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Overcoming the structuralist/individualist dichotomy

Inequality beliefs from a new network and comparative perspective

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Introduction

- **Inequality beliefs**
  - A socially bounded process; "a special case of causal inference, where people make sense of (observed) unequal outcomes by inferring the (unobserved) social forces that brought these about" (Mijs, 2018; p. 64).

- **Research question:**
  - How are inequality beliefs [IB] structured across contemporary societies?

Theory

- IB are generally studied with the **structuralist - individualist dichotomy** (Kluegel & Smith, 2017; Mijs, 2018).
- This distinction is derived from **factor analytic techniques**, which were found to systematically underestimate the number of latent factors, especially when highly correlated, with low N and with few indicators per factor (Ruscio and Roche, 2012; Keith et al., 2016; Crawford et al., 2010; Green et al., 2016).
- Exploratory Graph Analysis [**EGA**] (Golino & Epskamp, 2017) challenges the framework of latent variables positing that the number of factors is equal to the number of clusters (Golino et al., 2020) of a Gaussian Graphical Model [**GGM**] (Epskamp et al., 2018).
- Our work builds on recent studies conceptualizing **attitudes as networks** of causally interacting evaluative reactions (Dalege et al., 2016).

EGA algorithm

1. **GGM** between the selected survey variables.
   - *Covariance Matrix* Estimation: calculate the **covariance** between each pair of variables
   - *Precision Matrix* Estimation: equal to the inverse of the covariance matrix. It encodes the **partial correlations** between variables.
   - *L1 regularization (LASSO)*: **Shrinks weaker edges** towards zero, in order to avoid working with spurious partial correlation, and to increase parsimony.
   - *Model Selection:* Determine the **optimal level of regularization**. This is done minimizing Bayesian Information Criterion (BIC).
   - Interpretable as **Partial Correlation** networks.
2. **Walktrap Community detection algorithm**: applied on the absolute weighted adjacency matrix obtained with the GGM. It identifies clusters. It is based on **random walks** with four steps. Communities are defined based on how likely the random walks are to remain within the same community.

Methods

- **Data:** ISSP 2019 - Social Inequality Module, 27 countries (N=35242).
- **Research design:** the following procedure was applied to each country:
  1. Fit EGA
  2. Fit CFA
  3. Measures of fit
  4. Calculate centrality metrics

Methods

- **Methods:** Network measures

$$s_i = C_{\mathrm{D}}^{w}(i) = \sum_{j}^{N} w_{ij}$$

Figure: Strength centrality

Methods

- **Variables:** Inequality beliefs battery

Q1. Please tick one box for each of these to show how important you think it is for getting ahead in life… *(Please tick one box on each line)*

		Essential	Very important	Fairly important	Not very important	Not important at all	Can't choose
a.	<AHEAD1: ABCDE> …how important is coming from a wealthy family?	1	2	3	4	5	8
b.	<AHEAD2: ABDE>… how important is having well-educated parents?	1	2	3	4	5	8
c.	<AHEAD3: ABDE>… how important is having a good education yourself?	1	2	3	4	5	8
d.	<AHEAD6: ABDE>… how important is hard work?	1	2	3	4	5	8
e.	<AHEAD7: ABCDE>… how important is knowing the right people?	1	2	3	4	5	8
f.	<AHEAD8: ABDE>… how important is having political connections?	1	2	3	4	5	8
g.	<AHEAD17: DE>…how important is giving bribes?	1	2	3	4	5	8
h.	<AHEAD9: ABDE>… how important is a person's race?	1	2	3	4	5	8
i.	<AHEAD10: ABDE>… how important is a person's religion?	1	2	3	4	5	8
j.	<AHEAD12: ABDE>… how important is being born a man or a woman?	1	2	3	4	5	8

Methods

- **Hypotheses:**
  - **H1:** The inequality beliefs battery will show **more than two dimensions** in the majority of the ISSP countries.
  - **H2:** The items composing the individualist beliefs dimension will be more **central** in the attitude networks of countries characterized by high GINI.

Results

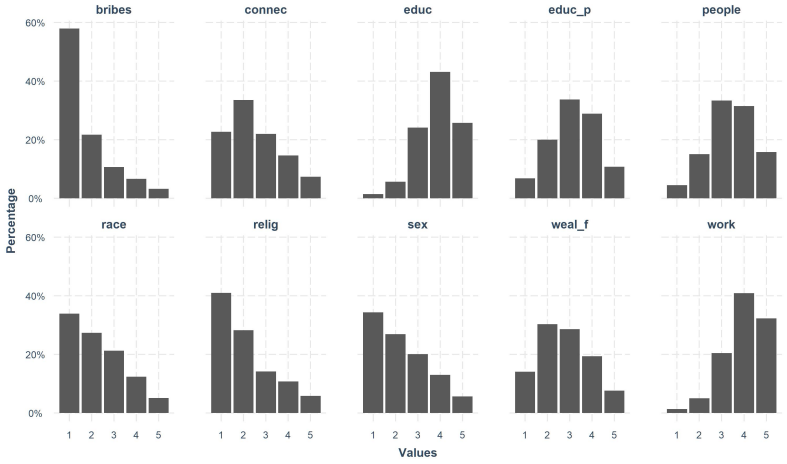


Figure: Inequality beliefs aggregate distribution

One country example: Italy

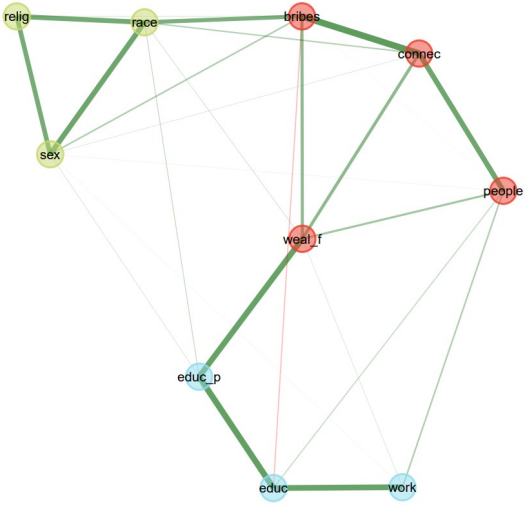


Figure: EGA

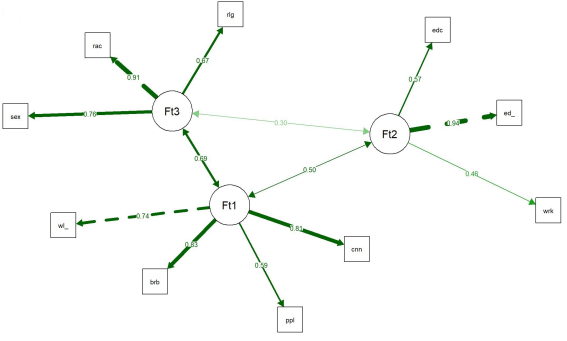
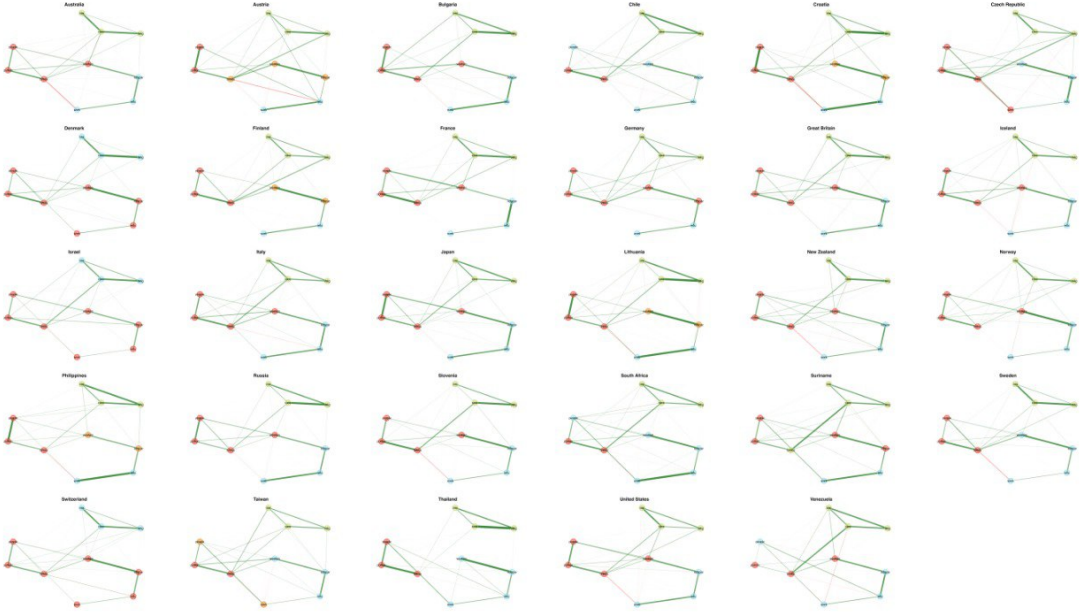


Figure: CFA


Australia
Austria
Bulgaria
Chile
Croatia
Czech Republic
Denmark
Finland
France
Germany
Great Britain
Iceland
Israel
Italy
Japan
Lithuania
New Zealand
Norway
Philippines
Russia
Slovenia
South Africa
Suriname
Sweden
Switzerland
Taiwan
Thailand
United States
Venezuela

H1: Dimensions

Table: Number of clusters by country

2 clusters

1	DK	Denmark
2	IL	Israel
3	CH	Switzerland

3 clusters

1	AU	Australia
2	BG	Bulgaria
3	CL	Chile
4	CZ	Czech Republic
5	FR	France
6	DE	Germany
7	GB	Great Britain
8	IS	Iceland
9	IT	Italy
10	JP	Japan
11	NZ	New Zealand
12	NO	Norway
13	RU	Russia
14	SI	Slovenia
15	ZA	South Africa
16	SE	Sweden
17	TH	Thailand
18	US	United States
19	VE	Venezuela

4 clusters

1	AT	Austria
2	HR	Croatia
3	FI	Finland
4	LT	Lithuania
5	PH	Philippines

H1: Dimensions

		CFA (EGA)		EFA (2-factors)	
	Country	CFI	RMSEA	CFI	RMSEA
1	Australia	0.97	0.09	0.80	0.18
2	Austria	0.95	0.12	0.76	0.19
3	Bulgaria	0.97	0.13	0.73	0.23
4	Chile	0.97	0.12	0.89	0.13
5	Croatia	0.98	0.14	0.72	0.27
6	Czech.Republic	0.97	0.13	0.83	0.18
7	Denmark	0.96	0.10	0.85	0.14
8	Finland	0.98	0.06	0.79	0.17
9	France	0.98	0.08	0.79	0.20
10	Germany	0.96	0.10	0.85	0.14
11	Great.Britain	0.96	0.11	0.84	0.16
12	Iceland	0.96	0.09	0.84	0.13
13	Israel	0.95	0.09	0.88	0.11
14	Italy	0.96	0.13	0.81	0.18
15	Japan	0.98	0.12	0.81	0.21
16	Lithuania	0.98	0.12	0.75	0.24
17	New.Zealand	0.96	0.10	0.81	0.16
18	Norway	0.96	0.10	0.81	0.16
19	Philippines	0.99	0.08	0.78	0.18
20	Russia	0.94	0.13	0.67	0.21
21	Slovenia	0.94	0.12	0.79	0.16
22	South.Africa	0.91	0.17	0.84	0.15
23	Sweden	0.98	0.08	0.84	0.17
24	Switzerland	0.95	0.09	0.84	0.13
25	Thailand	0.98	0.10	0.73	0.21
26	United.States	0.93	0.13	0.80	0.17
27	Venezuela	0.91	0.12	0.90	0.11

H2: Centrality - GINI

Figure: Average cluster centrality of inequality beliefs across contemporary societies (with 3 clusters), by GINI

H2: Centrality - GINI

Figure: Average cluster centrality of inequality beliefs across contemporary societies (with 3 clusters), by GINI. Without ZA.

Conclusions

- Inequality beliefs are structured in **more than two clusters** in the vast majority of contemporary societies.
- Contrary to our expectations, the **average centrality of the individualist cluster was not significantly higher** in countries characterized by high GINI, as the structuralist one.
- Future studies can incorporate the **social capital cluster of inequality beliefs** in two directions:
  1. **Within societies**, to investigate which population segments are more likely to endorse it.
  2. **Between societies**, to understand its relative weights in different contemporary societies.

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