Using Latent Class Analysis for testing the equivalence of multi-item scales across data from different survey programs. The example of National Identity types.

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Presentation at SDR Workshop Dec 2019, Warsaw
„ONBound“:
Old and New Boundaries - National Identities and Religion

- [https://www.onbound.international](https://www.onbound.international)
- Funded by Deutsche Forschungsgemeinschaft, Grant No. 316798296
- Researchers from GESIS and Univ Düsseldorf, in cooperation with Umea University and University of Milan
- Compiling international surveys (1970 onwards) and macro data (1945 onwards) on identities, religion and religiosity, and some political attitudes and behaviors
The ONBound Project, ctd...

- Current internal dataset version:
  - Micro: 5.8 mio cases, 269 samples, 162 countries, around 150 concepts/measures, several 1000 source variables.
  - Macro: 21 relevant data sources, dozens of topical areas, 1462 source variables
  - Original data on constitutions worldwide coded by Uni Düsseldorf team

- All material (linkage and harmonisation scripts) will be shared for public use in 2020!
What is this presentation about?

• Substantively: Classifying countries by Ethnic and Civic National Identity types
  – Eg., using multiple sources, classify all European countries, and check for time trends

• But before that:

  Are the results of a national identity battery stable in comparison to data for the same countries but from other survey programs?
Civic and Ethnic Types

- **Civic type**
  - acquired, subjective, voluntaristic criteria prioritised
  - *lus solis* and “Staatsnation” at institutional level
- **Ethnic type**
  - inherited or ascribed criteria prioritised
  - *lus sanguinis* at institutional level, essentialist “Kulturnation”

- **Diverging results**, especially with micro-level data – internal heterogeneity of countries matters!
- Operationalisations questioned (cf. Janmaat 2006)
- Almost everyone uses Factor Analysis
- ...and finds *positive* correlations between ethnic and civic factors.
Research Question and Approach

Are the results of a national identity battery consistent in comparison to data for the same countries from another survey program?

• Conduct Latent Class Analyses to establish number and substance of national identity types (classes)
• Separate and pooled analyses for assessing cross-sample variability
Data

- Three survey sources: ISSP, European Values Study, IntUne
- Full pooled file has 66,876 cases, nested within 6 non-independent samples
- Similar, but not fully identical item batteries
Q. 2. Some people say that the following things are important for being truly \[\text{NATIONALITY}\]^1. Others say they are not important. How important do you think each of the following is... (Please, check one box on each line)

<table>
<thead>
<tr>
<th>ISSP 2013</th>
<th>Very important</th>
<th>Fairly important</th>
<th>Not very important</th>
<th>Not important at all</th>
<th>Can’t choose</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. to have been born in [COUNTRY]</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b. to have [COUNTRY NATIONALITY] citizenship</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c. to have lived in [COUNTRY] for most of one’s life</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d. to be able to speak [COUNTRY LANGUAGE]</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e. to be a [religion]</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f. to respect [COUNTRY NATIONALITY] political institutions and laws</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>g. to feel [COUNTRY NATIONALITY]</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>h. to have [COUNTRY NATIONALITY] ancestry</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
SHOW CARD 79 – READ OUT AND CODE ONE ANSWER PER LINE

Q79 Please indicate to what extent you agree or disagree with each of the following statements regarding immigrants living in your country:

<table>
<thead>
<tr>
<th></th>
<th>agree strongly</th>
<th>agree</th>
<th>neither agree nor disagree</th>
<th>disagree</th>
<th>disagree strongly</th>
<th>DK</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>v274 Because of the number of immigrants in [COUNTRY], I sometimes feel like a stranger</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>v275 Today in [COUNTRY], there are too many immigrants</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

SHOW CARD 80

Q80 Some people say the following things are important for being truly [NATIONALITY]. Others say they are not important. How important do you think each of the following is?

EVS 2017

<table>
<thead>
<tr>
<th></th>
<th>very important</th>
<th>quite important</th>
<th>not important</th>
<th>not important at all</th>
<th>DK</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>v276 To have been born in [COUNTRY]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>v277 To respect [COUNTRY]’s political institutions and laws</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>v278 To have [COUNTRY]’s ancestry</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>v279 To be able to speak [THE NATIONAL LANGUAGE] [NOTE: if more than one national languages, ask the national languages]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>v280 To have lived for a long time in [COUNTRY]</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>
Q13. People differ in what they think it means to be (NATIONALITY). In your view, how important is each of the following to be (NATIONALITY)?

(ONE ANSWER PER LINE)

<table>
<thead>
<tr>
<th>#</th>
<th>(READ OUT ROTATE)</th>
<th>Very important</th>
<th>Somewhat important</th>
<th>Not very important</th>
<th>Not at all important</th>
<th>DK (SPONTANEOUS)</th>
<th>Refusal (SPONTANEOUS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To be a Christian</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>To share (NATIONALITY) cultural traditions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>To be born in (OUR COUNTRY)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>To have (NATIONALITY) parents</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>To respect (NATIONALITY) laws and institutions</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>To feel (NATIONALITY)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
| 7  | To master (COUNTRY LANGUAGE) (IF MULTILANGUAGE COUNTRY "to master one of the official languages of (OUR COUNTRY)"
| 8  | To exercise citizens' rights and liberties                                        | 1              | 2                   | 3                 | 4                    | 5                | 6                     |
Wordings of ‘Common’ Items

<table>
<thead>
<tr>
<th>Intro</th>
<th>ISSP</th>
<th>EVS</th>
<th>IntUne</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some people say that the following things are important for being truly [NATIONALITY]. Others say they are not important. How important do you think each of the following is...</td>
<td>Some people say the following things are important for being truly [NATIONALITY]. Others say they are not important. How important do you think each of the following is?</td>
<td>People differ in what they think it means to be (NATIONALITY). In your view, how important is each of the following to be (NATIONALITY)?</td>
<td></td>
</tr>
</tbody>
</table>

| BORNCTRY | To have been born in [COUNTRY] | To have been born in [COUNTRY] | To be born in (OUR COUNTRY) |
| SPEAKLING | To be able to speak [COUNTRY LANGUAGE] | To be able to speak [THE NATIONAL LANGUAGE] | To master (COUNTRY LANGUAGE) |
| HAVEANCS | To have [COUNTRY NATIONALITY] ancestry | To have [COUNTRY]’s ancestry | To have (NATIONALITY) parents |
| RESPLAWS | To respect [COUNTRY NATIONALITY] political institutions and laws | To respect [COUNTRY]’s political institutions and laws | To respect (NATIONALITY) laws and institutions |

Quandt, Types of National Identity
Possible Reasons for Study Differences

• Item wordings?
  – IntUne speaks of 'Parents‘, not 'Ancestors‘ – softer concept, allows ppl w. immigrated parents as real natives.
  – IntUne puts 'law‘ before 'institutions‘, leaves out 'political‘

• Within-country changes over time?

• Neighborhood effects in questionnaire?
  – ISSP and IntUne batteries appear after quest. on belonging and own nationality, EVS 2017 after immigration!

• Different modes, sampling designs and fieldwork quality?
  – ISSP and EVS are largely F2F, IntUne is CATI except Hungary and Slovakia

• Weights?
LCA Setup

- Using Latent Gold 5.1 with ‘syntax module’
- All N.I. items dichotomized
- **Multi-group models** (country as ‘conditional’ covariate)
- All sample sizes normalized to 1,000 cases by weighting
- Respondents’ citizenship or country of origin as covariate
Measurement equivalence in LCA

• Test equivalence by making item parameters conditional on ‘country’

• Item->class relation parameters can be:
  1. homogeneous (intercept and slope equal across samples),
  2. partially homogeneous (intercept ‘free’, slope equal),
  3. or fully heterogeneous (intercept and slope ‘free’)

• For type building, **partial homogeneity** is good enough
  – Variable ‘difficulty’ of items in cross-sample comparison
  – Differences in certainty and ‘intensity’ of individual class membership may remain
Example: Class Profile for EVS 2017

Exclusionist (50%)
Civic (47%)
Open (3%)
Class Distr. by Survey & Time (6 Separate Estimates)

Exclusionist  Civic  Moderate/open
Adding the Time/Study Component

• …very simply: we add a six-category covariate for the program-wave combinations, and again test for ‘conditionality‘ of item parameters, in a pooled sample

• Outcome:
  – Only structural equivalence across time/study axis
Class Profile for Pooled Estimate

Quandt, Types of National Identity
Summary & Conclusions

• Substantive:
  – Exclusionist (Ethnic) vs. Civic types can be distinguished
  – 50% respondents in our sample applies ‘Exclusionist’ reasoning
  – Between-country class size differences can be substantial

• Methodological:
  – Class types consistent across all three studies!
  – Class sizes very variable, even within-study stability only for one of three studies
Conclusions?

- If a multi-item scale is so sensitive to study-specific variations, how careful do we need to be with single-item measures?

OR

- Is the LCA approach robust enough to produce reliable class size macro-level point estimates for our purpose?

OR

- Is any of our data sources reliable enough to produce such reliable macro-level estimates?