A reproduction analysis of 106 articles using Qualitative Comparative

Analysis, 2016-2018

Reproduction and transparency checklist for empirical QCA research (appendix E of the work cited below)

If this checklist is used for a QCA study, please cite the following article introducing the checklist.

The reproducibility checklist aims to be comprehensive and cover all elements an empirical researcher might have in her analysis and needs to check for reproducibility. The exact items that need to be checked depend on the study at hand and will vary across studies. For example, the calibration technique cannot be checked when the QCA study only uses generic binary concepts and the necessity-related items cannot be ticked when the research decides not to run a necessity analysis (for whatever reason).

Reproduction checklist, version 1.0, 23.12.2020

Conditions and model	
Are all conditions and the outcome mentioned in the article, including conditions used for robustness tests?	
Calibration	
Is the underlying *variable* that is to be calibrated mentioned together with the *source* from which the data were gathered?	
If the data have missings, how were they handled? (case-wise deletion, imputation (what imputation approacj) etc.)	

Is the calibration *method* mentioned for each set? (manual [assignment of discrete set-membership values], direct, indirect)	
If direct calibration: - Are 0-anchor, 0.5-anchor and 1-anchors specified?	
- Is the link function logistic, linear or something else?	
- If logistic link function: Are the inclusion degrees of membership 0.05 and 0.95 or other values?	
If indirect calibration: Is transparent what discrete set-membership values have been assigned to cases before estimating the predicted values?	
If manual calibration: Is transparent how discrete set-membership values have been assigned to cases based on cutoff values for continuous variable or qualitative criteria (codes) for variable measured with qualitative data?	
If calibrated set-membership values have been *rounded*, how many decimal places do the calibrated membership values have?	
Analysis of necessary terms	

Is the *minimum level of consistency* transparent that is used to designate a term as consistent with inferring a necessary relationship?	
Construction of truth table	
What is the *frequency threshold* for assigning outcome values to cases?	
What is the *consistency threshold* for designating truth table rows as consistent (Y=1) and inconsistent (Y=0)? If the consistency threshold has *not* been used or has *not been the only criterion* (for example because the PRI value has been also used), how have the truth table rows been designated as consistent (Y=1) and inconsistent (Y=0)?	
If *enhanced standard analysis* (ESA) or *theoretically enhanced standard analysis* (TESA) has been used, what remainders have been recoded based on what criterion?	
Minimization of truth table	
For each solution that is presented, is the *solution type* transparent?	

If *intermediate* solution has been produced, what are the *directional expectations* for all conditions in the model?	
How are models constructed based on the prime implicant chart? - Does row dominance apply? - Does minimal disjunctivity apply? - If not all models are presented in the main analysis in the presence of model ambiguity, how were prime implicants selected from the prime implicant chart? - Have all models that can be derived from the prime implicant chart, given the parameters of the analysis, been reported either in the main analysis or an appendix?	
Analysis-publication consistency	
For authors only: Right before uploading/submitting the analysis, have all the reported design parameters and results been *validated* with a final run of the analysis and data?	
Software, data, script (if applicable)	
Is the *uncalibrated data* available in a machine-readable format?	

When a *script-based* QCA software has been used, has the script been made available? (ideally in a repository or website with a DOI)	
When *fs/QCA program* has been used, have the commands and output been documented and saved in a .out file?	
Have all the software and version numbers been mentioned? (fs/QCA 3.0; QCA package for R 3.3 etc.)	