

Social Capital I & II: Frequently Asked Questions

Q1: What role does race play in the conclusions? To what extent is a lack of cross-class interaction driven by a lack of cross-race interaction?

The most direct way to study the role of race in economic connectedness (EC) and mobility would be to replicate our baseline correlations conditioning on race, for instance by correlating upward mobility and connectedness among Black individuals. Since the Facebook data do not contain individual-level data on race, however, we take the following three approaches:

First, we replicate our analyses correlating economic connectedness and upward mobility focusing on racially homogeneous areas: counties or ZIP codes where most of the residents are of the same racial or ethnic background (based on publicly available data from the Census). We then correlate race-specific measures of economic mobility with economic connectedness (pooling all racial groups) within these racially homogeneous areas (Extended Data Table 3 in the [first paper](#)). We find that EC remains highly correlated with economic mobility even in racially homogeneous areas, showing that cross-class interaction is strongly associated with upward mobility even for people of a given race.

Second, prior work has established that Black individuals living in more racially segregated neighborhoods (i.e., those with larger Black population shares) have poorer educational and economic outcomes on average. We replicate these results (Table 2 of paper 1) and then show that controlling for economic connectedness eliminates the relationship between racial segregation and upward mobility at the neighborhood level. Areas with larger Black populations tend to have lower levels of cross-class interaction, which explains the negative correlation between Black shares and rates of mobility at the neighborhood level.

The preceding analyses are all conducted at the *neighborhood* level and thus do not shed light on racial disparities between *individuals* living in the same neighborhood. Prior work (Chetty, Hendren, Jones, Porter QJE 2020) has shown that Black boys have substantially lower rates of upward mobility than white boys even conditional on growing up in the same neighborhood. Because we cannot examine differences by race at the individual level, our study does not shed light on whether these racial disparities can be explained by disconnection across racial and/or economic lines. One clue that race may play an important role in explaining the sources of economic disconnection in some communities is the finding that more racially diverse communities tend to have higher levels of friending bias – that is, less interaction between low- and high-income people even conditional on belonging to the same groups.

In sum, our analysis shows that cross-class interaction matters even conditional on race and may explain why racially segregated neighborhoods exhibit lower levels of upward mobility; however, it leaves several questions unanswered regarding the role of race at the individual level. Analyzing racial connectedness and its determinants across communities is an important priority for future research on social capital, mobility, and racial disparities.

Q2: Causality vs. Correlation. *What justifies the statement: “If children with low SES parents were to grow up in counties with economic connectedness comparable to that of the average child with high SES*

parents, their incomes in adulthood would increase by 20% on average?” How can we make a causal (rather than correlational) claim here?

To test whether growing up in a high-EC county increases children’s earnings, ideally one would randomly assign families to low- vs. high-EC areas and examine whether their children's outcomes differ in adulthood. Lacking such an experiment, we use quasi-experimental estimates of the causal effect of growing up for an additional year in each county in the U.S. on household income in adulthood drawn from Chetty and Hendren (QJE 2018).

Chetty and Hendren exploit variation in the age at which children move across counties to identify the causal effect of growing up in each county for children with parents at the 25th percentile of the income distribution. The key identification assumption underlying these estimates – the assumption under which they are “as good as causal” – is that the *timing of moves* is unrelated to children's potential outcomes, conditional on parental income and the origin and destination locations. Chetty and Hendren present a series of tests supporting this orthogonality condition: controlling for unobserved heterogeneity across families using sibling comparisons in models with family fixed effects, implementing a set of placebo tests exploiting heterogeneity in predicted causal effects across subgroups, and validating the results using experimental designs, e.g. from the Moving to Opportunity Experiment (Chetty, Hendren, Katz AER 2016; Chetty et al. 2018). In addition, other quasi-experimental studies have established similar results on childhood exposure effects using other data sources and research designs (e.g., Chyn AER 2018, Deutscher AEJ: Applied 2020, Laliberte AEJ: Economic Policy 2021).

Building on this prior work, we use the Chetty and Hendren causal effect estimates to analyze whether growing up in a higher-EC county affects children’s outcomes in the *Causal Effects of Place vs. Selection* section of our [first paper](#). We find that it does: counties with higher EC exhibit higher causal effects on upward mobility (Extended Data Figure 5). Based on the slope of that relationship, we obtain the 20% figure cited in the paper.

To be clear, this result *does not itself establish* that increasing EC would increase upward mobility, since areas with high EC may have other characteristics that are the root cause of higher levels of mobility. As we note in the [first paper](#): “Higher-EC areas may generate higher levels of mobility for two reasons: either economic connectedness itself has a causal effect on mobility or high-EC places have other characteristics (e.g., better schools) that generate higher levels of mobility.”

While we cannot measure all neighborhood characteristics that could have an impact on economic mobility, there are several highly predictive factors that have been widely discuss in prior work: poverty rates, racial segregation, levels of inequality, measures of the quality of schools, the share of two parent families, etc. (see e.g., Chetty et al. QJE 2014). We establish (in the *Connectedness vs. Other Factors* section of the [first paper](#)) that controlling for all of these other observable factors, economic connectedness remains a strong predictor of economic mobility. Hence, the reason that growing up in a higher-EC neighborhood improves children’s outcomes is not explained simply by the fact that such areas have higher incomes on average or other observable characteristics that researchers have previously identified as predictive of mobility.

That said, the study stops short of developing an intervention that directly manipulates EC and showing that it has a causal effect on upward mobility. Put differently, we establish (under the identification assumption discussed above) that if a low-income family were seeking to move to a place that gave their

children the best chances of upward mobility out of poverty, moving to a place with a high level of cross-class interaction would be beneficial. However, we do not yet have direct evidence that *changing* the level of connectedness in a community would change a given child's outcomes. We conclude paper one by noting that "it would be useful to directly study whether efforts to increase economic connectedness can increase intergenerational income mobility," and believe this is an important area for future research.

It is worth emphasizing that our studies were designed to examine the role of social capital at the area or community level rather than at the individual level. In future work, it would be valuable to disentangle how much of the area-level relationships we document are driven by a link between economic connectedness and mobility at the individual level and how much arises from community-level changes in high-EC places (e.g., changes in norms or public good investments that could have effects beyond a single individual). Future research that involves direct intervention development and testing may offer opportunities to better understand effective drivers to increase social capital at the individual level.

Q3: What are the possible mechanisms through which economic connectedness might affect upward mobility?

Prior work has pointed to three mechanisms through which connections to more educated or affluent individuals can be valuable for upward mobility: (1) transferring information, (2) shaping aspirations, and (3) providing mentorship or job referrals.

Our study does not offer evidence on which (if any) of these mechanisms may be responsible for the link between EC and upward mobility that we document; we hope future research will be able to shed light on these mechanisms using the types of data we analyze here.

Q4: Reverse Causality: Could the observed relationships be the result of economic mobility influencing economic connectedness?

Because we measure friendships and SES in adulthood, economic connectedness may itself be influenced by rates of upward mobility. For example, in high-upward-mobility places, many children from low-SES families have high incomes as adults and may retain friendships with individuals who remain low-SES.

To evaluate the importance of this "reverse causality" channel, we examine the association between economic mobility and *childhood* EC, based on childhood friendships and parental SES (see the Reverse Causality subsection of the [first paper](#)). We continue to find strong associations between upward mobility and measures of childhood EC, suggesting that most of the correlation between EC and upward mobility cannot be explained by the reverse causality channel.

We also find, as discussed above, that moving at an earlier age (e.g., at age 5 instead of 10) to a high-EC area improves children's earnings in adulthood, which rules out the simplest reverse-causality explanations that stem from selection across areas. For example, it is well known that immigrants have higher rates of upward mobility than US natives; one may worry that areas with large immigrant shares have high upward mobility and high levels of economic connectedness because immigrants who rose up from low-income families remain connected to low-income people even after they rise up. But under such an explanation, there would be no reason that the number of years a child spent growing up in a high-EC area would influence his or her earnings in adulthood.

Q5: What is the association between economic connectedness and outcomes for high-income (rather than low-income) children?

In the raw data, we find that high-SES children have slightly lower levels of income in adulthood in areas where they have more low-SES friends (Extended Data Figure 6). However, when we control for the fraction of high-SES individuals in the county, there is no correlation between economic outcomes for children with high-SES parents and the degree of cross-class friendships. In contrast, greater cross-group economic connectedness remains strongly positively associated with outcomes for children with parents at the 25th percentile even controlling for the socioeconomic composition of an area.

One potential explanation for these results is that greater *interaction* between low- and high-SES households conditional on the income mix in an area benefits low-SES individuals without harming high-SES individuals. However, greater income mixing (integration) could benefit low-SES individuals partly at the expense of high-SES individuals by redistributing public goods (e.g., local public school funding) from people with higher incomes to people with lower incomes. These results raise the possibility that more economically connected communities can benefit the poor with limited adverse impacts on the rich, particularly if increasing cross-SES connections does not require changing the income mix or resources in an area. Establishing these results directly will require studying interventions that change cross-class interaction; the observational data available to date provide guidance on the types of hypotheses one might want to test using such interventions.

Q6: Do Facebook friendships provide a reasonable, representative measure of “real” friendships and networks?

Facebook friendships require mutual consent, and prior work has found that most Facebook friends have interacted in person. We also replicated our analysis looking at users’ top ten friends as opposed to all friends and found very similar results (e.g., see Figure 1 and the discussion on page 2 of the [first paper](#)).

One may also be concerned about selection into the Facebook sample: are the set of people who use Facebook – comprising 84% of the US population between ages 25 and 44 – different from the general population, and could selection into this sample create biases in the results? To address this concern, we replicated our analysis using the subset of areas with high (near 100%) coverage rates (Supplementary Information Figure 14 in paper 1). We find very similar results in that sample, suggesting that while selection concerns could matter in principle, in practice they appear not to be a central driver of the findings.

Q7: What are the key takeaways in terms of how to increase economic connectedness in a given community?

We find (in the [second paper](#)) that both a lack of exposure (attending different schools, living in different neighborhoods) and high friending bias (a lack of interaction even conditional on exposure) play an important role in explaining the social disconnection between low- and high-SES people. Improving exposure by reducing segregation by class can increase connectedness, especially in places without much friending bias (e.g., see pages 10 and 11 of the [second paper](#), and especially Figure 6). Friending bias itself depends on the setting in which people interact (e.g., Figure 2) and the characteristics of those settings (e.g., the size of a school; see Extended Data Figure 1). Thus, changing the structures of the institutions in which people interact could help reduce friending bias, as we discuss on page 12. By using the data we release publicly, one can identify which factor – a lack of exposure or friending bias – is more important in a given community and respond accordingly.

Q8: Where can I find the data for my neighborhood or school?

Data on social capital measures by county, ZIP code, high school, and college can be downloaded from opportunityinsights.org/data/. Visualize the data in the Social Capital Atlas, available at www.socialcapital.org.

Further details on the research can be found in the papers: [Social Capital I: Measurement and Associations with Economic Mobility](#) and [Social Capital II: Determinants of Economic Connectedness](#). Please email info@opportunityinsights.org with additional questions.

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