Qualitative Comparative Analysis (QCA) with R

Workshop, 3rd term 2016-2017

3 & 8 May 2017

Wednesday 3.5.17 → Seminar Room 4
Monday 8.5.2017 → Seminar Room 2

Instructors:  
Eva Thomann, Institute of Political Science, Heidelberg University
Nena (Ioana-Elena) Oana, Doctoral School of Political Science, Public Policy and International Relations, Central European University

Please register [online](#) (please note that registrations will be open until 27.04.2017)

Contact: Eva.Thomann@eui.eu

Course outline

Qualitative Comparative Analysis (QCA) (Ragin 1987) is a configurational, set-theoretic method, suitable for the comparison of intermediate (N ≥ app. 10) to large numbers of cases. The method identifies necessary and sufficient conditions for an outcome (as opposed to correlations). Instead of assuming discrete effects of single variables, QCA foresees the causal role of a single condition unfolding in combination with other conditions (conjunctural causation); the occurrence of an outcome can have a different explanation than its non-occurrence (asymmetric causality); and QCA allows for different, mutually non-exclusive explanations of the same phenomenon (equifinality).

This free introductory workshop is addressed to researchers who are interested in a methodological tool that enables them to deal with such complex causal patterns. The aim of the workshop is to enable the participants to independently carry out a crisp set (dichotomous data) or fuzzy set (ordinal or continuous data) QCA and to understand the basic epistemological and analytical foundations of set-theoretic methods. We will primarily discuss QCA as a case-oriented approach to small- and intermediate N comparisons. The intensive two-day course has a practical focus and combines theoretical blocks with hands-on exercises. We will use real-life data to replicate a published study using the R packages QCA and SetMethods. The last afternoon covers advanced innovative tools for performing QCA on clustered data, formal set-theoretic theory evaluation, and set-theoretic multi-method research.


No prior knowledge is required. Note however that the course is very intensive and mainly focuses on technical aspects of QCA. It will help the participants to bring along a basic understanding of case-oriented
research approaches, of concept measurement, and of qualitative comparative research design. We will introduce you to and work with R, a software that is based on programming language.

Credits

This workshop is worth **10 credits**. In order to be awarded the credits, registered participants will need to fully attend the course, and read the mandatory literature.

Schedule

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<th>Day 1: Introduction to the basics</th>
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<tr>
<td><strong>9-13h</strong></td>
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<tr>
<td>What is QCA (not)?</td>
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<td>- Origins and dissemination of QCA</td>
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<td>- Breadth vs. depth and the Comparative Method</td>
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<td>- Causal complexity</td>
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<td>- Variants and uses of QCA</td>
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<td>- Notions of necessity and sufficiency, compared to correlation</td>
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<td>Getting the basics:</td>
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<td>- Sets, set membership and calibration</td>
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<td>- Basic set operations and structuring concepts</td>
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<td>- Rules for combining logical operators</td>
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<td>- Calculating membership in sets</td>
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| **14-15.30h** |
| Instructor: Nena Oana |
| Lab session 1 (90’) |
| - Introduction to the software and sample data (45’) |
| - Calibration of sets |
| - Basic Boolean operations |
| Based on Thomann & Wittwer (2017), chapters 2, 3.1, 4.1 and 4.3 |

| **15.45-18h** |
| Instructor: Eva Thomann |
| Understanding the technique: |
| - Set relations with crisp and fuzzy sets |
| - Consistency and coverage measures and their calculation |

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<th>Day 2: Let’s do QCA</th>
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<td><strong>9—13h</strong></td>
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<td>Steps of a QCA analysis:</td>
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<td>- Analysis of necessity</td>
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<tr>
<td>- Analysis of sufficiency</td>
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<td>- Truth table analysis and logical minimization</td>
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<tr>
<td>- QCA results and causal complexity</td>
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<td>Exercise: crisp-set QCA</td>
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<td>Limited diversity</td>
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### Instructor bios

**Eva Thomann** is a postdoctoral researcher currently holding visiting fellowships at the Department of Political and Social Sciences, European University Institute, Florence and the Institute of Political Science at Heidelberg University. She specializes in Public Policy, Public Administration and the innovative use of qualitative comparative and set-theoretic methods. Eva Thomann has published QCA studies in leading journals including, amongst others, the European Journal of Political Research and the Journal of European Public Policy. Since 2013 she regularly teaches QCA in PhD seminars in different formats and at method schools. Her substantive research focuses on policy implementation. Her user-friendly manual for performing QCA with R is available on the personal website: [http://www.evathomann.com/links/qca-r-manual](http://www.evathomann.com/links/qca-r-manual).

**Nena Oana** is a PhD Researcher in Comparative Politics at the Central European University in Budapest where she is currently working on responsiveness to different forms of political participation. She is the main developer of the R package SetMethods used for Set-Theoretic Multi-Method Research and Advanced QCA. Nena has extensive experience in teaching applied QCA using R programming language, having assisted for the ECPR Summer and Winter School QCA courses for the past 5 years. Besides research methodology, her main research interests also include political participation and representation, the quality of democracy, and political psychology.
Required preparation

Software

Participants should bring along their own laptops. Sockets will be provided. We will use the following freeware, which the participants should download individually before the course starts:

- R (freely available at http://cran.rstudio.com/).
- RStudio (freely available at http://www.rstudio.com/products/rstudio/download/)

The R software is the best, most powerful and flexible program available for QCA. We will provide an easy-going and beginner-friendly introduction to R.

Getting started with R: Download R before downloading RStudio.

Open R and simply copy-paste the following command into the console:


Within the console just hit Enter to execute the command. Probably a window will pop up, where you need to choose a server to download the packages. If R asks you to specify a CRAN mirror, just choose your country. This will load the QCA package and the SetMethods package required to perform QCA, as well as some additional auxiliary packages. If you have insurmountable difficulties in downloading the software and installing the packages, please contact nena.oana@yahoo.com.

The latest information on QCA software, trainings, publications, events, and an exhaustive bibliography of recent QCA articles (methodological and applied) is always available at http://www.compasss.org/

Literature and data

To benefit from the course in a meaningful way it is essential to read all the required texts in advance. All readings and further course material including sample data will be made available to the registered participants in advance in this dropbox folder.

Required readings (ordered with regard to content)


Day 1:


Day 2:


Optional readings

**Textbook (optional, recommended)**


**R manual (optional, recommended)**


**Empirical example studies (optional)**


Further readings (optional)


