

## Advanced Topics in Configurational Causal Data Analysis

24-25 September 2020, Regenstrief Institute, held online via Zoom

*Michael Baumgartner, University of Bergen, Norway*

*Alrik Thiem, University of Lucerne, Switzerland*

### 1 Workshop Description

This 2-day workshop covers advanced topics in configurational causal modeling with *Qualitative Comparative Analysis* (QCA), *Coincidence Analysis* (CNA), and *Combinational Regularity Analysis* (CORA). We will discuss the danger of overfitting and what to do about it, look at various types of model ambiguities, present a new measure of configurational robustness, as well as new tools for the visualization of results. Moreover, we will evaluate the most influential criticisms against configurational methods.

Alternating lectures and exercise sessions with many replications of published studies from the health sciences will ensure participants get the most out of these 2 days. After the workshop, the instructors will remain available for consultation to help participants with the methodological aspects of their research projects.

### 2 Instructor Details

The two instructors are among the most active researchers and course instructors in the field of configurational comparative data analysis.

**Michael Baumgartner** is a full professor of philosophy at the Department of Philosophy of the University of Bergen, Norway. His research focuses on questions

in the philosophy of science and logic, more specifically, on aspects of causation and causal reasoning with QCA and CNA, regularity theories, interventionism, mechanistic explanation, determinism, logical formalization, argument reconstruction and modelling in the social sciences. He has published in journals such as the *British Journal for the Philosophy of Science*, *Comparative Political Studies*, *Dialectica*, *Erkenntnis*, *Field Methods*, *Journal of Philosophical Logic*, *Sociological Methodology*, *Sociological Methods & Research* and *Synthese*. He has developed the method of CNA and is a co-author of the corresponding cna software package for the R environment. For further biographical details, see his [Homepage](#).

**Alrik Thiem** is Swiss National Science Foundation Professor at the Department of Political Science of the University of Lucerne, Switzerland. The main part of his work addresses questions of methodology in the field of empirical research methods, primarily configurational ones such as CNA and QCA. In addition, he works on meta-scientific questions such as publication bias, and is interested in strategies to improve the teaching of research methods in the social sciences. He has taught nationally and internationally, and has published methodological as well as applied work in journals such as, among others, the *American Journal of Evaluation*, *Comparative Political Studies*, *Political Analysis*, *Sociological Methodology* and *Sociological Methods & Research*. He is also the author of the QCApro software package for the R environment. For further biographical details, see his [Homepage](#) or his [ResearchGate website](#).

### 3 Workshop Schedule

<b>Day</b>	<b>Module and Topic(s) Covered</b>
<i>Day 1; Thursday, 24 September 2020</i>	
10:00 - 11:00	<b>Module 1.1:</b> Overfitting and Robustness
11:00 - 11:15	Break
11:15 - 12:15	<b>Module 1.2:</b> Replication/Exercise Session
12:15 - 13:15	Lunch Break
13:15 - 14:30	<b>Module 1.3:</b> Solution Types
14:30 - 14:45	Break
14:45 - 15:30	<b>Module 1.4:</b> Replication/Exercise Session

### **Essential readings**

- Arel-Bundock, Vincent. 2019. "The double bind of Qualitative Comparative Analysis." *Sociological Methods & Research*. Advance online publication. DOI: 10.1177/0049124119882460.
- Baumgartner, Michael and Veli-Pekka Parkkinen. Forthcoming. "Robustness and model selection in configurational causal modeling". *Sociological Methods & Research*. Url: <https://people.uib.no/mba110/docs/robustness.pdf>.
- Baumgartner, Michael, and Alrik Thiem. 2020. "Often trusted but never (properly) tested: Evaluating Qualitative Comparative Analysis." *Sociological Methods & Research* 49 (2):279-311.
- Thiem, Alrik. 2019. "Beyond the facts: Limited empirical diversity and causal inference in Qualitative Comparative Analysis." *Sociological Methods & Research*. Advance online publication. DOI: 10.1177/0049124119882463.

### **Supplementary readings**

- Braumoeller, Baer F. 2015. "Guarding against false positives in Qualitative Comparative Analysis." *Political Analysis*, 23(4):471-487.
- Duşa, Adrian. 2019. "Critical tension: Sufficiency and parsimony in QCA." *Sociological Methods & Research*. Advance online publication. DOI: 10.1177/0049124119882456.

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### *Day 2; Friday, 25 September 2020*

10:00 - 11:15	<b>Module 2.1:</b> Criticisms of CCMs
11:15 - 11:30	Break
11:30 - 12:30	<b>Module 2.2:</b> Model Ambiguities
12:30 - 13:30	Lunch Break
13:30 - 14:30	<b>Module 2.3:</b> Visualization of Results
14:30 - 14:45	Break
14:45 - 15:30	<b>Module 2.4:</b> Replication/Exercise Session

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### **Essential readings**

- Lieberson, Stanley. 2004. "Comments on the use and utility of QCA." *Qualitative Methods* 2, 13-14.
- Baumgartner, Michael, and Alrik Thiem. 2017. "Model ambiguities in configurational comparative research." *Sociological Methods & Research*, 46(4):954-987.
- Clarke, Kevin A. 2020. "Logical Constraints: The Limitations of QCA in Social Science Research." *Political Analysis*, doi: 10.1017/pan.2020.7.
- Rubinson, Claude. 2019. "Presenting qualitative comparative analysis: Notation, tabular layout, and visualization." *Methodological Innovations* 12 (2):2059799119862110.
- Thiem, Alrik and Lusine Mkrtchyan. 2020. *A Phantom Menace: Random Data, Model Specification and Causal Inference in Qualitative Comparative Analysis*. Manuscript.
- Thiem, Alrik, Lusine Mkrtchyan, Tim Haesebrouck, and David Sanchez. 2020. "Algorithmic bias in social research: A meta-analysis." *PLoS ONE* 15 (6):e0233625. DOI: 10.1371/journal.pone.0233625.

### **Supplementary readings**

- Kahwati, Leila C., Megan A. Lewis, Heather Kane, Pamela A. Williams, Patrick Nerz, Kenneth R. Jones, Trang X. Lance, Stephen Vaisey, and Linda S. Kinsinger. 2011. "Best practices in the Veterans Health Administration's MOVE! weight management program." *American Journal of Preventive Medicine* 41 (5):457-64.
  - Lucas, Samuel R., and Alisa Szatrowski. 2014. "Qualitative Comparative Analysis in critical perspective." *Sociological Methodology* 44 (1):1-79. (only read pages 1-27).
  - Marx, Axel, and Adrian Duşa. 2011. "Crisp-Set Qualitative Comparative Analysis (csQCA), Contradictions and Consistency Benchmarks for Model Specification." *Methodological Innovations Online* 6 (2):103-48.
  - Thiem, Alrik, and Michael Baumgartner. 2016. "Modeling causal irrelevance in evaluations of configurational comparative methods." *Sociological Methodology* 46 (1):345-57.
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