



Response to “The Moving to Opportunity Experiment: What Do Heterogeneous Estimates of the Effect of Moving Imply About Causes?”

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[LINK TO ABSTRACT](#)

In Chetty, Hendren, and Katz (2016), we revisited the Moving to Opportunity (MTO) experiment, which provided housing vouchers to families living in high-poverty public housing projects in the mid-1990s to move to lower-poverty areas.

Earlier work found little effect of MTO moves on the economic outcomes of adults and older children (e.g., Kling, Liebman, and Katz 2007; Ludwig et al. 2012). We returned to the data to study the long-run economic impacts on younger children. We found that young children (less than 13 years old at the time of random assignment) in the experimental group who moved using an MTO voucher grew up to have 31 percent higher incomes than those in the control group who did not have access to an MTO voucher. In addition, young children in the MTO experimental voucher group were more likely to attend college, more likely to be married, and less likely to give birth as a single mother.

Robert Kaestner (2020) revisits our analysis and its interpretation. He does not report new empirical results; rather, he questions the interpretation of the findings we reported. In this response, we discuss the premises of and conclusions of each of these critiques.

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Causal effects of poverty rates

Kaestner's primary criticism is that Chetty, Hendren, and Katz "pervasively use language suggesting that their results show that moving to a low-poverty neighborhood increases adult earnings of children living in high-poverty areas."

As background, the MTO experimental voucher arm provided vouchers to low-income families living in high-poverty public housing projects to move to Census tracts with a poverty rate below 10 percent. Because the MTO experimental treatment explicitly required that families had to move to low-poverty neighborhoods, we followed prior literature and referred to the neighborhoods to which these families moved as "low-poverty neighborhoods." We recognized that this language could be misinterpreted to suggest that a particular characteristic of a neighborhood (e.g., poverty rates or peer effects from low-income peers) has a causal effect on children's upward mobility. For this reason, we wrote: "The treatment effects we report in this paper should thus be interpreted as the effect of changing a bundle of neighborhood attributes rather than any one feature of neighborhood environments" (Chetty et al. 2016, 869).⁴

Kaestner (2020) repeats the quote above but then points out other instances in which, he argues, we implicitly suggest moving to a lower-poverty neighborhood increased these children's outcomes in adulthood. We had no such intention and disagree with this interpretation. All of the statements Kaestner (2020) quotes are true when understood through the factual lens that MTO required families in the experimental group to move to lower-poverty neighborhoods—defined as census tracts with poverty rates lower than 10 percent as of the 1990 Census—to use their vouchers. This was a definitional characteristic of the MTO program and therefore it is accurate to reference these neighborhoods as "low-poverty." In doing so, we did not imply that exogenously lowering the poverty rate in a neighborhood or providing a child with peers from higher-income families, *ceteris paribus*, will necessarily lead the child to have higher upward mobility.

More broadly, this discussion boils down to the difference between correlation and causation. Our results demonstrate that neighborhoods have causal effects on children's outcomes. And, on average the lower-poverty neighborhoods to which families moved in the MTO experiment *caused* their children to have higher upward mobility. But, this does not mean that the *reason* those children had higher mobility is because they had fewer peers in poverty. Rather, those neighborhoods

4. Moreover, in our subsequent work providing search assistance and support services for families with children seeking to move to neighborhoods with higher upward mobility for their children, we used estimates from the Opportunity Atlas on observed upward mobility in each Census tract as opposed to the poverty rate to define opportunity neighborhoods (Bergman et al. 2020).

likely also had better schools, teachers, environmental quality, etc., all of which could have independent causal effects on children’s outcomes (but that might be correlated with poverty rates). Our analysis cannot separate those effects, as we noted in the quote above.

Beyond our intentions, the subsequent literature has not misinterpreted our writing to mean that poverty rates are the key causal determinant of neighborhood effects. Indeed, a rich literature has since emerged that investigates *why* low-poverty neighborhoods improve children’s outcomes and in particular finds many factors beyond poverty rates that are correlated with differences in upward mobility across neighborhoods (e.g., Manduca and Sampson 2019; Rothstein 2019), and we ourselves have studied this question at length in subsequent work (Chetty et al. 2020).

Subgroup heterogeneity and statistical precision

Kaestner (2020) next observes that there is less statistical precision of the estimates when evaluated by city rather than when pooling data from all five cities where the MTO experiment was conducted. This is a mechanical feature of working with smaller samples. What is more informative is that our confidence intervals at the site level contain the pooled point estimate, showing that there is no evidence for (or against) the existence of treatment effect heterogeneity across sites.

In addition, Kaestner (2020) notes we find an effect that declines with age and is sometimes negative for children whose families obtained the vouchers when they were teenagers, which he views skeptically. As we discuss in our original paper, this pattern is consistent with a childhood exposure effects model whereby each year of childhood spent growing up in a more upwardly mobile neighborhood can improve children’s outcomes, combined with disruption effects for moving with teenagers (which may also explain why families with children in high school move at lower rates).

A broader concern that might be raised by Kaestner’s critiques is that our results were obtained as the result of specification searching. To assess this potential concern, we conducted several tests including a randomization inference evaluation. We refer readers to Section IV.C of our Chetty, Hendren, and Katz (2016). Additionally, we note that the results of our MTO study—with declining impacts of moving to better neighborhoods by age—have now been replicated in several other experimental and quasi-experimental studies (Chetty and Hendren 2018; Chyn 2018; Deutscher 2020; Faurschou 2018; Laliberté 2020).

Variation in poverty rates across sites

Lastly, Kaestner uses the variation in estimates across sites to explore the relationship between the impact of MTO moves on children and the site-average change in poverty rate exposure for those children using the treatment-on-treated estimates. Here he notes that there is not a strong relationship (Kaestner 2020, 292 Figure 1), and therefore he again questions whether the neighborhood poverty rate is the true “explanation” driving neighborhood upward mobility outcomes.

As we noted above, we do not claim that the neighborhood poverty rate is the causal factor affecting economic outcomes to begin with. Nonetheless, we note that this exercise in Kaestner (2020) is not well designed to test this claim. As discussed above, there are many other factors that vary across places. Therefore, even though poverty-rate exposure changes more for children in one city than another, we do not know what other bundles of factors also change for the children in those two cities. As a result, the identification assumption underlying the test conducted by Kaestner (2020) looking at heterogeneity in poverty-rate changes across sites is inconsistent with his primary claim that there are other factors beyond poverty rates at the area level that might have causal effects on children.

To estimate the causal effect of particular policies or factors, one needs to isolate causal variation in that factor. For example, recent work by Ellora Derenoncourt (2019) uses exogenous variation in the Great Migration of African-Americans north in the early-mid 20th Century to show that cities who randomly had larger migration have lower rates of upward mobility today. We hope our work can inspire further analyses of this form to help uncover the causal drivers and historical factors that generate differences in opportunities across neighborhoods.

Conclusion

We agree with Kaestner’s conclusion that the MTO experiment does not provide evidence on the causal pathways through which neighborhoods affect children’s long-run outcomes. Rather, our results establish that neighborhoods matter for children, and that the lower-poverty neighborhoods to which children in the experimental voucher group moved improved their outcomes in adulthood. We made these points in our 2016 article and appreciate the opportunity to restate them here.

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