

# Detecting influential beliefs in large-scale surveys

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

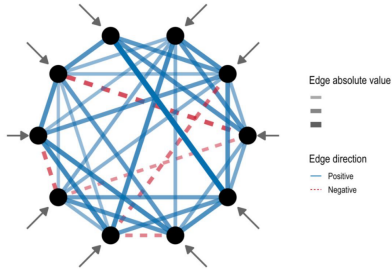
## Cross-sectional **Omnibus** Social Surveys Focusing on Social Behavior, Attitudes, and Values

- No single research goal
- Variety of topics and modules



# Belief systems

Example Belief System Network



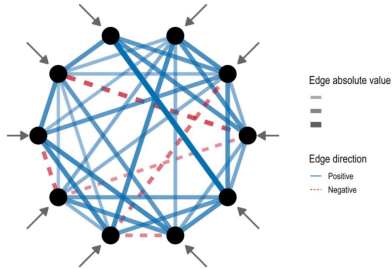
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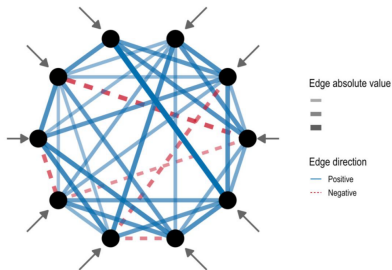
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**Connectionist framework** ⇒ **Network Flow**

## Motivating example - European Social Survey

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- Round 9, 2018/2019
- 30 European countries
- **Attitude towards national government**





# Motivating example

## 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

**Unique Variable Analysis** (Christensen, Garrido & Golino, 2020)

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on partial correlation matrix

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graphical LASSO regularization, extended BIC for model selection

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## **Split the sample & test network differences.**

## **Integrated Value of Influence (IVI)**

(Salvaty, Ramialson & Currie, 2020)

# UVA - Redundancy analysis

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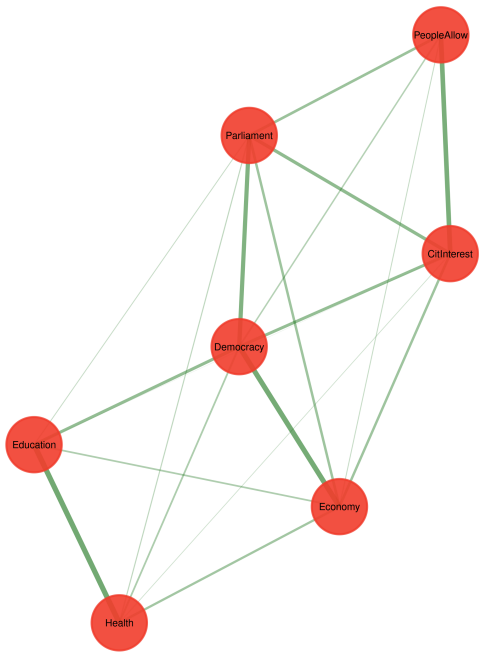
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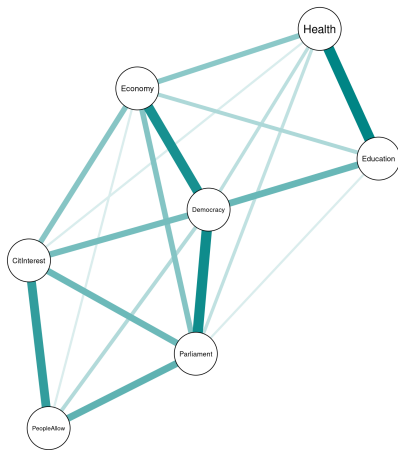
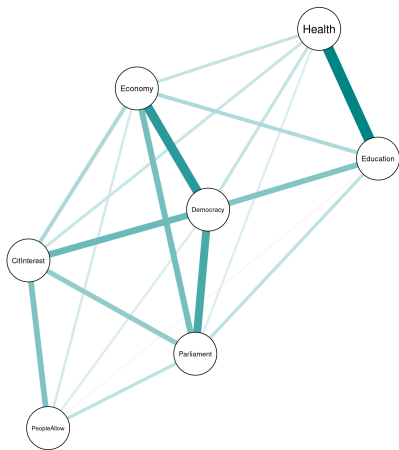
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# Electoral autocracies VS Liberal Democracies



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$$Hub_i = DC'_i + LH'_{index_i}$$

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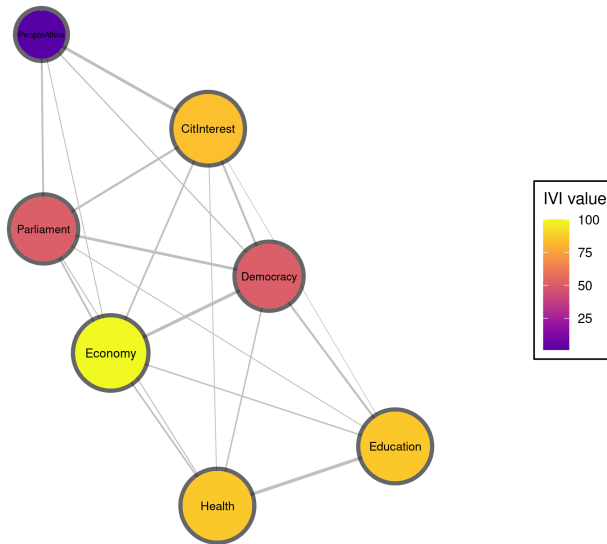
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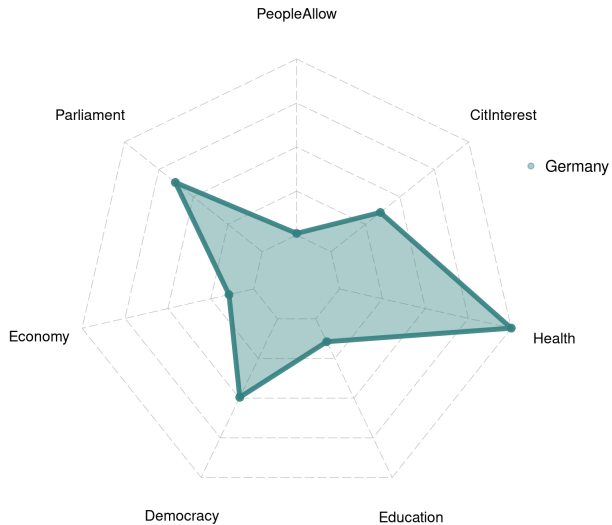
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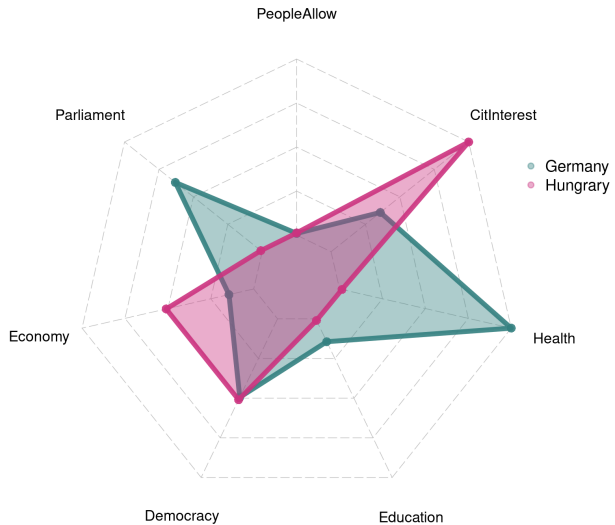
$$\text{Spread}_i = (\text{NC}'_i + \text{CR}'_i)(\text{BC}'_i + \text{Cl}'_i)$$

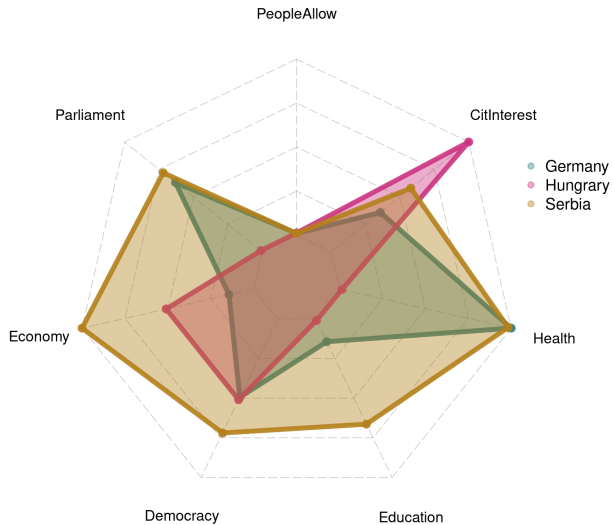
$$\text{Scaled } IVI \in [0, 100]$$

## Belief Network IVI - Complete ESS R9 dataset

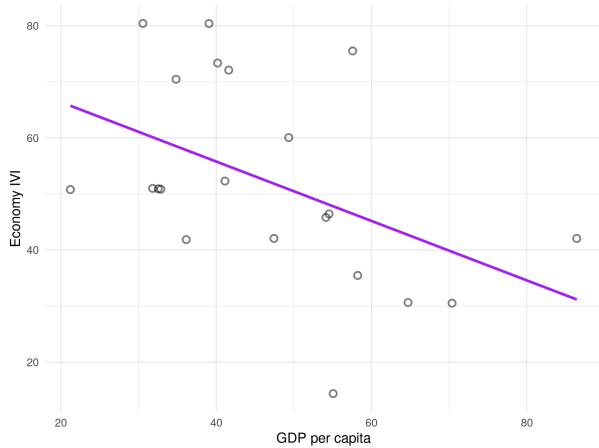








# GDP per capita vs Economy IVI



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

