

MAE4051 Jan-Eric Gustafsson: Methods for Causal Inference in Educational Research

Examination task

The task is to discuss three published articles which use methods for causal inference from non-experimental data. For each article a short report (3 – 5 pages) is to be composed which describes and criticizes the article. The report should include the following main sections:

1. Summary of the article
2. Identification of the causal question investigated in the study
3. Discussion of validity aspects of the study: statistical conclusion validity, internal validity, construct validity, and external validity
4. Discussion of the extent to which the causal question has been appropriately answered by the study
5. Conclusion

The three articles to be discussed are to be selected from the following four groups of two articles each. Only one article may be selected from each group.

Regression discontinuity

[Banks, J., & Mazzonna, F. \(2012\). The effect of education on old age cognitive abilities: evidence from a regression discontinuity design. *The Economic Journal*, 122\(560\), 418-448.](#)

[Lesik, S. A. \(2007\). Do developmental mathematics programs have a causal impact on student retention? An application of discrete-time survival and regression-discontinuity analysis. *Research in Higher Education*, 48\(5\), 583-608.](#)

Instrumental variables

[Hanandita, W., & Tampubolon, G. \(2014\). Does poverty reduce mental health? An instrumental variable analysis. *Social Science & Medicine*, 113, 59-67.](#)


[Kim, D., Baum, C. F., Ganz, M. L., Subramanian, S. V., & Kawachi, I. \(2011\). The contextual effects of social capital on health: a cross-national instrumental variable analysis. *Social Science & Medicine*, 73\(12\), 1689-1697.](#)


Fixed-effects regression

[Fergusson, D. M., McLeod, G. F., & Horwood, L. J. \(2014\). Unemployment and psychosocial outcomes to age 30: a fixed-effects regression analysis. *Australian & New Zealand Journal of Psychiatry*, 48\(8\), 735-742.](#)

[White, M. P., Alcock, I., Wheeler, B. W., & Depledge, M. H. \(2013\). Would you be happier living in a greener urban area? A fixed-effects analysis of panel data. *Psychological Science*, 24\(6\), 920-928.](#)

Propensity scores

[Belfi, B., Haelermans, C., & De Fraine, B. \(2016\). The long-term differential achievement effects of school socioeconomic composition in primary education: A propensity score matching approach. *British Journal of Educational Psychology*, 86\(4\), 501-525.](#) 

[Sullivan, A. L., & Field, S. \(2013\). Do preschool special education services make a difference in kindergarten reading and mathematics skills?: A propensity score weighting analysis. *Journal of School Psychology*, 51\(2\), 243-260.](#) 

The final date for submitting the exam reports is April 6, 2020.