Feature-wide Effect Heterogeneity of Retirement on Subsequent Health through Causal Forests

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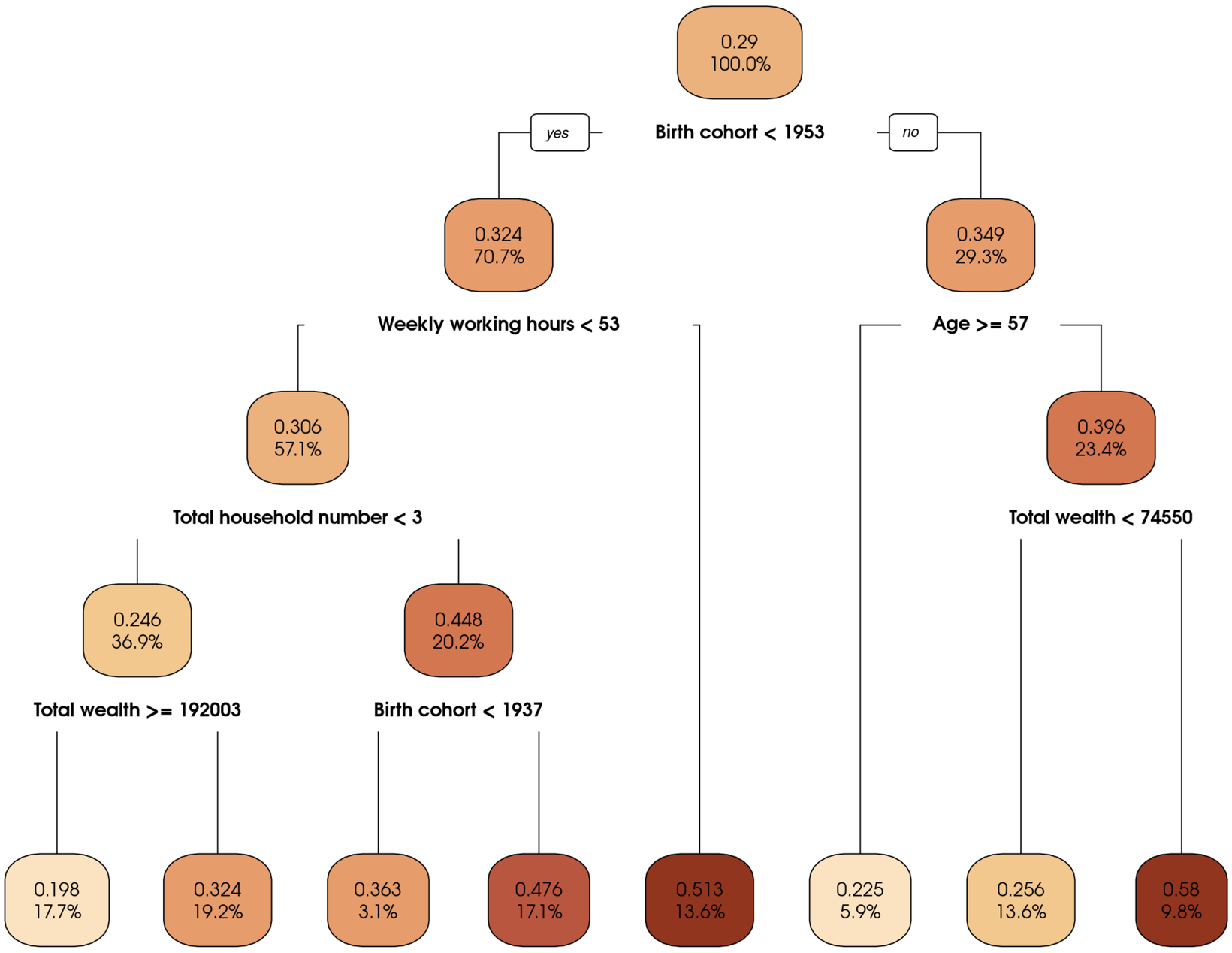

Figure 1: A representative causal tree of subjective health

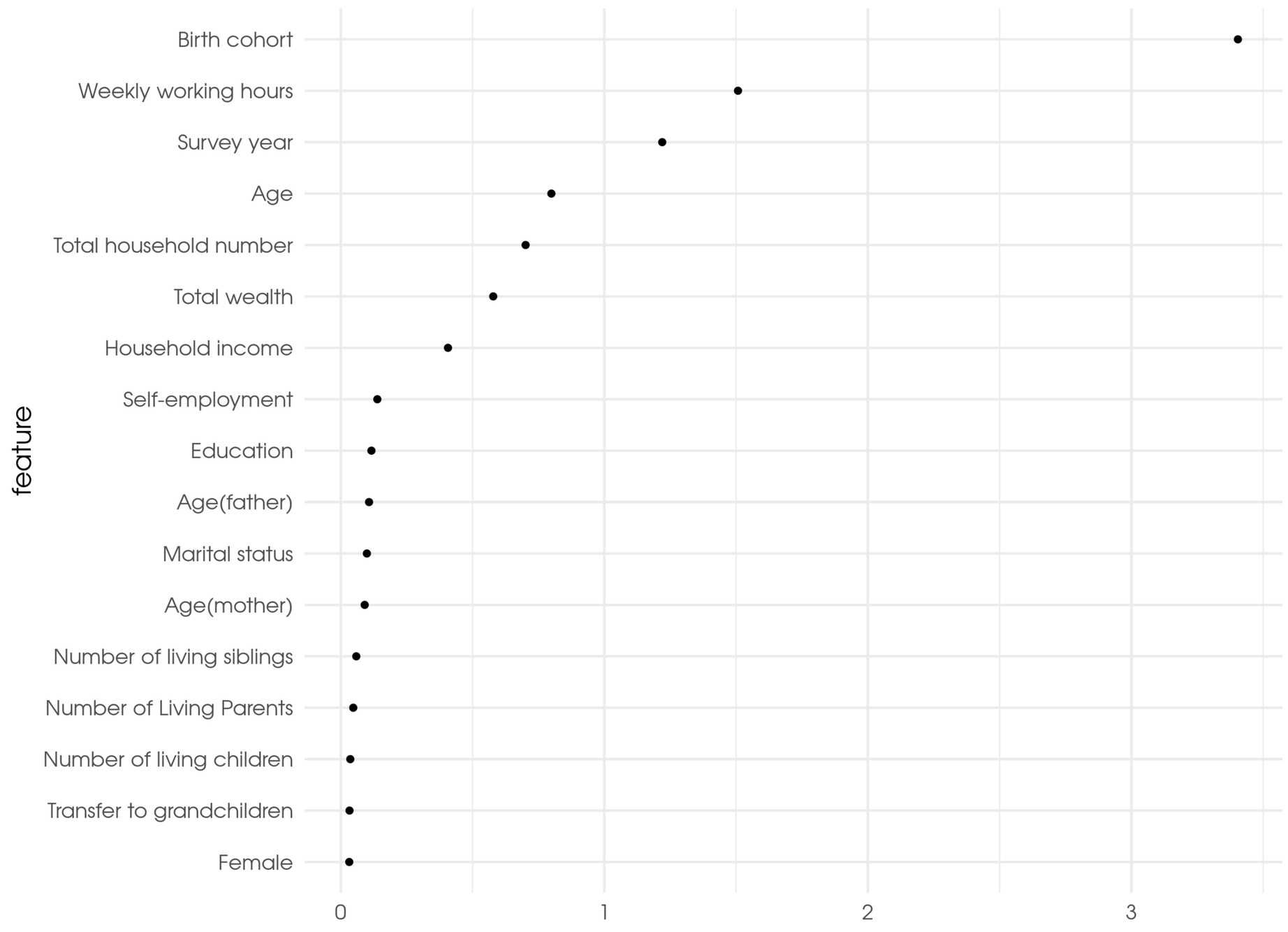

Figure 2: Feature importance of subjective health

Introduction

Retirement as a key transition for health

- Improve or worsen?
  - Results are mixed[2-17]

Feature-wide effect heterogeneity

- Considers many features and their interaction simultaneously
- Detects effect heterogeneity in a data-driven way
- A kind of abductive approach

Data and Methods

HRS-family

- HRS, MHAS, SHARE, ELSA, CHARLS, and KLoSA
- To obtain larger sample size

Feature-wide CATE

$$\tau = \frac{1}{n}\Sigma_i \left[Y_i(1) - Y_i(0) \mid \overrightarrow{X}_i \in l(\vec{x}; \Pi) \right]$$

Causal forests[1]

- Divides sample by features and estimate CATE
- “Honesty”: constructing tree and estimating CATE in different sample

This work was supported by JSPS KAKENHI Grant Number JP24KJ1919.

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