Research Training I and II:
Qualitative Comparative Analysis (QCA)
and Fuzzy Sets

Wintersemester 2018/19
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Dr Markus B. Siewert

Description of the Course

Over the last decades, Qualitative Comparative Analysis (QCA) has become an established method in political science and sociology. QCA belongs to the family of case-based methods and can be seen as the most systematic form of case comparison. It is based on set-theoretic principles, and allows to identify in how far explanatory factors (or various combinations thereof) can count as necessary and / or sufficient for given outcomes.

This research training course deals with a single methodological approach, its design, its procedures, its prospects and limits, and its applications.

The objectives of this course are:

1. to introduce QCA as a research technique;
2. to train the participants in the technique of the execution of a QCA;
3. to assess QCA applications in terms of their quality according to the standards of good practice;
4. to discuss QCA within the broader toolkit of comparative methods;
5. to illustrate major principles and logics of comparative thinking in general;
6. to introduce the participants to broader methodological discussions.

The course is designed as a research training preparing students for their own projects and addresses Master students with a keen interest in empirical methods and methodology.

It is structured as follows: The first part focuses on basic and advanced features of QCA both from a theoretical and a practical perspective. This involves introductory sessions into the analytic protocol of QCA and lab sessions, which will demonstrate implementation of QCA conducted with the help of R software. In this phase of the course sessions participants will have to complete several accompanying exercises. After the Christmas break, weekly sessions will be suspended, and participants are expected to engage with QCA applications and the literature on comparative methods. Both tasks will then be discussed during a workshop day on 25th of January 2019. In addition, individual consultation hours will be set up which will give the participants an opportunity to discuss possible problems and issues concerning their task for a full credit (Modulabschlussprüfung).

The course will be conducted in English. All course materials will therefore also be in English. Participants who want to know more about the course are invited to read the introduction to Schneider, Carsten Q.

**Modules**

PW-MA-5; IS-MA-4; SOZ-MA-9; SOZ-MA-10; WF-MA-7

**Requirements for Credits**

**General Requirements**

Prior knowledge is not required; however, basic understanding of quantitative and/or qualitative methods is of advantage.

Note that students who have received credit for participation or for a Modulabschlussprüfung in a 2hrs course with the same title in previous semesters (winter 2016/17 and winter 2017/18), cannot participate in this research training course.

**Requirements for the Modulabschlussprüfung (14 CPs, Workload of 420 hours)**

Participants in the course will have to fulfill the following requirements:

- Active presence in 80% of the sessions
- Completion of exercises throughout the course
- Evaluation of four QCA applications in terms of their quality
- Replication study, article length (9,000 – 11,000 words, without appendix)

The final course grade will only be based on the replication study; however, in order to be admitted to the replication study, the other requirements (ungraded) have to be fulfilled.

All written work (pdf) as well as presentations (pdf, ppt, pptx) have to be uploaded to OLAT. The following table summarizes all deadlines:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Deadline for submission</th>
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<tbody>
<tr>
<td>(Oral) presentation of application studies</td>
<td>22 Oct 2018</td>
</tr>
<tr>
<td>Exercises on calibration</td>
<td>7 Nov 2018</td>
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<tr>
<td>Exercises on analyses of set relations</td>
<td>21 Nov 2018</td>
</tr>
<tr>
<td>Exercises on the advanced issues</td>
<td>28 Nov 2018</td>
</tr>
<tr>
<td>Evaluation of applications in terms of quality</td>
<td>25 Jan 2019</td>
</tr>
<tr>
<td>Final paper (replication study)</td>
<td>31 Mar 2019</td>
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It is not possible to alter these deadlines.

The indications of the Fachbereich foresee that the Prüfungsamt gets all information about grades by mid-May 2019. Please, do not ask earlier for them.
Registration

All participants are required to register for the course via QIS-LSF. Course participation will be exclusively determined through the Studiendekanat. The course instructors do not assign any places. Students who do not register via QIS-LSF cannot participate in the course. The maximum number of course participants is 40.

Please note that, once you have been admitted to the course, you are obliged to come to the first session. Otherwise you will be excluded from the course list. Exceptions can only be made for important and documented reasons which are indicated before the first session.

Course Materials

Literature


More literature is assigned for the respective sessions in the course schedule. Obligatory readings (marked in the course schedule with an asterisk *) have to be read before the course session. Background readings are not compulsory and help deepen the understanding of the content. They should be ideally read after the respective session.

Application studies

All participants will be assigned one of the following studies on which the exercises will be based:

OLAT
The course will be managed on the OLAT platform. All participants are expected to join the OLAT course. Here, you will find links to the relevant literature as well as the datasets of the application studies used throughout the course.

All written work, presentations, comments, etc., as well as the final papers have to be uploaded to OLAT, respecting the deadlines given above.

Software
For the lab sessions, we will make use of R (https://cran.r-project.org/) and RStudio (https://www.rstudio.com/). It is expected that participants install R and RStudio on their own laptops, and bring their devices to the software sessions in order to perform the QCA analysis as well as the required exercises. R and RStudio are freeware and operate under Windows as well as MacOS. An easy installation guide is provided on OLAT.

A teaching script will be provided in class which will guide participants through the analytic protocol of QCA. In order to run QCA analysis, we will mainly use two software packages (i) ‘QCA’ by Dusa 2018, and (ii) ‘SetMethods’ by Medzhorsky et al. 2018. A comprehensive introduction to QCA in R can be found in Dusa, Adrian (2018). QCA with R. A Comprehensive Resource. Springer: New York. Link

Contact Information

Course Instructors
Professor Claudius Wagemann, PhD
Office: PEG 3.G 124
Office hours: Tuesday, 10 a.m. – 11 a.m.
(only after prior registration via methoden-qualitativ@soz.uni-frankfurt.de)

Dr. Markus B. Siewert
Office: PEG 3.G 114
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Student Assistant
Karina Kosmukhambetova
Office hours: Wednesday, 12 p.m. – 13.30 p.m.
(only after prior registration via kosmukhambetova@soz.uni-frankfurt.de)

Concerning organizational issues, please contact Dr. Markus Siewert (siewert@soz.uni-frankfurt.de) or Karina Kosmukhambetova (kosmukhambetova@soz.uni-frankfurt.de).
# Course Schedule

## Week #1

15 Oct 2018  
Introduction and Organizational Issues

17 Oct 2018  
QCA as a Comparative Method  
Sets, Set Membership, and Calibration


## Week #2

22 Oct 2018  
Notions and Operations

[Participants present the application studies]


24 Oct 2018  
Set Relations


## Week #3

29 Oct 2018  
Lab session: Getting used to R


31 Oct 2018  
Lab session: Descriptives and Calibration with R

[Distribution of exercises 1]

## Week #4

5 Nov 2018  
Truth Table Analysis

7 Nov 2018  Recap Truth Table Analysis  |  Parameters of Fit
[Participants present the exercises 1]

**Week #5**

12 Nov 2018  Limited Diversity  |  Standard Analysis

14 Nov 2018  Pitfalls of the Analysis  |  Enhanced Standard Analysis

**Week #6**

19 Nov 2018  Lab session: Analysis of Necessity and Sufficiency with R
[Distribution of exercises 2]

21 Nov 2018  [Participants present exercises 2]

**Week #7**

26 Nov 2018  Lab session: Advanced Issues with R
[Distribution of exercises 3]

28 Nov 2018  [Participants present exercises 3]

**Week #8**

3 Dec 2018  *No class*

5 Dec 2018  Extensions of QCA
Week #9
10 Dec 2018  Standards of Good Practice: Principles

12 Dec 2018  Standards of Good Practice: Coding Scheme

Week #10
17 Dec 2018  Lab session: Coding Practices

19 Dec 2018  on reserve

After Christmas
The weekly sessions are suspended after Christmas. A workshop day is organized for 25 Jan 2019, 9 a.m. – 1 p.m. and 2 p.m. – 4 p.m. Additionally, ten office hours will be defined for the discussion and preparation for the replication studies (January / February / March 2019).

Obligatory readings for the workshop day: