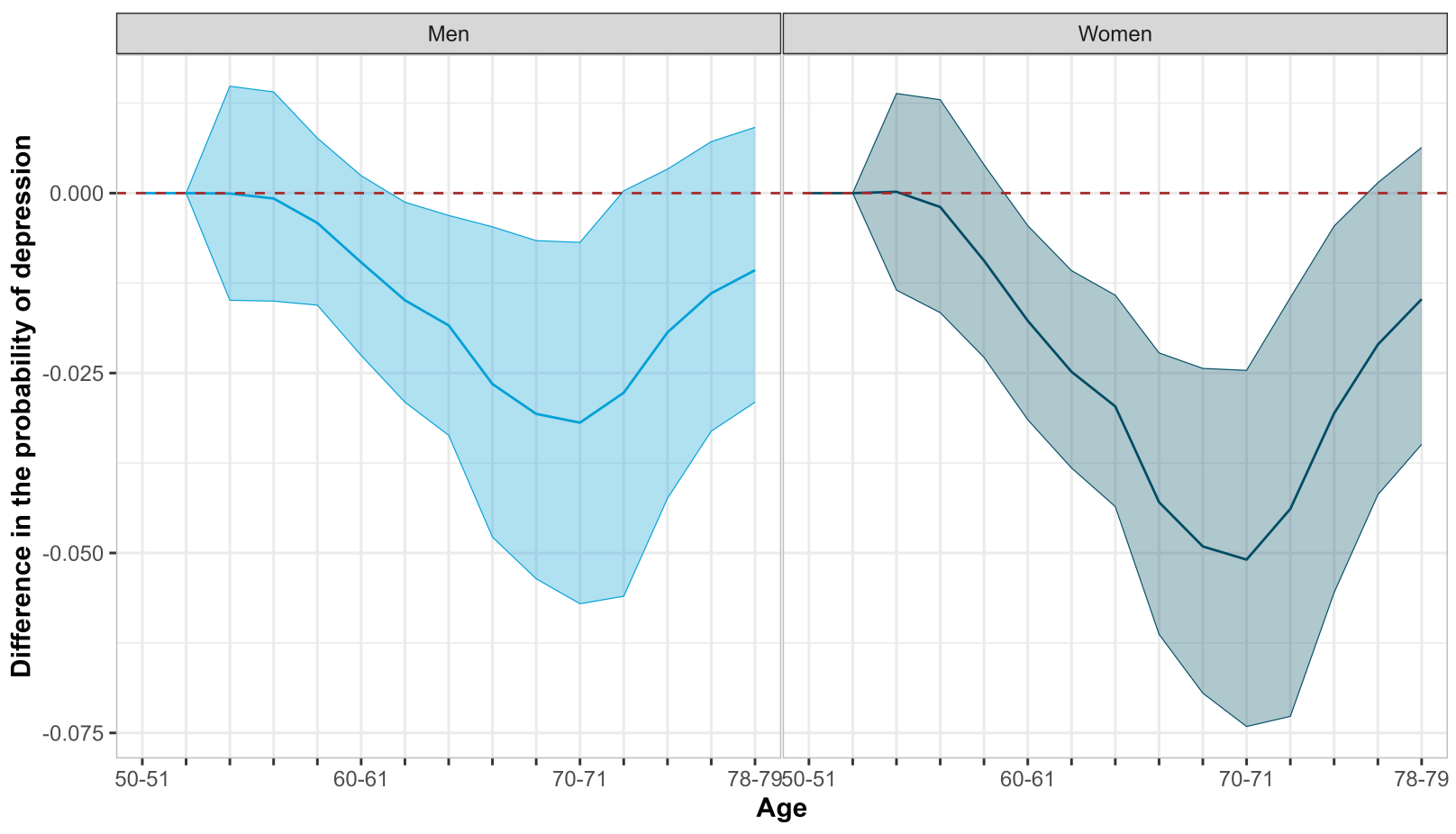


For simplicity, the DAG does not show time-invariant control variables, but these are included in all models.

Natural course vs intervention scenario (upper panel) and their difference by age (lower panel)



Difference in the probability of depression between the Natural Course and the Simulated Intervention among the treated (ATT), by gender



## U.S. population, ages 50-79, 2020

Men: **50.9 mln** - 9% depression (4.5 mln)

Women: **54,4 mln** - 12% depression (6.5 mln)

## Reduction in depression

Men: **300 ths**

Women: **600 ths**

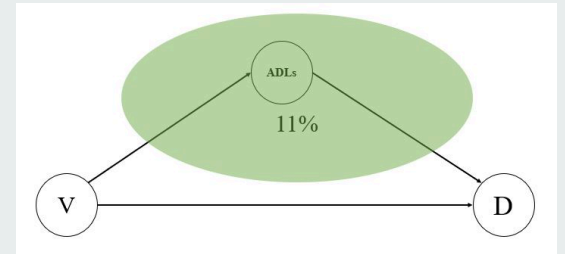
The effects seem larger among Blacks and Hispanics compared to Whites (-0.026 and -0.027 compared to -0.017 percentage points, respectively)

The **ATT** among individuals with less than high school degree is about twice the effect among those with at least some college; (the reduction in percentage points varies from -0.038 for early retirees with less than high school degree to -0.014 percentage points for those with college degree and above).

## Mechanisms

Our findings indicate that ADLs account for 11% of the TE. In simple words, the 11% of the TE of volunteering on depression goes through a reduced likelihood of developing ADLs until early retirees reach the age of 70

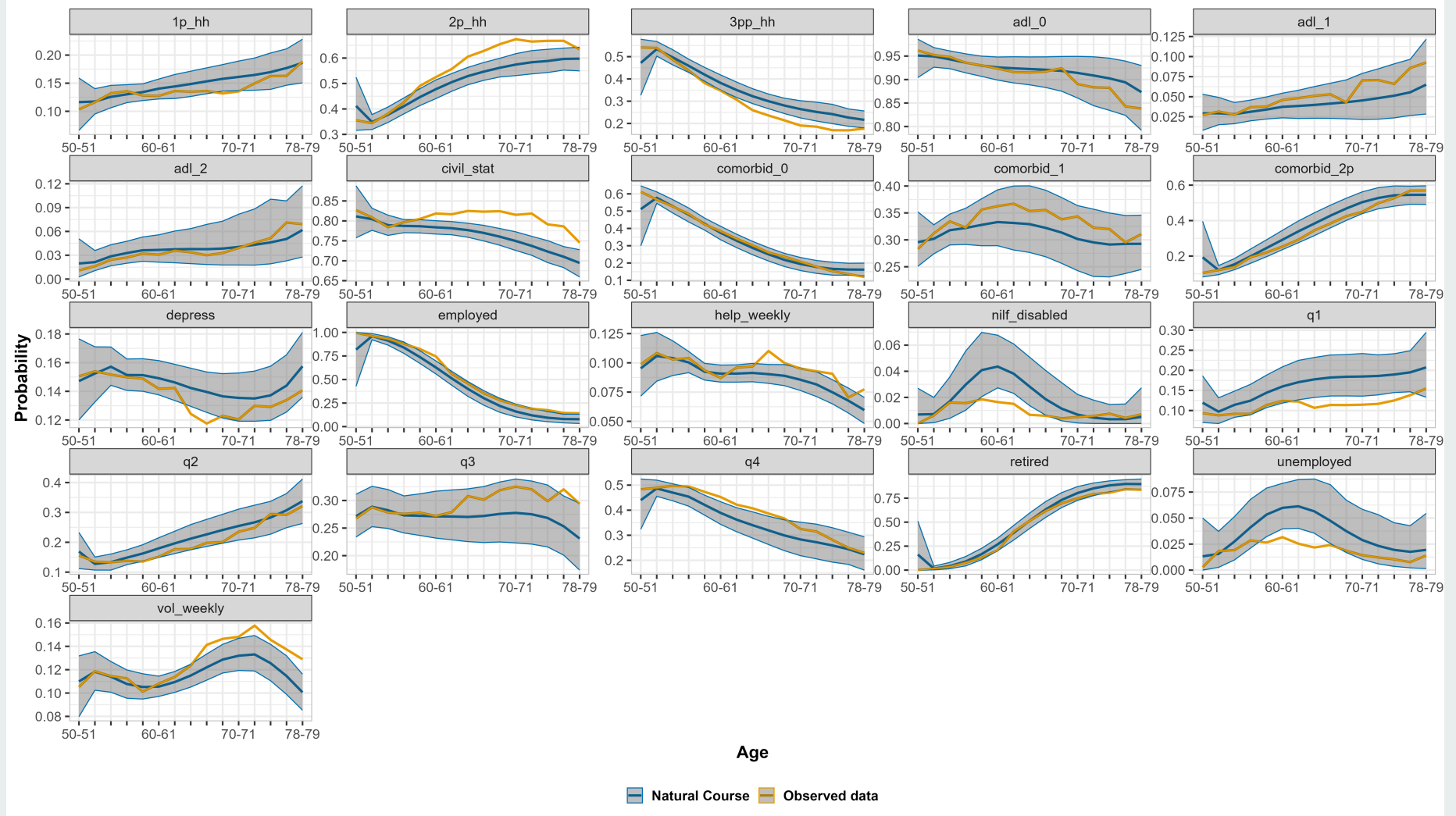
Limiting the intervention to individuals with no limitation in ADLs produces results of similar magnitude.



**Thank you for your attention!**

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# Natural Course vs Observed Data - Men





# Natural Course vs Observed Data - Women

