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Profiles of tolerance and respect for gender equality among youth. Comparisons across countries

A Latent Class Analysis

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March 2021

0 Outline

1 Outline

1 Research questions

1. What profiles of attitudes toward gender equality can be distinguished among adolescents in different countries?
2. Are these profiles comparable across countries?
3. What individual and contextual factors are associated with profile membership?

2 Outline

2 Civic and citizenship education - 2016

The International Civic and Citizenship Education Study (ICCS)

- Population: Grade 8 students
- Complex sample design: Multistage, stratified, cluster sample design
  - Sampling weights, HLM
- Complex assessment design: Not every student is assessed and not every items is answered by every student
  - Plausible values

2 Focus

Groups

- Europe: Belgium (Flanders), Nederlands
- South America: Chile, Colombia

Attitudes towards gender equality items (Agree/Disagree)

- Men and women should have equal opportunities to take part in government
- Men and women should have the same rights in every way
- Not many jobs available, men should have more right to a job than women (r)
- Men are better qualified to be political leaders than women (r)

3 Outline

3 Why Latent Class Analysis?

- Many studies focused on variable-centered analyses (CFA, SEM).
- Not many focused in person-centered approaches.
- No information about students' different attitudes towards gender equality.
- LCA can directly assess the theory that distinctive groups of people share specific attitudes.

3 Multigroup LCA

To compare the different profiles across groups, at least 1 level of homogeneity is needed.

- Heterogenous model: Group (country) specific model
- Partial homogeneity: Conditional probabilities equal across groups (countries)
  - Conditional probabilities to specific classes equal across groups (countries)
- Complete homogeneity: Conditional probabilities and class sizes equal across groups (countries)

3 Logistic regression

What characteristics of a student are more likely to be classified in a specific class?

- Response variable: Class membership based on the probabilities from a Confirmatory (2 classes) LCA model.
- Explanatory variables: Student, school and country background factors.

4 Outline

4 Classes identified

Profiles identified

- Fully egalitarian: Most likely to agree to all items
- Competition-driven sexism: Most likely to disagree to gender competitive items

Comparability

- Partial homogeneity for all classes between countries in the same region
- Partial homogeneity for 2 main classes between two regions

4 Europe - 3 classes

Conditional probabilities Europe

Items	Fully egalitarian	Competition- driven sexism	Not every way egalitarian
Men and women should have equal opportunities to take part in government	**0.994**	**0.933**	0.535
Men and women should have the same rights in every way	**0.980**	**0.921**	0.000
Not many jobs available, men should have more right to a job than women(r)	**0.930**	**0.172**	0.487
Men are better qualified to be political leaders than women(r)	**0.899**	**0.136**	0.578
Class estimated size	***0.880***	***0.097***	*0.023*

Fit statistics

AIC = 12613, BIC = 12706, aBIC = 12662, Entropy = 0.883

Multigroup fit statistics Europe

Type	Log-Likelihood	AIC	BIC	aBIC	Entropy	LL Reduction
Complete heterogeneity	-10189.88	20437.76	20630.55	20538.40	0.939	
Partial homogeneity	**-10204.65**	**20443.30**	**20556.31**	**20502.29**	**0.871**	**0.1%**
Complete homogeneity	-10242.16	20514.32	20614.03	20566.37	0.945	0.4%

4 South America - 4 classes

Conditional probabilities South America

Items	Fully egalitarian	Competition-driven sexism	Not involved	Not every way egalitarian
Men and women should have equal opportunities to take part in government	**0.999**	**1.000**	0.706	0.622
Men and women should have the same rights in every way	**0.996**	**0.967**	0.656	0.082
Not many jobs available, men should have more right to a job than women(r)	**0.895**	**0.156**	0.379	0.942
Men are better qualified to be political leaders than women(r)	**0.928**	**0.007**	0.456	0.937
Class estimated size	***0.785***	***0.148***	*0.041*	*0.025*

Fit statistics
AIC = 25412, BIC = 25550, aBIC = 25490, Entropy = 0.853

Multigroup fit statistics South America

Type	Log-Likelihood	AIC	BIC	aBIC	Entropy	LL Reduction
Complete heterogeneity	-10189.88	20437.76	20630.55	20538.40	0.939	
Partial homogeneity	**-10204.65**	**20443.30**	**20556.31**	**20502.29**	**0.871**	**0.1%**
Complete homogeneity	-10242.16	20514.32	20614.03	20566.37	0.945	0.4%

4 Comparability

Conditional probabilities partial homogeneity region multigroup analysis

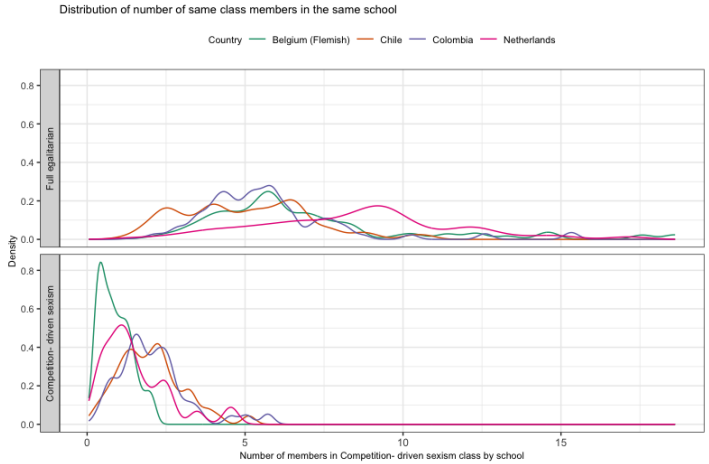
	Europe			South America		
Item	Fully egalitarian	Competition-driven sexism	Other	Fully egalitarian	Competition-driven sexism	Other
Men and women should have equal opportunities to take part in government	**0.997**	**0.975**	0.575	**0.997**	**0.975**	0.385
Men and women should have the same rights in every way	**0.980**	**0.948**	0.337	**0.980**	**0.948**	0.195
Not many jobs available, men should have more right to a job than women(r)	**0.947**	**0.005**	0.488	**0.947**	**0.005**	0.786
Men are better qualified to be political leaders than women(r)	**0.891**	**0.261**	0.503	**0.891**	**0.261**	0.736
Class estimated size	***0.873***	***0.087***	*0.040*	***0.787***	***0.188***	*0.025*

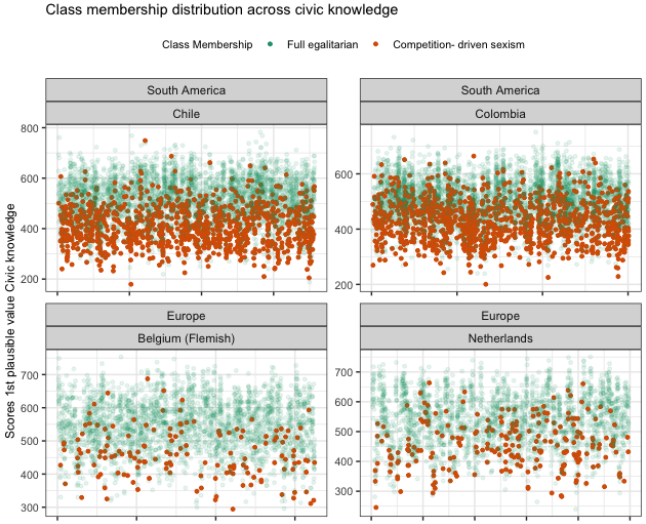
Multigroup fit statistics Regions

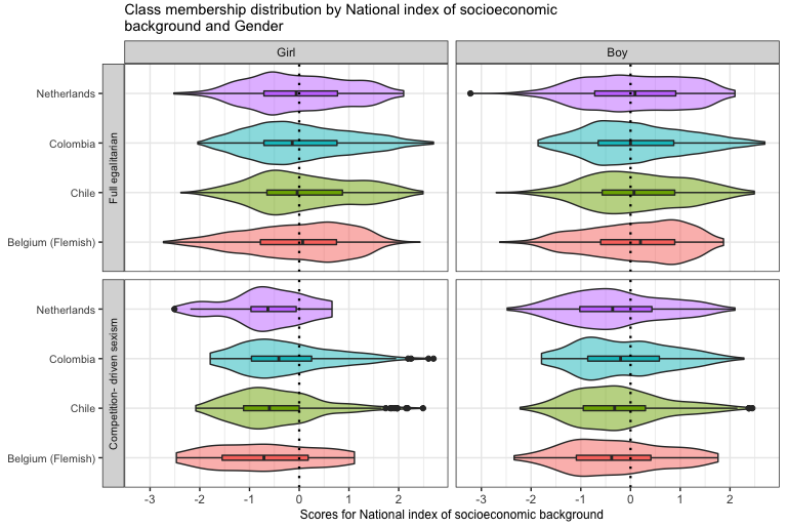
Type	Subtype	Log-Likelihood	AIC	BIC	aBIC	Entropy	LL Reduction
Complete heterogeneity		-29949.65	59957.30	60180.37	60088.21	0.903	
Partial homogeneity	**2 classes**	**-29963.97**	**59969.94**	**60131.47**	**60064.74**	**0.928**	**0.0%**
	3 classes	-29986.77	60007.54	60138.31	60084.28	0.925	0.1%
Complete homogeneity		-30092.85	60215.71	60331.09	60283.42	0.889	0.4%

5 Outline

5 Characterization of classes







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5 Logistic regression

	GLM with survey			Multilevel GLM		
Predictors	*Odds Ratios*	*CI*	*p*	*Odds Ratios*	*CI*	*p*
Intercept	0.01	0.01 – 0.01	**<0.001**	0.01	0.00 – 0.02	**<0.001**
Civic Knowledge [Low Level PV1]	29.26	21.78 – 39.32	**<0.001**	17.30	16.75 – 17.88	**<0.001**
Civic Knowledge [Medium Level PV1]	6.15	4.59 – 8.25	**<0.001**	4.37	4.23 – 4.51	**<0.001**
Gender [Boy]	2.18	1.91 – 2.49	**<0.001**	1.88	1.86 – 1.91	**<0.001**
Paceful protests participation [Not important]	0.93	0.82 – 1.06	0.304	1.14	1.13 – 1.16	**<0.001**
Religion [With religion]	1.36	1.16 – 1.58	**<0.001**	1.04	1.02 – 1.05	**<0.001**
Expected education student [Secondary at most]	0.74	0.63 – 0.87	**<0.001**	1.28	1.25 – 1.30	**<0.001**
Immigration [Parents born abroad]	0.77	0.51 – 1.14	0.195	1.94	1.85 – 2.04	**<0.001**
National Socio Economical Background [Low level]	1.17	0.95 – 1.44	0.130	1.07	1.04 – 1.09	**<0.001**
National Socio Economical Background [Middle level]	1.04	0.88 – 1.24	0.648	1.03	1.01 – 1.05	**0.005**
School composition [More disadvantage than affluent students]	1.73	1.45 – 2.06	**<0.001**	1.74	1.29 – 2.36	**<0.001**

	Multilevel GLM Null	Multilevel GLM
Random Effects		
σ^2	3.29	3.29
τ_{00}	2.85 $_{\text{id\_s:IDSCHOOL}}$	2.29 $_{\text{id\_s:IDSCHOOL}}$
	0.49 $_{\text{COUNTRY:id\_s}}$	0.15 $_{\text{COUNTRY:id\_s}}$
	0.22 $_{\text{GROUP:COUNTRY}}$	0.15 $_{\text{GROUP:COUNTRY}}$
	1.36 $_{\text{GROUP}}$	1.06 $_{\text{GROUP}}$
ICC	0.60	0.53
N	2 $_{\text{GROUP}}$	2 $_{\text{GROUP}}$
	4 $_{\text{COUNTRY}}$	4 $_{\text{COUNTRY}}$
	287 $_{\text{id\_s}}$	282 $_{\text{id\_s}}$
	178 $_{\text{IDSCHOOL}}$	171 $_{\text{IDSCHOOL}}$
Observations	15840	12127

5 What is next?

- It is possible to include more countries in each group?.
- It is possible to include another group (Asia)?.
- Identify relevant factors that influence the class membership.

5 References

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Thank you for your feedback!