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# **FORSCHUNGSPRAKTIKUM I UND II: VERGLEICHENDE SOZIALFORSCHUNG MIT MEHREBENENMODELLEN IN R**

Dr. Christian S. Czymara  
Welcome

# AGENDA

- Welcome
- Structure of the seminar
- Technicalities

# GENERAL INFORMATION

- Thursdays, 14:15 in room PEG 2.G 116
- (Most) material available at GitHub (more later)
- Organization via Slack

# LECTURER

- Sociology with Focus on Quantitative Methods for Social Research
- Studied in Mannheim & Cologne, PhD from University of Cologne
- Research interests: Immigration, conflict, attitudes, often from comparative perspective

# OFFICE HOURS

- After appointment
- Office: 3.G152 (PEG)
- Contact me on Slack (preferred) or at [cc@soz.uni-frankfurt.de](mailto:cc@soz.uni-frankfurt.de)
- Do not hesitate to write me if you have questions, comments, doubts, criticism etc.

# CORONA

- This semester will take place (and hopefully remain) *in person*
- Studierende müssen, um Zugang zu Lehrveranstaltungen in Präsenz zu erhalten, entweder mit einem in der Europäischen Union zugelassenen Impfstoff gegen Covid-19 **geimpft** sein, von einer Covid-19-Erkrankung **genesen** sein oder einen tagesaktuellen **negativen Antigentest** vorweisen können.
- Es besteht eine **generelle Pflicht zum Tragen von medizinischen Masken** (OP-Masken oder Schutzmasken der Standards FFP2, KN95, N95 oder vergleichbar ohne Ausatemventil) in den Gebäuden der Goethe-Universität sowie bei Lehrveranstaltungen und Prüfungen. Dies gilt auch für Dozent\*innen/Vortragende, **sofern kein dauerhafter Abstand von mindestens 4 Metern** zur ersten Reihe des Auditoriums eingehalten werden kann.
- <https://www.uni-frankfurt.de/86555546/Corona>
- [https://www.uni-frankfurt.de/105233078/H%C3%A4ufig\\_gestellte\\_Fragen](https://www.uni-frankfurt.de/105233078/H%C3%A4ufig_gestellte_Fragen)

# OVERVIEW

# GOAL OF SEMINAR

- Students should develop and examine their own research question, resulting in a research report
- This includes:
  - Finding research question
  - Reading literature on the topic
  - Deriving testable hypotheses of type “an increase in  $x$  leads to an increase of  $y$ ” (for example: “A higher income leads to less support for redistribution”)
  - Preparing data
  - Analyzing data
  - Writing report



# PREREQUISITES

- Most importantly, you should be interested in empirical-quantitative social research
- Good working knowledge of descriptive and inductive statistics (testing, OLS etc)
- Some knowledge of R or another statistics software / language
- I will introduce both in this seminar, but the focus will be on more advanced methods

# WHAT THIS COURSE WILL OFFER

- An introduction to cross-national research
- The means necessary to conduct your own research
- Hands-on application of methods in tutorials
- An overview of a rich data source: the European Social Survey (ESS)

# WHAT THIS COURSE WILL NOT OFFER

- Discussion of substantive theories
- In-depth understanding of mathematical foundation of methods
- Course is less suited as a general introduction into empirical research nor to learn Stata basics

# COURSE STRUCTURE

# STRUCTURE

- 15 sessions
- Most sessions consist of two parts
  - Lecture
    - Statistical background
    - Methodology
    - Examples
  - Tutorial
    - Putting things into practice
    - Preparing data
    - Applying method

# STRUCTURE: LECTURES

- Lectures will be on the date of each session (starting today)
- I will (try to) upload slides on GitHub beforehand

# STRUCTURE: TUTORIALS

- There is a tutorial for each session including
  - An research question consisting of various steps
  - A (more or less prepared) data set
- Your task is to write code to answer the research question
- In many cases, there is more than one correct solution
- I will post the tutorial to GitHub on Thursdays
- You will have one week to work on the tutorial yourselves
- We will discuss the solution in the session of the *following* week, and will upload them afterwards

SESSIONS



# PART 1: INTRODUCTION AND STATISTICAL BASICS

- 21.10.21: Welcome
- 28.10.21: Introduction to R
  - Wickham & Grolemund (2017). R for Data Science. O'Reilly.
- 04.11.21: Research process & descriptive statistics
  - Chapter 1 in: Bohrnstedt & Knoke (1982). Statistics for Social Data Analysis. Peacock Publishers.
- 11.11.21: Linear regression
  - Chapter 3 (pages 68-94) in: Wooldridge (2012). Introductory econometrics: A modern approach. Cengage Learning.
- 18.11.21: Linear and non-linear probability models
  - Breen, Karlson & Holm (2018). Interpreting and understanding logits, probits, and other nonlinear probability models. Annual Review of Sociology, 44, 39-54.

# PART 2: COMPARATIVE RESEARCH

- 25.11.21: Introduction to comparative social research
  - Kohn (1987). Cross-National Research as an Analytic Strategy. *American Sociological Review*, 52 (6), 713-731.

# PART 3: STUDIES

- I provide four studies from four broader topics (labor market, migration, social trust, welfare state)
- Inspiration and a potential starting point for your own research
- ~15 minutes presentation + 5 minutes discussion
- Focus on the *design* of these studies
  - What is the research question? (What is  $y$ ? What is  $x$ ?)
  - Operationalization (How are  $y$  and  $x$  measured?)
  - How are the variables and method described?
  - What are the results? How are they presented?

# PART 3: STUDIES ON LABOR MARKET

1. Ayalon (2014): **Perceived age, gender, and racial/ethnic discrimination in Europe: results from the European social survey.** Educational Gerontology, 40 (7), 499-517
2. Chung & van Oorschot (2011): **Institutions versus market forces: Explaining the employment insecurity of European individuals during (the beginning of) the financial crisis.** Journal of European Social Policy, 21 (4), 287-301
3. Van Deurzen, van Ingen & van Oorschot (2015): **Income inequality and depression: The role of social comparisons and coping resources.** European Sociological Review, 31 (4), 477-489
4. Sjöberg (2010): **Social insurance as a collective resource: unemployment benefits, job insecurity and subjective well-being in a comparative perspective.** Social Forces, 88 (3), 1281-1304

# PART 3: STUDIES ON MIGRATION

1. Bambra & Eikemo (2008): **Welfare state regimes and income-related health inequalities: a comparison of 23 European countries.** The European Journal of Public Health, 18 (6), 593-599
2. Reeskens & Van Oorschot (2012): **Disentangling the 'New Liberal Dilemma': On the relation between general welfare redistribution preferences and welfare chauvinism.** International Journal of Comparative Sociology, 53 (2), 120-139
3. Roosma, van Oorschot & Gelissen (2016): **The Achilles' heel of welfare state legitimacy: perceptions of overuse and underuse of social benefits in Europe.** Journal of European Public Policy, 23 (2), 177-196
4. Schmidt & Spies (2014): **Do parties "playing the race card" undermine natives' support for redistribution? Evidence from Europe.** Comparative Political Studies, 47 (4), 519-549

# BLOCK 3: STUDIES ON TRUST

1. Bohman & Hjerm (2014): **How the religious context affects the relationship between religiosity and attitudes towards immigration.** Ethnic and Racial Studies, 37 (6), 937-957
2. Hiers, Soehl & Wimmer (2017): **National trauma and the fear of foreigners: How past geopolitical threat heightens anti-immigration sentiment today.** Social forces, 96 (1), 361-388.
3. Jacobs & Hooghe (2019): **Public television and anti-immigrant sentiments in Europe. A multilevel analysis of patterns in television consumption.** Communications
4. Schneider (2008): **Anti-immigrant attitudes in Europe: Outgroup size and perceived ethnic threat.** European Sociological Review, 24 (1), 53-67

# BLOCK 3: STUDIES ON WELFARE STATE

1. Hooghe, Reeskens, Stolle & Trappers (2009): **Ethnic diversity and generalized trust in Europe: A cross-national multilevel study.** Comparative political studies, 42 (2), 198-223
2. Kääriäinen (2007): **Trust in the police in 16 European countries: A multilevel analysis.** European journal of criminology, 4 (4), 409-435
3. Schmitt-Beck & Wolsing (2010): **European TV environments and citizens' social trust: Evidence from multilevel analyses.** Communications, 35 (4), 461-483
4. Ziller & Schübel (2015): **“The Pure People” versus “the Corrupt Elite”? Political Corruption, Political Trust and the Success of Radical Right Parties in Europe.** Journal of Elections, Public Opinion and Parties, 25 (3), 368-386

# ORGANIZING PRESENTATIONS

- Later...



# PART 3: MULTI-LEVEL MODELS

- 16.12.21: Hierarchical linear models
  - Schmidt-Catran, Fairbrother & Andreß (2019). Multilevel models for the analysis of comparative survey data: Common problems and some solutions. *Kölner Zeitschrift für Soziologie und Sozialpsychologie*, 71 (1), 99-128.
- 13.01.22: Random slope models
  - Heisig, Schaeffer & Giesecke (2017). The costs of simplicity: Why multi-level models may benefit from accounting for cross-cluster differences in the effects of controls. *American Sociological Review*, 82 (4), 796-827.
- 20.01.22: Cross-level interactions
  - Heisig & Schaeffer (2019). Why you should always include a random slope for the lower-level variable involved in a cross-level interaction. *European Sociological Review*, 35 (2), 258-279.
- 27.01.22: Logistic multi-level models
  - Hox (2002): Chapter 6 in: *Multilevel Analysis. Techniques and Applications*. Routledge.

# PART 3: ADVANCED MULTI-LEVEL MODELS

- 03.02.22: Three level models
  - Schmidt-Catran & Fairbrother (2015). The random effects in multilevel models: Getting them wrong and getting them right. *European Sociological Review*, 32 (1), 23-38.
- 10.02.22: Multi-level models with pooled cross-sections
  - Fairbrother (2014). Two multilevel modeling techniques for analyzing comparative longitudinal survey datasets. *Political Science Research and Methods*, 2 (1), 119-140.

# PART 4: SUMMING UP / OPEN QUESTIONS

- 17.02.22: Abschlusssitzung
  - Academy of Sociology (2020). Checklist for Quantitative Social Science Articles.

# TERM PAPER

- Should include a self-conducted comparative analysis of secondary data
- You are free to chose any topic
- ~25 to 30 pages (incl. tables, graphs, references etc.)
- **DEADLINE IS 01 APRIL 2022!**
- Hand in as PDF and do-file(s) via e-mail to [cc@soz.uni-frankfurt.de](mailto:cc@soz.uni-frankfurt.de)

SOFTWARE

# SLACK

- Communication (outside of weekly meetings) will take place on Slack
- I will also post datasets for the tutorials on Slack (due to privacy policies)
- Slack will also be our backup plan when Corona forces us to return to online teaching
- Link to Workspace: [www.FoPra-VerglSozFo-WS21.slack.com](https://www.FoPra-VerglSozFo-WS21.slack.com)
- You don't have to install Slack, but can access the Workspace via your browser

# GITHUB

- Other material (lecture slides, tutorials, solutions to tutorials) will be uploaded on GitHub
- Link: [https://github.com/czymara/CompSocResearch\\_WS21](https://github.com/czymara/CompSocResearch_WS21)
- You can download files without having an account
- For advanced users: Feel free to make an account and download GitHub Desktop to synchronize files every week

# R

- You will need R for all tutorials and the term paper
- To work with R, install on your private computers
  - R: <https://cloud.r-project.org/>
  - RStudio: <https://www.rstudio.com/products/rstudio/download/>
- Why R and RStudio? More next session



# COMPARATIVE RESEARCH

*‘‘ONCE YOU KNOW HIERARCHIES  
EXIST, YOU SEE THEM EVERYWHERE’’*

KREFT & DE LEEUW, INTRODUCING MULTILEVEL MODELING (1998): 1

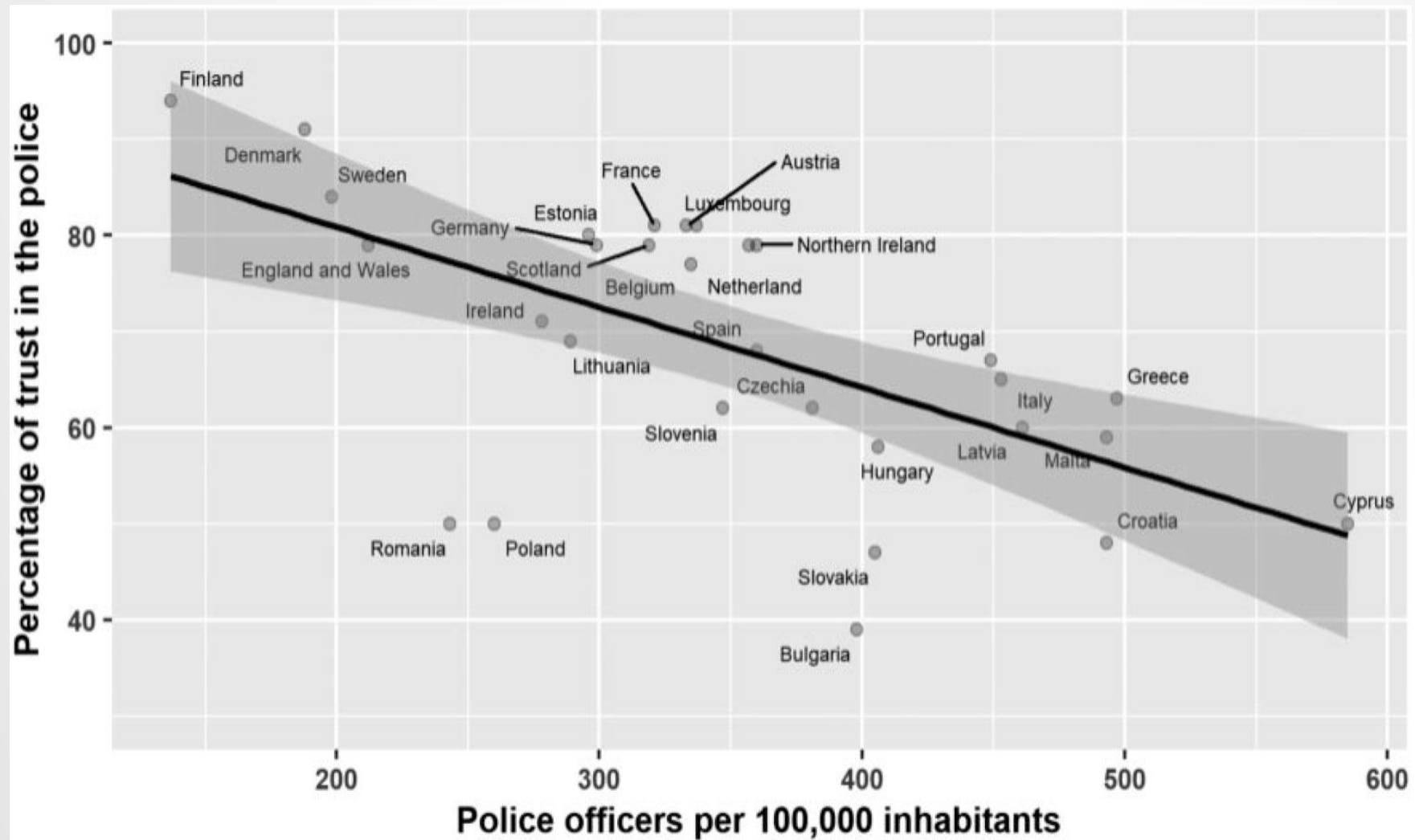
# WHY COMPARATIVE RESEARCH?

- In this course, we understand contexts as *countries* and comparative as *multi-national*
- Referring to *levels* mainly means talking about the individual (micro-level) or about the country (macro-level)
- For example, psychologists are usually interested in differences in individual outcomes due to differences in some other individual characteristic(s) (micro-level → micro-level)
- Social scientists are often interested in differences in individual outcomes due to differences between *contexts* (macro-level → micro-level)

# EXAMPLE

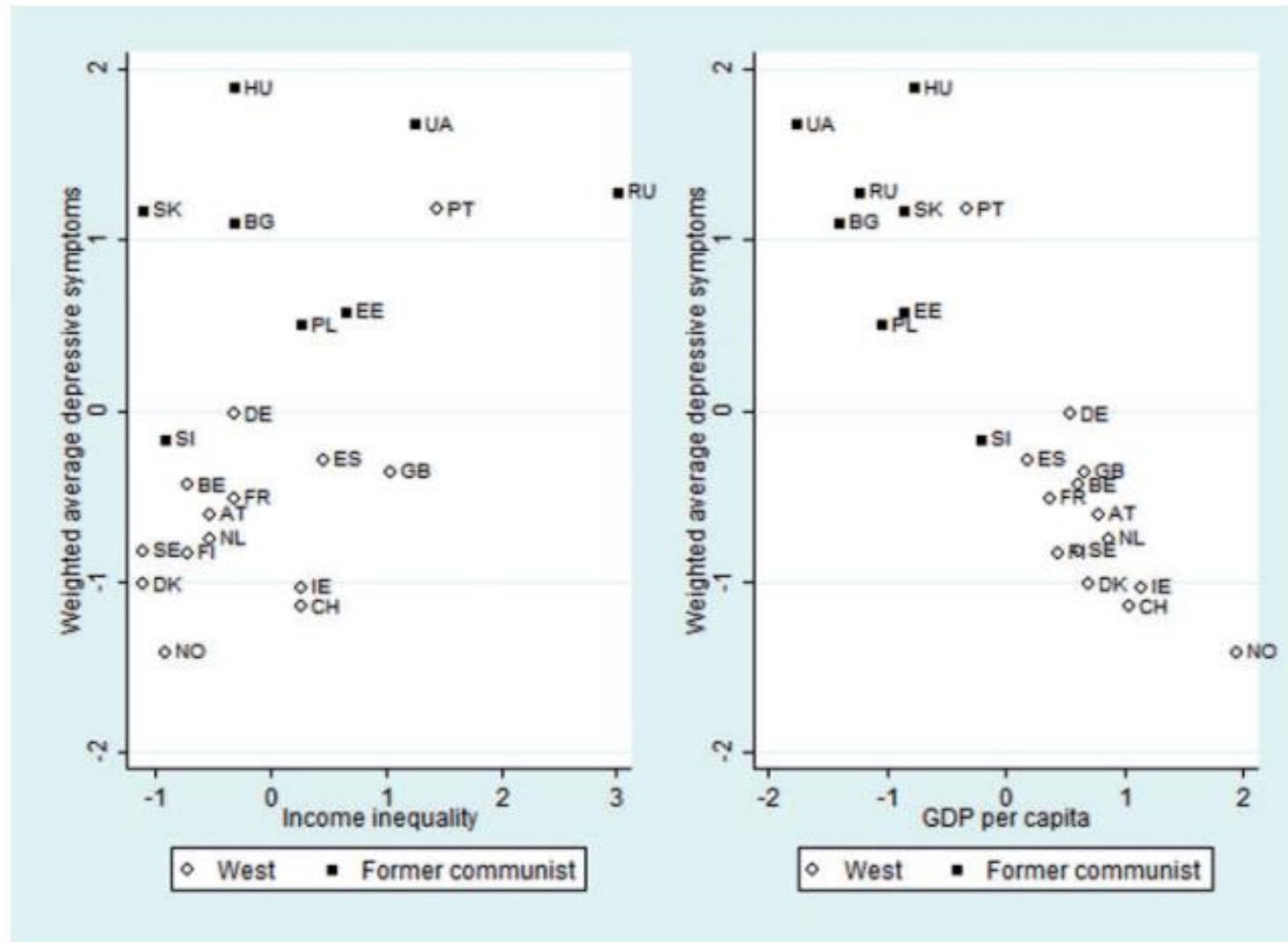
- Individual level relationship (micro-level only)
  - For example: Do immigrants trust the police less than natives?
- Country characteristic and individual outcome (macro-micro link)
  - For example: Does national police size influence trust in the police?
- Moreover, the former may depend on the latter
  - For example: Is the differences in trust in the police between immigrants and natives stronger with larger police force?

SOME EXAMPLES



Source: Eurobarometer, Eurostat

Source: [Nägel & Vera \(2021\): 6](#)

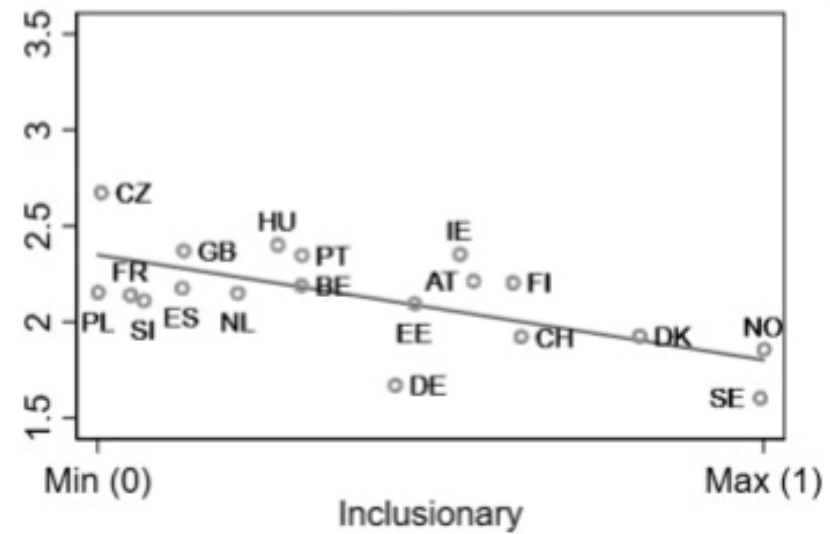
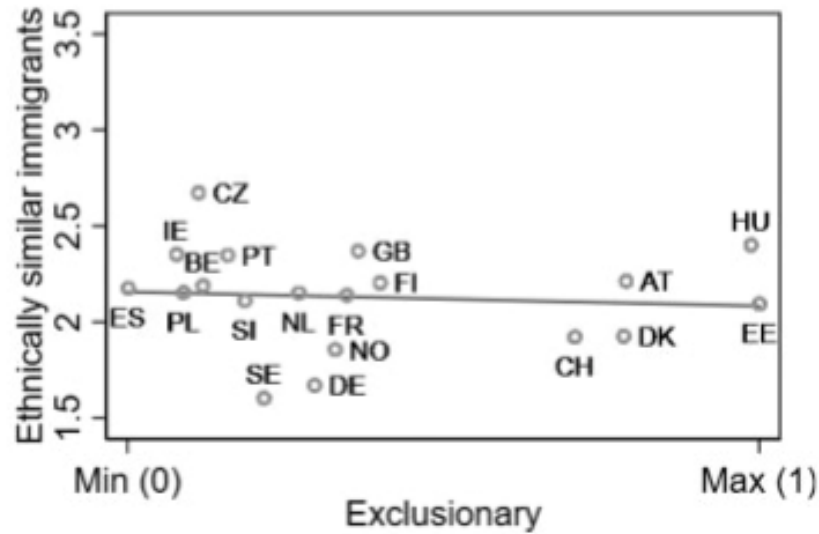
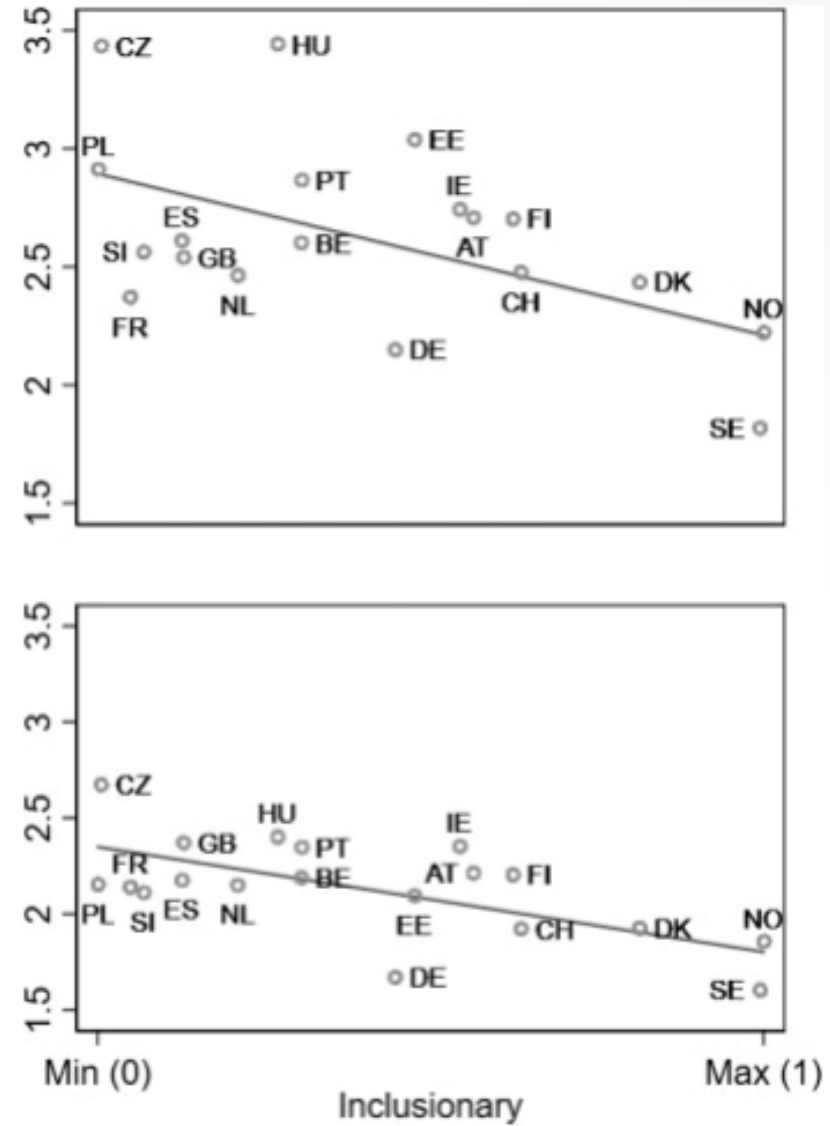
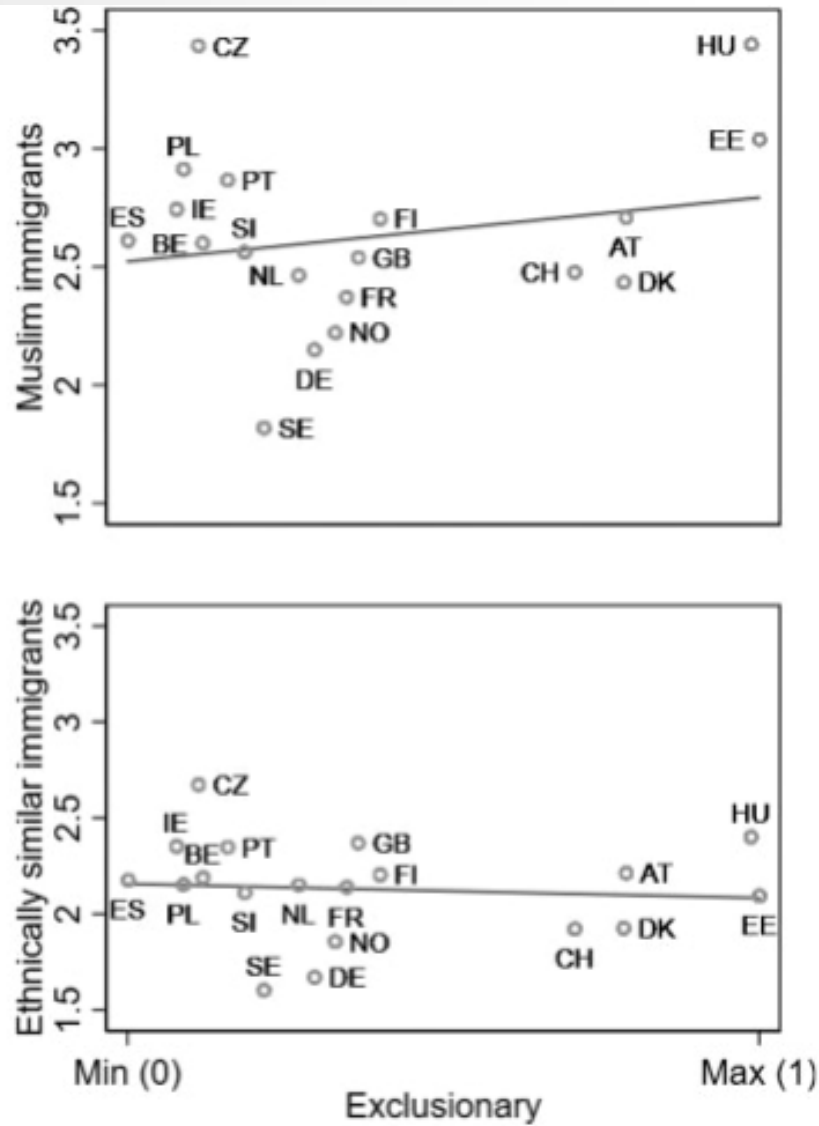


**Figure 2.** Means of depressive symptoms per country, income inequality and wealth in European countries

*Notes.* AT: Austria; BE: Belgium; BG: Bulgaria; CH: Switzerland; DE: Germany; DK: Denmark; EE: Estonia; ES: Spain; FI: Finland; FR: France; GB: United Kingdom; HU: Hungary; IE: Ireland; NL: Netherlands; NO: Norway; PL: Poland; PT: Portugal; RO: Romania; RU: Russian Federation; SE: Sweden; SI: Slovenia; SK: Slovak Republic; UA: Ukraine.

Source: [Van Deurzen, van Ingen & van Oorschot \(2015\): 483](#)

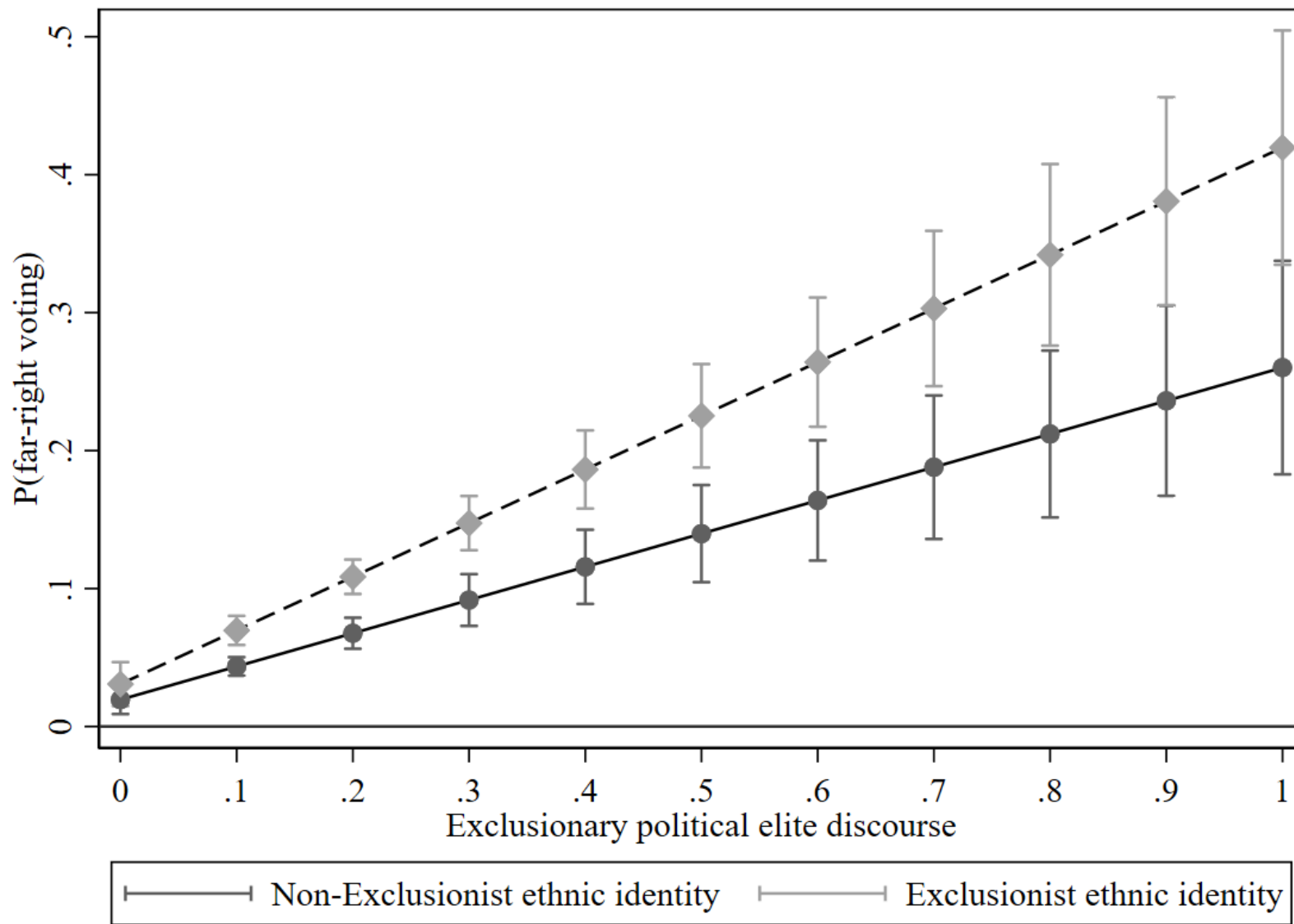
# Negative attitudes toward...



Political elite discourses

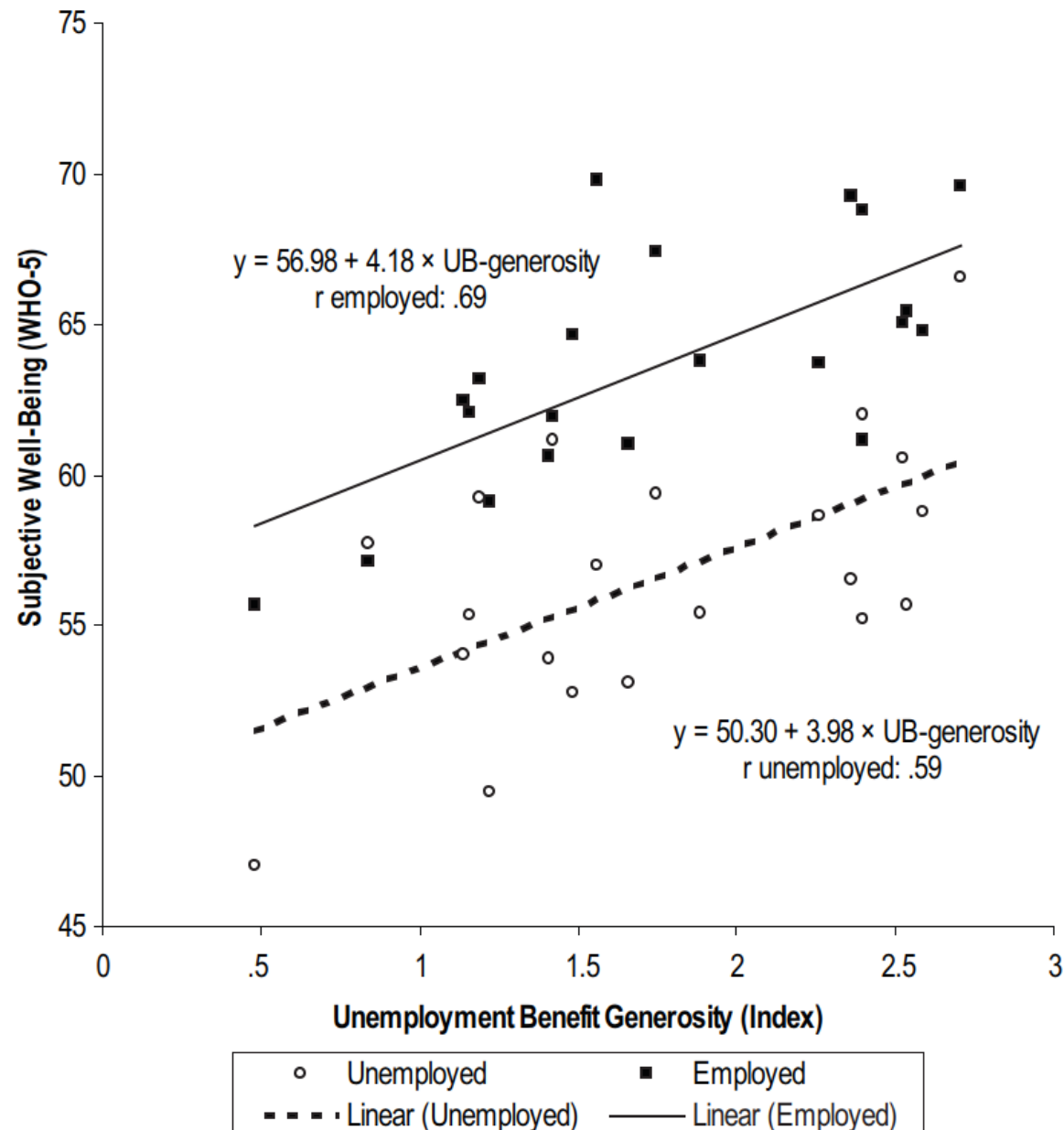
Source: [Czymara \(2020\): 1223](#)





Source: May & Czymara  
(work in progress)

Figure 1. Cross-National Relationship between Subjective Well-Being and Unemployment Benefit Generosity among Employed and Unemployed



Source: [Sjöberg \(2010\): 1292](#)

# FINALLY

- Please got to:  
[https://github.com/czymara/CompSocResearchWS21/blob/main/00\\_welcome/to\\_do.md](https://github.com/czymara/CompSocResearchWS21/blob/main/00_welcome/to_do.md)
- And...
  1. Join the Slack Workspace
  2. Assign presentations
  3. Participate in the survey: It will give me an overview on your interest and knowledge. Moreover, we will analyze your own data in the tutorial next week (all personal information and open-end answers will be removed)
  4. Install R and RStudio on your private computer