

# Detecting influential beliefs in large-scale surveys

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1. Research problem
2. Belief networks
3. Integrated Value of Influence
4. Discussion

# Research problem

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## Large-scale surveys

Cross-sectional **Omnibus** Social Surveys Focusing  
on Social Behavior, Attitudes, and Values

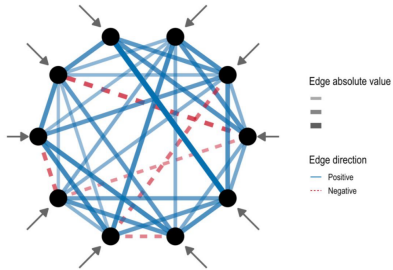
## Cross-sectional **Omnibus** Social Surveys Focusing on Social Behavior, Attitudes, and Values

- No single research goal
- Variety of topics and modules



# Belief systems

Example Belief System Network



Incoming arrows represent possible exogenous influences

Brandt & ... 2020

- Belief system definition ...

# Motivating example - ESS - Attitude towards government

## Governmental Performance

Satisfaction with **Economy**

Satisfaction with **Democracy**

State of **Healthcare**

State of **Education**

## Political Trust

**Parliament**

**Legal system**

**Police**

**Politicians**

**Political parties**

## Representation & Fairness

Systems allows people to have **a say**

Systems allows people to have **influence**

Gov. decisions are **transparent**

Gov. takes into account **interests of all**

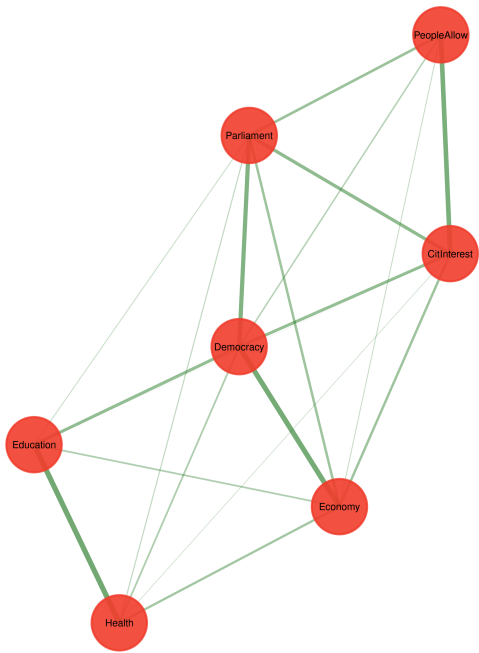
System gives a **fair chance** to all

- CAN - UVA - IVI
- GGM with redundancy analysis (UVA)
- Network tree - partition of covariance matrix of GGM
- Centrality - Influence - IVI
- IVI differences between groups

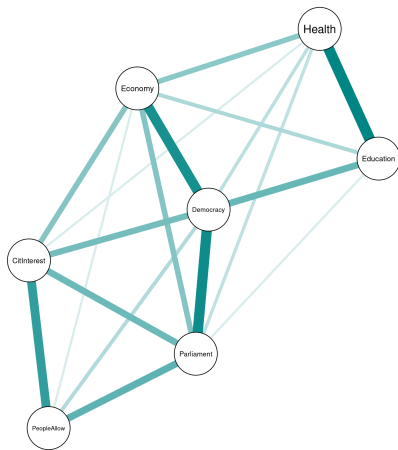
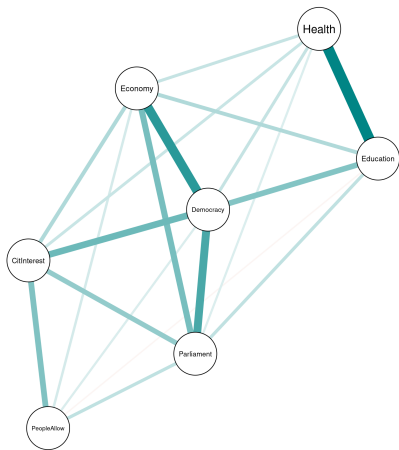


## **Belief networks**

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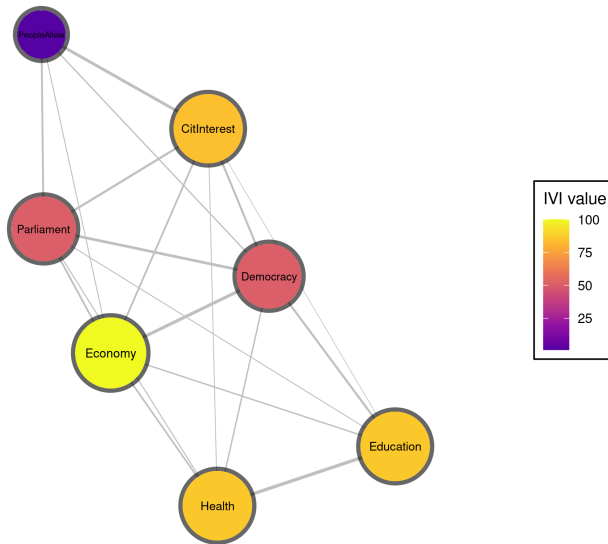
# Electoral autocracies VS Liberal Democracies

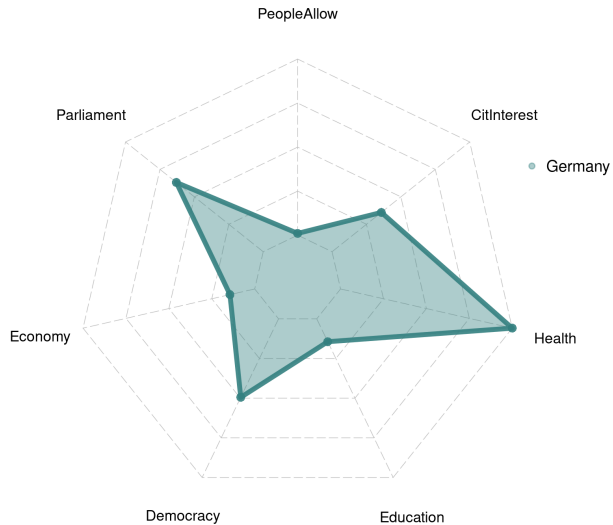


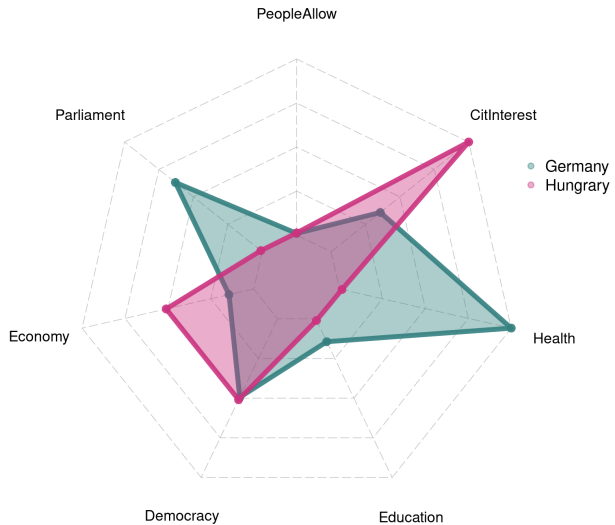
## **Integrated Value of Influence**

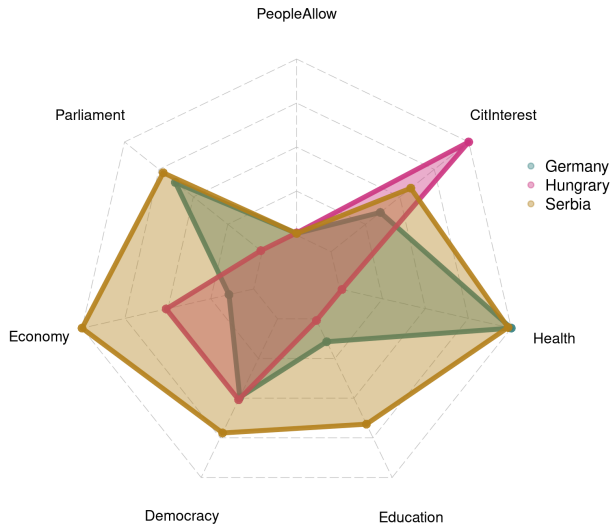
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## Belief Network IVI - Complete ESS R9 dataset



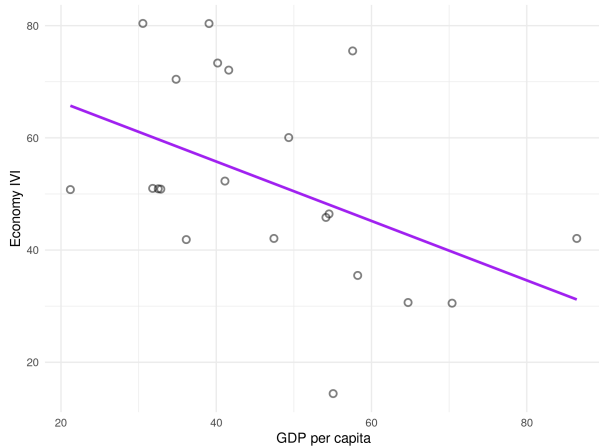








# GDP per capita vs Economy IVI



$$r = -0.429 \quad p = 0.02$$

# Discussion

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