**Qualitative Comparative Analysis (QCA)**

**Outline for the ICPSR Summer Program 2019, June 17-19**

QCA can be used to answer any research question if one is interested in analyzing patterns of necessity and sufficiency in a group of cases ranging from a handful to many thousands. The methods is now widely used in different disciplines including political science, sociology, public administration, public health, medical studies, organization and management studies. The course introduces participants to the principles and techniques of Qualitative Comparative Analysis (QCA) on a methodological and an applied dimension. At the end of the course, participants will be familiar with the key elements of a QCA study and know how to read, criticize and implement an empirical analysis.

**Prerequisites**

Basic knowledge of QCA and set-theoretic thinking is useful, but not necessary for taking the course. We will use RStudio that is freely available. It is recommended that participants be familiar with RStudio and basic commands. Participants who want to acquire R programming skills or need to refresh them can take an introductory R course at the ICPSR Summer Program or access an online tutorial in advance of the course. Before the course starts, I will share basic information on online tutorials and the entire R code I will use for illustrating QCA.

**Introductory readings**

Participants who want to get a better idea about the basics of set theory, QCA and running it in RStudio may consult the following readings.

- Using the QCA package in R: Dusa, Adrian (2018): QCA with R. Springer. [NO need to buy this expensive book specifically for this course.]
Day-by-day schedule

Day 1 (June 17)
9.00-12.30: Set types, set relations and getting started with QCA in R
  - Lab session: Firing up RStudio and loading data

14.00-17.00: Calibration and necessity
  - Lab session: Calibration of conditions and understanding consequences of different calibration decisions; analysis of necessity

Day 2 (June 18)
9.00-12.30: Construction of the truth table
  - Lab session: Creating truth tables and understanding consequences of different design decisions (frequency threshold, consistency threshold, remainder handling)

14.00-17.00: Construction of the truth table & minimization
  - Lab session: Producing different solution types with Quine-McCluskey algorithm and understanding the differences and commonalities between them

Day 3 (June 19)
9.00-12.30: Minimization & producing the solution
  - Lab session: Producing solutions based on various decisions about remainders and truth table rows
14.00-17.00: Parameters of fit, interpreting the solution and what makes a good QCA study

- Lab session: How consistency and coverage depend on distribution of cases