Are Estimates of Early Education Programs Too Pessimistic? Evidence from a Large-Scale Field Experiment that Causally Measures Neighbor Effects*

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Abstract

We estimate the direct and spillover effects of a large-scale early childhood intervention on the educational attainment of over 2,000 disadvantaged children in the United States. We show that failing to account for spillover effects results in a severe underestimation of the impact. The intervention induced positive direct effects on test scores of children assigned to the treatment groups. We document large spillover effects on both treatment and control children who live near treated children. On average, spillover effects increase a child’s non-cognitive (cognitive) scores by about 1.2 (0.6 to 0.7) standard deviations. The spillover effects are localized, decreasing with the spatial distance to treated neighbors. Our evidence suggests the spillover effect on non-cognitive scores are likely to operate through the child’s social network. Alternatively, parental investment is an important channel through which cognitive spillover effects operate. We view our results as speaking to several literatures, perhaps most importantly the role of public programs and neighborhoods on human capital formation at an early age.

Keywords: early education, neighborhood, field experiment, spillover effects, non-cognitive skills.

JEL Classification: C93, I21, R1.

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