Estimating returns to special education: combining machine learning and text analysis to address confounding

While the number of students identified with special needs is increasing in developed countries, there is little evidence on returns to special education in terms of academic outcomes and labor market integration. This paper investigates short- and long-term returns to different special education programs for students with special needs using computational text analysis coupled with double machine-learning. By leveraging detailed written psychological records and administrative data, I uncover effects of special education programs and identify subpopulations of students with special needs that benefit the most from each program. I find that inclusive special education programs bring higher academic and labor market returns than fully segregated and semi-segregated programs. However, effects are heterogeneous: segregation appears to be beneficial for nonnative and disruptive students. In order to address policy recommendations for optimal special education placement, I conduct optimal policy learning analyses and suggest alternative placement strategies that increase overall returns and lower school costs.