

Right Tools for the Right Data: A Re-investigation of Sex Segregation Across Fields with Fuzzy Qualitative Comparative Method, Comparing with Regression Based Analysis

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ABSTRACT

This research makes use of the fuzzy qualitative comparative method (fQCA), proposed by Charles Ragin to re-examine the regression result by (Charles and Bradley 2009). Charles and Bradley, in their work, compare the sex segregation across fields in 44 countries, ranging from developed to developing ones. With their analysis of national-level data, they concluded that in developed countries, due to a relative lack of material incentive owing to the better living standard, individuals are more likely to embrace the gender ideology and results in a high level of sex segregation across fields. In contrast to the developing countries, engineers and scientists are prestigious positions with relatively higher income. Individuals, bearing the burden of providing financial support to their families, are less likely to endorse the gender ideology as shown in developed countries. The difference gives rise to a relatively low level of sex segregation across fields in developing countries.

Nevertheless, the designation of fields by the authors fails to recognize the difference of internal dynamics within the field of science and there are possibility that their conclusions could suffer from oversimplification. What's more, the relative small size of 44 cases may not be appropriate for the use of regression analysis. Therefore, in our research, fQCA is applied to account for all the variation and diversity among and between all cases, with a medium size of samples.

fQCA is suitable for a medium size of samples as it is derived from rigorous boolean logic. The goal of utilizing the method is to reveal the different causal conditions connecting to various sex segregation levels (Ragin 1994:108). Therefore, the method, under this situation of limited cases, is superior to regression based analysis.

Data, for the purpose of comparison, will follow Charles and Bradley, being collected from diverse sources, for instance, TIMSS (Trends in International Mathematics and Science Study), UNESCO Statistical Yearbook and ILO (International Labour Organization), and World Bank etc. for nation-level data.

In conclude, our research contributes to the discussion of sex segregation across by introducing a finer designation of field categories. In addition, we demonstrate the strength and appropriateness of the fuzzy qualitative comparative method in the study of not only sex segregation but also in the processing of national level data.

REFERENCE

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- Ragin, C. (1994). *Constructing social research: the unity and diversity of method*. Thousand Oaks [Calif.]: Pine Forge Press.