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Childhood exposure to local wealth inequality, economic isolation in schools, and inter-class social ties in adulthood

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ABSTRACT

The extent of social ties between individuals from different economic origins varies markedly across the United States. This study argues that childhood exposure to local wealth inequality may be key to understanding spatial disparities in social ties. The study combines data on inter-class friendships, information of economic isolation in schools, and local wealth inequality estimates. Results from linear models show a strong, negative association between childhood exposure to local wealth inequality and inter-class social ties in adulthood. Next, the paper demonstrates that areas where low-income children are more economically isolated in the schools they attend, they seem to form fewer social ties with children from high-income families. Finally, rising local wealth inequality is associated with increases in schools' economic isolation. Taken together, these results are consistent with school economic isolation being one institutional context in which wealth inequality may constrain cross-class contact, but they also indicate that the association between wealth inequality and inter-class social ties is not accounted for by school isolation alone.

1. Introduction

Social ties or connections are central to our understanding of local development and individual economic success (Chetty et al., 2022a, 2022b; Eagle et al., 2010; Levy et al., 2020). Sociological theory long proposed the importance of weak ties between individuals as opposed to strong but few friendships (Granovetter, 1973). Recent experimental evidence indeed demonstrates how weak ties increase job transmissions (Rajkumar et al., 2022; Wang and Uzzi, 2022).

Having friends with high socio-economic status (SES) is among the strongest predictors for upward economic mobility of individuals with low SES (Chetty et al., 2022a, 2022b). On average, children growing up in low SES families would see their incomes in adulthood increased by 20% if they were to grow up in areas with social connectedness similar to that of children from high SES families. Inter-class social ties are consequential because they capture a basic dimension of bridging social capital: whether people from different economic origins inhabit shared social worlds. Where such ties are scarce, class boundaries can harden into everyday social separation, with implications for local social cohesion, shared civic life, and the capacity for collective action (Fischer and Mattson, 2009; Putnam, 2000). In this sense, inter-class social ties are an indicator of community-level integration in their own right, independent of any downstream economic outcomes.

Prior work emphasizes that inter-class social ties are strongly predictive of upward mobility for children from low-income families (Chetty et al., 2022a). Yet even aside from mobility, inter-class friendships are a direct marker of whether economic groups meet, mix,

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and form durable connections across class lines. At the same time, the extent of social connections between individuals with high and low SES varies markedly across the United States. Estimates by Opportunity Insights show that in Los Angeles County 36.8% of the friends of low-income people have high incomes compared to 49.8% in Washington, D.C (see, socialcapital.org(Chetty et al., 2022a)).

Why are there more inter-class social ties in some places than in others? Previous research demonstrates the importance of exposure to people with high SES in schools, organizations, or neighborhoods (Chetty et al., 2022b). However, existing work has not yet examined whether population-level inter-class friendship patterns are systematically related to economic isolation in places where social ties are formed. For instance, it remains unclear whether the same places where low-income students are more isolated from high-income peers in the schools they attend also exhibit fewer inter-class ties in adulthood. Intuitively, where people socialize is a function of their economic circumstances, in particular given high levels of economic segregation in the U.S. In other words, there will be less opportunities to interact and form social ties where different strata live separate lives. Therefore, where income inequality is higher, social capital is lower (Paarlberg et al., 2018).

This study argues that childhood exposure to local wealth inequality may be key to understanding spatial disparities in inter-class social ties in adulthood. Wealth is increasingly understood as a unique dimension implicated in the reproduction of socio-economic status (Hällsten and Thaning, 2022; Pfeffer and Killewald, 2018) and upward mobility (Braga et al., 2017; Schechtl, 2025). Put simply, wealth can provide distinct access to goods, networks, neighborhoods, and opportunities. Wealth inequality can thus facilitate the creation of separate realities, economically isolated schools and segregated leisure activities. In sum, high wealth inequality might minimize opportunities for social interaction of children from different parental backgrounds.

To understand the role of childhood exposure to local wealth inequality for social ties between low- and high income individuals, this study draws on three unique datasets: First, the GEOWEALTH-US database, which makes estimates of local wealth inequality across the United States publicly available for the first time (Suss et al., 2024). These data are combined with commuting zone (CZ) characteristics from the Decennial Census and estimates of inter-class friendships based on 72.2 million users of Facebook, published by Opportunity Insights (Chetty et al., 2022a, 2022b). Last, I make use of recent estimates on economic isolation in schools, publicly available through the Segregation Explorer (Reardon et al., 2024). In combination, these data enable researchers to jointly assess childhood exposure to local wealth inequality, inter-class social ties later in life, and exposure to peers from different parental backgrounds in schools for the first time at the population-level across the entirety of the United States.

Following previous research, I use the Facebook friendships of low-income adults with high-earning peers as my measure of social connections (Chetty et al., 2022a, 2022b). This outcome captures the inter-class connectedness of low-income adults, i.e., the share of their friends who are high-income rather than average friendship patterns in the population. Throughout the paper, I use the terms "social ties" and "social connections" interchangeably, both to be understood as measures of social capital. High- and low-income descriptors are based on above or below predicted average incomes as defined by Opportunity Insights. Thus, inter-class social ties refer to the Facebook friendships between individuals from low- and high-income backgrounds. Importantly, inter-class social ties are measured based on friendships reported in 2022. These data allow me to assess the importance of local context during childhood for social ties later in life, thereby minimizing endogeneity bias and reverse causality problems.

Results from linear models show a strong, negative association between childhood exposure to local wealth inequality and social ties between high- and low-income adults. This association is robust to accounting for income inequality, income segregation, and other demographic as well as economic covariates. Next, I show that economic isolation of low-income children in schools can help explain the variation in the inter-class social ties of adults across U.S. commuting zones. Exploiting the panel structure of the data, I show that changes in local wealth inequality translate into changes in economic isolation in schools. Together, these findings document a set of linked associations between wealth inequality, school economic isolation, and adult inter-class social ties; importantly, the relationship between wealth inequality and social ties remains evident even when accounting for school isolation, pointing to additional pathways beyond school isolation alone.

This paper makes four main contributions: First, by showing that childhood exposure to local wealth inequality is negatively associated with inter-class social ties in adulthood, this article highlights the pivotal role of wealth inequality in hampering the formation of social networks that cross economic boundaries. Second, this paper demonstrates that economic isolation of low-income children in schools is key to understanding differences in inter-class social ties in adulthood. Third, by showing that rising wealth inequality helps to explain increasing economic isolation in schools, this article adds to our knowledge of potential downstream consequences of wealth inequality. Fourth, by jointly documenting associations between local wealth inequality, school economic isolation, and inter-class social ties, the paper highlights schools as one important setting where cross-class exposure may be curtailed, while also underscoring that wealth inequality likely shapes social ties through additional place-based mechanisms beyond schools.

2. Background

2.1. Inter-class social ties

This section focuses on the inter-class social ties of low-income individuals, specifically, the share of their friends who are high-income. In adulthood, most friendships are formed in settings structured by repeated interaction and shared activities, such as workplaces, gyms, and community groups (Cox, 2021). As a result, cross-class ties are a concrete indicator of bridging social capital: whether low-income individuals have meaningful access to social relationships that span economic boundaries.

Because these ties depend on routine exposure, they are shaped by how local contexts organize contact across class lines. Where economic inequality is higher, social life is more often segmented into separate neighborhoods, institutions, and leisure spaces, reducing opportunities for sustained interaction between low- and high-income groups. Consistent with this view, prior work links

higher inequality to lower social capital and weaker cross-group bonds (Paarlberg et al., 2018).

Crucially, the opportunities to form inter-class ties are not randomly distributed: they arise after people sort into places and institutions by income, education, and race. For low-income individuals in particular, this means that the scope for building cross-class ties in adulthood is constrained by the environments they can access through work, residence, and local institutions. This logic motivates examining which place-based conditions, and which earlier-life contexts, expand or restrict exposure to high-income peers before adult sorting fully crystallizes.

In addition to place-based ties, childhood friendships remain a significant aspect of social connections; approximately two-thirds of Americans maintain friendships from their early years (Cox, 2021). Thus, friendships built during childhood reflect some of the few opportunities to form ties and potentially helpful social connections with people from different economic backgrounds. Indeed, having friends from high-parental income backgrounds is strongly associated with upward economic mobility for children from low-income families (Chetty et al., 2022a, 2022b). On average, children who grow up in low-income families would see their incomes in adulthood increase by 20% if they were to grow up in areas with social ties similar to those of children from high-income families.

The extent of social ties between children with high and low parent incomes varies markedly in the United States. Estimates from Opportunity Insights show that in Los Angeles County 36.8% of the friends of low-income individuals have high incomes, compared to 49. 8% in Washington, DC (see socialcapital.org (Chetty et al., 2022a)). Moreover, differences in social ties between children from low- and high-income parents can help explain disparities in economic mobility, poverty, and inequality (Chetty et al., 2022a).

Why are there more inter-class social ties in some places than in others? Previous research demonstrates the importance of local *exposure* to people with high incomes in schools, organizations, or neighborhoods (Chetty et al., 2022b). Based on data from 72.2 million American Facebook users, Chetty et al., 2022a link children to their parents and match them to their high schools and estimate friendships between children from high and low-income families. Childhood inter-class social ties are measured as two times the share of friends with high-parental income among low-parental income individuals averaged over all low-parental income children in the area. By construction, the measure centers on low-income children's access to high-income peers, which is the margin most directly implicated in questions of exclusion and opportunity. This measure equals 1 wherever low-income children have on average the same share of their high school friends from low-income parental backgrounds as they do from high-income parental backgrounds.

Fig. 1 illustrates the strong link between social connections with high-income peers during childhood and inter-class social ties in adulthood. Adulthood inter-class social ties are measured similarly to childhood ties detailed above, albeit looking at current rather than childhood friendships. Each observation is colored by the commuting zone's level of upward income mobility, thereby showing that places where low-income children have fewer social connections with high-income peers, upward mobility and inter-class social ties in adulthood are lower.

In sum, because most social ties in adulthood are place-based, and thus a downstream consequence of economic standing in

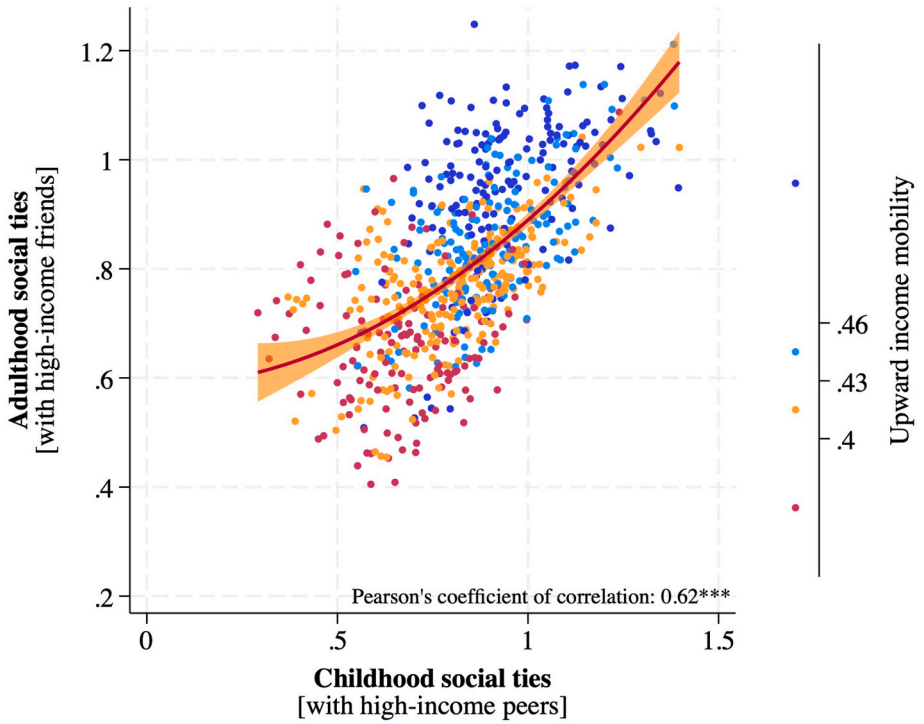

Fig. 1. Bivariate association between inter-class social ties in childhood and in adulthood.
Note: Shaded area indicates 95% confidence intervals. Information is based on data published by Opportunity Insights (Chetty et al., 2022a). Author's calculation.

adulthood, social bonds formed during childhood are critical for building connections between Americans from different economic backgrounds.

2.2. Local wealth inequality

This study argues that childhood exposure to local wealth inequality may be key to understanding spatial disparities in social ties. That is, wealth is increasingly understood as a unique dimension implicated in the reproduction of socio-economic status (Hällsten and Thaning, 2022; Pfeffer and Killewald, 2018) and upward mobility (Braga et al., 2017; Schechtl, 2025). Put simply, wealth can provide distinct access to goods, networks, neighborhoods, and opportunities. Wealth inequality can thus facilitate the creation of separate realities, segregated schools, and activities. In sum, high wealth inequality might minimize opportunities for social interaction of children from a different parental background.

Recent advances in local wealth inequality estimates illustrate the evolution of wealth disparities across the US. Thus, for the first time, these data allow researchers to gauge levels and trends in local wealth inequality in the United States (Suss et al., 2024). Between 1960 and 2020, local inequality in wealth increased substantively, with the Gini index averaging around 0.65 in 1960 yet reaching almost 0.80 in 2020 (see Appendix Figure A1 for a graphical illustration). At the same time, wealth inequality within commuting zones became more similar across the U.S.: the standard deviation of wealth inequality in commuting zones was cut in half in the last 60 years (from 0.056 to 0.027).

Due to data limitations, previous literature on inter-class social ties was restricted to studying the importance of income inequality. This productive line of research demonstrates that growing inequality in incomes has been connected to rising segregation across friendship networks, neighborhoods, and workplaces (Mijs and Roe, 2021). Importantly, increasing regional divergence in incomes has originated from people and places at the top pulling away from the rest of the country (Manduca, 2019). Similarly, Reardon and Bischoff (Reardon and Bischoff, 2011) find that income inequality leads to residential segregation of the rich rather than the poor. Ultimately, areas with higher levels of income inequality generate less opportunities for upward mobility of low-income children (Chetty and Hendren, 2018).

Yet wealth inequality dwarfs the unequal distribution of incomes (Pfeffer and Dvir-Djerassi, 2022; Saez and Zucman, 2020). And, next to income, wealth and wealth inequality is implicated in where people live (Gingrich and Ansell, 2014), the economic and educational opportunities they are able to seize (Hansen and Toft, 2021), as well as upward mobility outcomes of low-income children (Schechtl, 2025).

2.3. Economic isolation in schools

Childhood exposure to peers from high-income parental backgrounds and local inequality can be linked through the segregation of schools. Owens et al. (2016) show that inequalities in income lead to rising segregation between schools. As a consequence, income segregation between school districts is associated with achievement gaps between children from low and high-income families (Otero et al., 2023; Owens et al., 2016). Similarly, Bischoff and Owens (2019) demonstrate how growing gaps in social resources between schools are driven by rising income segregation. In other words, income inequality and income segregation are central to our understanding of school's economic segregation (Owens, 2020; Rich and Owens, 2024).

The link between income inequality and school segregation is a consequence of how public school systems are financed. Because school districts are organized locally, they overwhelmingly have to rely on local streams of revenue. At the national average, over a third of public school revenue is based on local property taxes (Allegretto et al., 2022). Because richer areas have a larger tax base funding the local school district, school quality is higher in better neighborhoods. As a result, equalizing revenues across school districts would substantively increase intergenerational mobility (Biasi, 2023).

Local public finance of school district ties school choice to residential choice (Chakrabarti and Roy, 2015; Wilson and Bridge, 2019). Selection into better school districts leads to higher housing prices and, in turn, increases residential segregation (Owens, 2019). Rising income inequality can certainly account for some of the increase in school segregation. At the same time, residential segregation might operate through the distribution of wealth in addition to that of income. As a result, local wealth inequality, too, should be key to understanding economic segregation between schools.

In other words, local wealth inequality will make neighborhoods in better school districts increasingly unaffordable for low-income families, thereby reducing the racial and economic diversity within school districts. In turn, children will be exposed to fewer peers from different economic backgrounds, thereby cementing differences between social strata (Mouw and Entwisle, 2006). Finally, less exposure to other children from high-income parental backgrounds will result in fewer inter-class social ties (Frank et al., 2013). Fig. 2

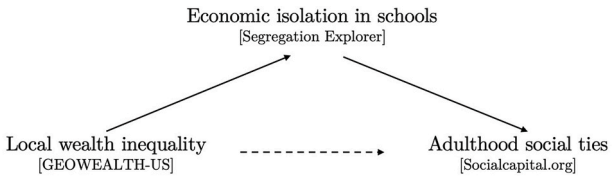

Fig. 2. Conceptual framework.

illustrates this conceptual framework.

All told, I expect local wealth inequality to be negatively associated with the level of social connections between individuals from low- and high-income backgrounds. I further expect local wealth inequality to be positively associated with the economic isolation of low-income children in schools, one key institutional setting for cross-class contact, while remaining agnostic about how much of the wealth-ties association operates through schools versus other local contexts.

3. Data

This study combines three recently published, unique, population-wide datasets. As indicated in Fig. 2, I make use of local wealth inequality information from GEOWEALTH-US (Suss et al., 2024), school-level measures of economic isolation based on the Segregation Explorer (Reardon et al., 2024), and estimates of inter-class social ties from Socialcapital.org (Chetty et al., 2022a). In combination, these data enable researchers for the very first time to address population-wide associations between local wealth inequality, schools' economic isolation, and social connections for every commuting zone in the United States.

3.1. Social ties data

Measures of inter-class social ties are based on the friendships of 72.2 million users of Facebook, published by Opportunity Insights (Chetty et al., 2022a, 2022b). The Facebook friendship data are restricted to American individuals aged between 25 and 44 years that were active on the platform in the previous 30 days (May 2022), had at least 100 friends and a ZIP code. Location is assigned based on the city reported on individual's profiles as well as device and connection information.

Chetty et al. (2022a) generate predictions of socio-economic status (SES) among all individuals in the data. Predictions are based on multiple variables such as location information, college education, phone model price and mobile carrier and many other individual characteristics. Individuals are then linked to their parents to construct measures of family SES during childhood. Parental SES is assigned relative to others in the same birth cohort in order to compare the social ties of children growing up in families at the same rank of the national income distribution.

Aggregated estimates of social ties are publicly available at the county level. I follow previous literature and use population weighting and county-to-CZ crosswalks from the Department of Agriculture to arrive at average measures of social ties at the commuting zone level (Berger, 2018).

3.2. Wealth inequality data

Next, this study makes use of recently published local wealth estimates from GEOWEALTHUS (Suss et al., 2024). This novel database draws on the Survey of Consumer Finances (SCF) as well as the Decennial and American Community Survey (ACS) and applies machine-learning-based imputation techniques to estimate local wealth and wealth inequality.

The imputation model is able to predict household wealth for all observations in the Census data. Importantly, Suss et al. (2024) make use of the set of variables that are available in both the SCF and the ACS, such as the value of the primary residence, mortgage and income variables, as well as demographic and employment information. By building on this set of overlapping variables, the model can effectively generate local wealth estimates that take local housing values and other components of wealth into account. Suss et al. (2024) make aggregate wealth and wealth inequality estimates for each decennial between 1960 and 2020 publicly available at the state-, metropolitan-, PUMA-, and commuting zone level.

3.3. School economic isolation data

I make us of school information from the Segregation Explorer (Reardon et al., 2024). As a part of the Educational Opportunity Project, the data provide local measures of economic isolation between schools for each year from 1991 to 2022. The data build on the Longitudinal Imputed School Dataset (LISD) 1.0 which prepares data from the National Center for Education Statistics Common Core of Data (CCD). Economic isolation or segregation measures are published for several geographical units, including at the commuting zone level.

3.4. Variables

Inter-class social ties. Inter-class social ties are measured as two times the share of friends with high incomes among low-income individuals averaged over all low-income individuals in the area (Chetty et al., 2022a). This measure equals 1 wherever low-income individuals have on average the same share of their friends from low-income backgrounds as they do from high-income backgrounds. Thus, if individuals with low incomes have fewer social ties with peers from high-income backgrounds, this metric will be lower. Taken together, this measure allows researchers to assess spatial disparities in the amount of inter-class social ties across the entire United States. It does provide us with an intuitive metric of the extent of social networks that connect different strata of society.

Local wealth inequality. Local wealth inequality is measured as the Gini index in net wealth in all models in the main analysis. Net wealth is operationalized summing up all assets and subtracting debts and liabilities.

School economic isolation. I approximate economic isolation of low-income children in schools using reduced lunch eligibility information. All models use the school isolation measure from Segregation Explorer (Reardon et al., 2024). This metric indicates the

average proportion of pupils eligible for reduced lunch in a school. An isolation value of 0.6 indicates that the average share of reduced lunch eligible students in a reduced lunch eligible student's school is 0.6. Thus, the measure gives an indication of the isolation (and concentration) of economic disadvantage in schools in a local area. Reduced lunch eligibility equals to 185% of the national poverty line (results remain unchanged when measuring economic isolation as the average proportion of students that are eligible to receive free lunch, see Appendix Table A1). Thus, this metric provides a proxy of economic isolation: where low-income children are concentrated in different schools than high-income children, their isolation will be higher, potentially indicating reduced opportunities to form social ties with children from high-income background.

4. Analytical approach

4.1. Inter-class social ties

I first aim at examining the relationship between local wealth inequality and inter-class social ties as well as schools' economic isolation and inter-class social ties. I use linear models estimated by ordinary least squares regression for both associations:

$$Y_c = \mu + \beta_1 G_c + X'_c \beta_2 + \varepsilon_c \quad (1)$$

where Y_c is the measure of inter-class social ties of low-income individuals, G_c indicates either the commuting zone-level Gini index of wealth inequality (a), or average economic isolation in schools (b), and $\mathbf{X}'_c$ denotes a vector of commuting zone covariates detailed below. μ denotes the intercept. For each association, I specify three models of increasing complexity. All models are estimated using robust standard errors.

The following socio-demographic and economic covariates are included in the models: population share Black, population share with a college degree, mean age (log), total population (log), population share married, and migration outflow, mean income (log), mean wealth (log), poverty, population share renters, share working in manufacturing, racial segregation, income segregation, and income inequality (Gini index).

In all analyses, I introduce covariates stepwise to show how the core association changes as I account for increasingly demanding alternative explanations. I begin with bivariate models. I then add the parsimonious set of socio-demographic controls that plausibly shape both the distribution of wealth and the structure of social networks, thereby capturing compositional differences across commuting zones that could otherwise confound the estimates.

Finally, I add the full set of local economic covariates to account for broader place-based conditions that jointly influence stratification and opportunities for cross-class contact. At the same time, several of these economic covariates can plausibly sit on the causal pathway (e.g., wealth inequality may reshape residential sorting), so the fully adjusted specifications should be interpreted as conservative, as they may control away part of the total effect.

All variables except for the indicator of inter-class social ties are measured in 2000, the year closest to the time when children in the Facebook data attended high school. Local exposure to wealth inequality thus refers to exposure to disparities in wealth during childhood. See Appendix Table A2 for an overview of variables, sources, and summary statistics.

Looking at adulthood social ties and childhood exposure to local wealth inequality allows me to introduce temporal distance between when outcome and independent variables are measured. While the nature of the data does not allow for estimating causal effects, this design will guarantee some assurance against reverse causality. Importantly, results are robust to focusing on childhood social ties (rather than adulthood) and current (rather than previous) local levels of wealth inequality (see Appendix Tables A3, A4, and A5 for full results).

Results are robust to winsorizing dependent and independent variables (Appendix Tables A6 and A7), or weighting commuting zones by the inverse standard errors to account for the estimated nature of the underlying social ties estimates (Appendix Tables A8 and A9).

4.2. Economic isolation in schools

I estimate the effect of local wealth inequality on schools' economic isolation. The crucial advantage of investigating this relationship, as opposed to the link between wealth inequality and social ties, is that both variables are available in longitudinal form. That is, local wealth inequality estimates, and school isolation measures are publicly available for the years 2000, 2010, and 2020. This allows me to gauge whether changes in the local distribution of wealth yield changes in economic isolation in schools in any given commuting zone. To that end, I estimate the following two-way fixed-effects model:

$$Y_{ct} = \mu + \beta_1 G_{ct} + X'_{ct} \beta_2 + Z'_c \beta_3 + \alpha_c + \epsilon_{ct} \quad (2)$$

where Y_{ct} is the measure of economic isolation in schools in commuting zone c at time t, μ denotes the intercept, G_{ct} indicates the commuting zone-level Gini index of wealth inequality, and $\mathbf{X}'_{ct}$ denotes a vector of time-varying covariates detailed below; $\mathbf{Z}'_c$ denotes a vector of time-invariant characteristics. Estimating commuting-zone level fixed effect models mean-differences all variables for each commuting zone across all time points. Thereby, all time-invariant differences between CZs ($\mathbf{Z}'_c$ and α_c) are averaged out. In other words, the two-way fixed-effects models estimate within-CZ changes over time while discharging any time-constant heterogeneity between commuting zones, thereby exploiting the rich panel structure of the data.

Next to year fixed effects (to account for common trends among all commuting zones) as well as commuting zone fixed effects (to

adjust for time-constant differences) models add a parsimonious set of time-varying economic and demographic covariates: the share of Black students in local schools, a measure of racial isolation of Black students, the number of schools in the commuting zone (log), the share of individuals with a college degree, average age (log), and the total number of households (log), average income (log), average wealth (log), the share of renters, and income inequality (Gini index). Standard errors are clustered at the commuting zone level in all models.

5. Results

Findings are presented in three steps: First, I examine the relationship between childhood exposure to local wealth inequality and inter-class social ties in adulthood. I then investigate the association between the economic isolation of low-income children in schools and inter-class social ties later in life. Finally, I estimate whether changes in local wealth inequality can predict changes in economic isolation in schools.

5.1. Local wealth inequality and inter-class social ties

Can local wealth inequality help explain disparities in inter-class social ties across the United States? Fig. 3 displays the bivariate association between both variables. Adulthood social ties are measured as two times the share of high-income friends among low-income individuals, averaged over all low-income individuals in the area (Chetty et al., 2022a). In other words, adulthood social ties indicate the level of inter-class social connections that individuals aged 25 to 44 have. Local wealth inequality is measured as the Gini index in commuting zone net wealth. To gauge the (potential) association with economic isolation in schools, each commuting zone displayed in the figure is colored based on the degree of low-income children's economic isolation in schools. The visual pattern shows a clear negative relationship between local wealth inequality and inter-class social ties (Pearson's coefficient of correlation: −0.44). In other words: where wealth was distributed more unequally in the past, low-income individuals have fewer social connections with high-income adults today.

Can local wealth inequality account for the observed patterning in inter-class social ties? Table 1 shows results from linear models estimated by OLS. The estimated coefficient on wealth inequality is negative throughout all specifications. In the final, preferred model that includes all covariates described in the methods section, a one standard deviation increase in local wealth inequality is associated with 18% of a standard deviation fewer social ties between low- and high-income adults, which translates to a roughly 1.4 percentage points lower share of high-income friends among low-income adults. In other words, in commuting zones where local wealth

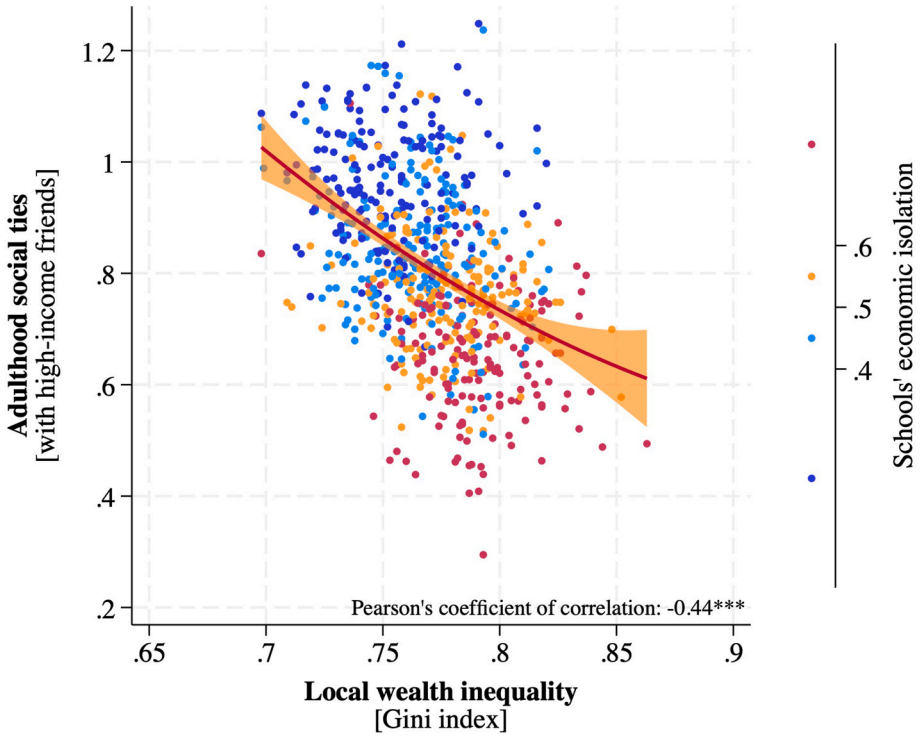

Fig. 3. Bivariate association between childhood exposure to local wealth inequality and inter-class social ties in adulthood.
Note: Shaded area indicates 95% confidence intervals. Information is based on data published by Opportunity Insights (Chetty et al., 2022a), GEOWEALTH-US (Suss et al., 2024) and the Segregation Explorer (Reardon et al., 2024). Author's calculation.

Table 1
Local wealth inequality and inter-class social ties estimated by OLS.

Inter-class social ties	(1)	(2)	(3)
	Model 1	Model 2	Model 3
Wealth inequality [Gini index]	−2.60***	−1.86***	−1.04***
	(0.22)	(0.20)	(0.18)
Black [share]		−0.26***	−0.22***
		(0.05)	(0.06)
College degree [share]		1.19***	0.58***
		(0.07)	(0.12)
Age [mean]		−0.41***	−0.06
		(0.12)	(0.16)
Population [log]		−0.02***	−0.02***
		(0.00)	(0.00)
Married [share]		0.62***	−0.10
		(0.15)	(0.15)
Migration Outflow Rate		0.16	−0.57
		(0.49)	(0.52)
Mean household income [log]			0.07
			(0.07)
Mean household wealth [log]			−0.08**
			(0.03)
Poverty			−1.30***
			(0.15)
Share renters			0.19+
			(0.11)
Share manufacturing			−0.31***
			(0.05)
Racial Segregation			−0.24***
			(0.05)
Income segregation			0.78**
			(0.28)
Income inequality [Gini index]			−0.26***
			(0.08)
Constant	2.81***	3.45***	2.63**
	(0.17)	(0.49)	(0.98)
Observations	707	707	707
R-squared	0.19	0.53	0.67

Bootstrapped standard errors in parentheses, ***p < 0.001, **p < 0.01, *p < 0.05, + p < 0.10.

inequality was higher in the past, there are fewer inter-class social connections today. This finding remains fundamentally unchanged when measuring local wealth inequality as the share of wealth held by the top 10 percent (Appendix Table A10).

5.2. Economic isolation in schools and inter-class social ties

If exposure to peers from different economic backgrounds during childhood is the main facilitator of inter-class social ties in adulthood, then economic isolation of low-income children in schools might help to explain disparities in adulthood inter-class social ties across the United States. Fig. 4 plots the relationship between childhood economic isolation in schools and inter-class social ties in adulthood. Economic isolation in schools is measured using the isolation of reduced-lunch eligible students in schools, averaged across all schools in a commuting zone. To gauge the (potential) association between both variables and local wealth inequality, each observation is colored based on the level of local wealth inequality in the commuting zone. The figure shows a clear, negative association: where low-income children attend schools that are more economically isolated (i.e., less in-school exposure to high-income peers), individuals have less inter-class social ties as adults. This correlation is strong and statistically significant (Pearson's correlation coefficient: 0.73).

Of course, this bivariate association cannot account for other commuting zone level characteristics that might also be correlated with inter-class social ties. Therefore, Table 2 shows results from the multivariable linear models. The estimated coefficient on school isolation remains negative and significant throughout all model specifications. In substantive terms, a one standard deviation increase in economic isolation during childhood is associated with 40 percent of a standard deviation decrease in inter-class social ties in the final model, equivalent to roughly a 3.1 percentage points lower share of high-income friends among low-income adults. In other words, where children are more economically isolated in the schools they attend, they have fewer social ties with high-income peers in adulthood.

5.3. Local wealth inequality and economic isolation in schools

Finally, I expected local wealth inequality to be positively associated with low-income children's economic isolation in schools.

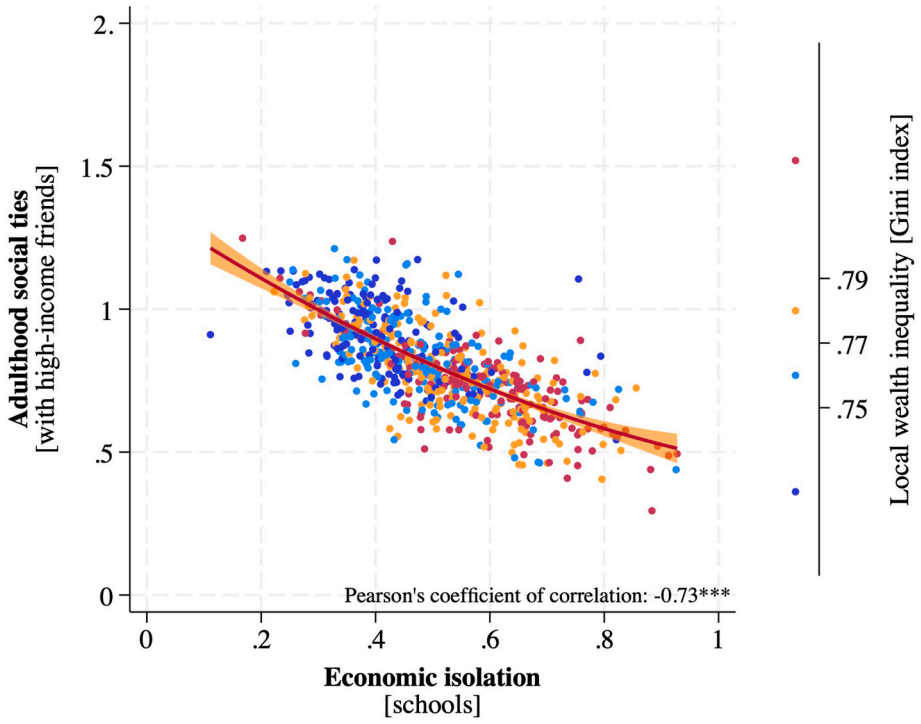

Fig. 4. Bivariate association between childhood economic isolation in schools and inter-class social ties in adulthood.
Note: Shaded area indicates 95% confidence intervals. Information is based on data published by Opportunity Insights (Chetty et al., 2022a), GEOWEALTH-US (Suss et al., 2024) and the Segregation Explorer (Reardon et al., 2024). Author's calculation.

Again, I can gauge the overall pattern by looking at the bivariate relationship. Fig. 5 plots local wealth inequality against school's economic isolation. Both measures are clearly correlated; commuting zones with a more unequal distribution of wealth experience higher economic isolation in schools (Pearson's correlation coefficient: 0.45). To gauge the (potential) association between both variables and inter-class social ties in adulthood, each observation is colored based on the level of adulthood social ties in the commuting zone. In other words, the figure suggests that areas with higher inequality in wealth might provide less opportunities for low-income children to form social ties with high-income peers, with long-lasting consequences for the connections they have later in life.

To further substantiate this association, I estimate linear models of local wealth inequality and school's economic isolation. Here, I can exploit the panel structure of the data and examine whether over-time changes in local wealth inequality are associated with changes over time in schools' economic isolation, accounting for all time-constant heterogeneity between commuting zones. Table 3 shows results from linear models. Throughout all models, exposure to local wealth inequality is positively associated with economic isolation in schools. These results clearly support the simple cross-sectional, bivariate association shown in Fig. 5. In substantive terms, the fully adjusted two-way fixed-effects estimate implies that a one-standard deviation increase in wealth inequality translates into roughly 1.7 percentage points more reduced-lunch eligible peers in the average low-income student's school. Where wealth is becoming to be distributed more unequally, economic isolation of low-income children in schools increases. This pattern is consistent with fewer opportunities for cross-class exposure in schools as low-income students become more concentrated among similarly disadvantaged peers.

6. Supplementary robustness checks

To probe concerns about temporal mismatch and potential measurement error in the key independent variable, I re-estimate the bivariate association between exposure to local wealth inequality and childhood social ties repeatedly, substituting the commuting-zone wealth-inequality measure with values observed in 1960, 1970, 1980, 1990, 2000, and 2010. This exercise directly assesses whether the results hinge on an arbitrary choice of baseline year. The pattern is U-shaped: coefficients are largest (and most precisely estimated) for wealth inequality measured in years closest to respondents' childhood, while estimates attenuate and become statistically indistinguishable from zero when using wealth inequality measured substantially earlier or substantially later (see Appendix Figure A2). Substantively, this is consistent with the interpretation that what matters for childhood inter-class social ties is exposure to local wealth inequality during formative years, not simply cross-sectional differences in inequality measured at an arbitrary point in time. At the same time, the fact that the sign remains stable across several years suggests that wealth inequality is not a rapidly fluctuating, random shock at the commuting-zone level, but rather a slowly moving place characteristic.

Table 2
School economic isolation and inter-class social ties estimated by OLS.

Inter-class social ties	(1)	(2)	(3)
	Model 1	Model 2	Model 3
Economic isolation [schools]	−0.85***	−0.63***	−0.46***
	(0.03)	(0.04)	(0.06)
Black [share]		−0.24***	−0.12*
		(0.04)	(0.05)
College degree [share]		0.68***	0.47***
		(0.09)	(0.13)
Age [mean]		−0.22	0.02
		(0.16)	(0.14)
Population [log]		−0.01***	−0.02***
		(0.00)	(0.01)
Married [share]		0.08	0.11
		(0.12)	(0.13)
Migration Outflow Rate		0.55	−0.26
		(0.54)	(0.48)
Mean household income [log]			0.12+
			(0.07)
Mean household wealth [log]			−0.09**
			(0.03)
Poverty			−0.43*
			(0.20)
Share renters			0.31**
			(0.11)
Share manufacturing			−0.32***
			(0.06)
Racial Segregation			−0.14*
			(0.06)
Income segregation			0.80**
			(0.26)
Income inequality [Gini index]			−0.17*
			(0.07)
Wealth inequality [Gini index]			−1.12***
			(0.21)
Constant	1.24***	1.99**	1.72+
	(0.01)	(0.66)	(0.95)
Observations	707	707	707
R-squared	0.54	0.64	0.70

Bootstrapped standard errors in parentheses, ***p < 0.001, **p < 0.01, *p < 0.05, + p < 0.10.

Next, I aim to speak directly to whether the results are symmetric across class positions. That is, I re-estimate the main models using the social ties of high-income individuals as the outcome. Results shown in Appendix Tables A11 and A12 show that school economic isolation is negatively associated with high-income individuals' inter-class ties as well, consistent with the idea that separation in school contexts reduces opportunities for sustained inter-class contact. By contrast, the association between local wealth inequality and high-income individuals' inter-class social ties is more sensitive to model specification: it mirrors the main results in the bivariate and socio-demographic-adjusted models but attenuates to near zero once adding the fuller set of local economic covariates, several of which plausibly lie on the causal pathway. This pattern might suggest that local wealth inequality reduces high-income individuals' inter-class ties largely through place-based sorting processes (for instance, affluent households' residential segregation), rather than through a direct pathway.

To assess whether the main associations are driven by regional clustering or by a small number of large metropolitan commuting zones, I conduct two additional robustness checks. First, I re-estimate the cross-sectional models with state fixed effects, comparing commuting zones within the same state. Second, I re-estimate all models after excluding the 25 largest commuting zones (population above roughly 2 million) to ensure that results are not driven by the largest metros. Across both checks, the estimated associations between wealth inequality (and school economic isolation) and inter-class social ties remain substantively similar to the baseline results, indicating that the findings are not an artifact of broad regional differences or a subset of very large metropolitan areas (see Appendix Tables A13, A14, A15, A16 and A17).

Finally, to gauge how sensitive the findings are to the inclusion (or exclusion) of specific combinations of covariates, I apply multiverse analyses throughout all estimations. That is, I run 16,384 models representing all potential combinations of covariates (from bivariate to full model) for estimating the association between local wealth inequality and inter-class social ties, 32,768 models for estimating the relationship between economic isolation in schools and inter-class social ties, and 2048 models for estimating the association between changes in local wealth inequality and changes in economic isolation in schools. I use the user-written Stata package *multivrs* to implement these models (Young and Holsteen, 2021). The results show that the findings presented in the main analysis are not an artifact of a specific combination of covariates (see Appendix Figures A3, A4, and A5).

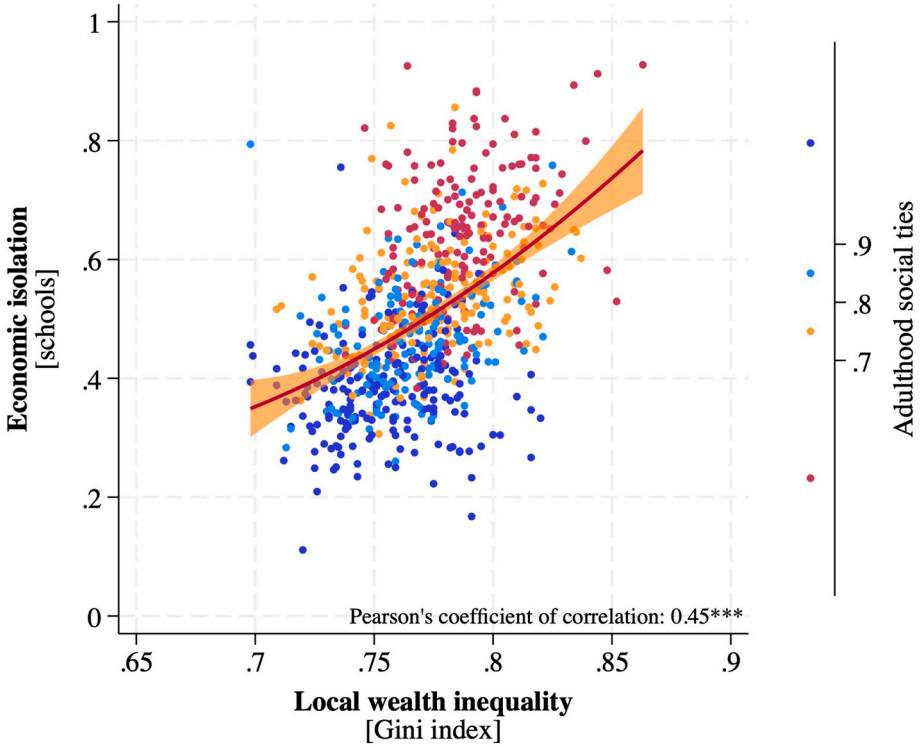

Fig. 5. Bivariate association between local wealth inequality and economic isolation in schools.
Note: Shaded area indicates 95% confidence intervals. Information is based on data published by Opportunity Insights (Chetty et al., 2022a), GEOWEALTH-US (Suss et al., 2024) and the Segregation Explorer (Reardon et al., 2024). Author's calculation.

7. Discussion

Social ties are key to our understanding of local development and individual economic success (Chetty et al., 2022a, 2022b; Eagle et al., 2010; Levy et al., 2020). Inter-class ties are also a direct marker of bridging social capital and social cohesion, whether economic groups meet, mix, and form durable connections across class lines (Frank et al., 2013; Putnam, 2000). At the same time, the extent of social connections between individuals with high and low incomes varies markedly across the United States.

This study argues that childhood exposure to local wealth inequality may be key to understanding spatial disparities in inter-class social ties in adulthood. To understand the role of childhood exposure to local wealth inequality for social ties between low- and high income individuals, this study combines local wealth estimates from the GEOWEALTH-US data with commuting zone (CZ) characteristics from the Decennial Census, estimates of inter-class friendships based on 72.2 million users of Facebook, and recent estimates on economic isolation in schools, publicly available through the Segregation Explorer.

Results from linear models show a strong, negative association between childhood exposure to local wealth inequality and social ties between high- and low-income adults. This association is robust to accounting for income inequality, income segregation, and other demographic as well as economic covariates. Findings show that economic isolation of low-income children in schools can help explain the variation in the inter-class social ties of adults across U.S. commuting zones. Lastly, changes in local wealth inequality translate into changes in economic isolation in schools. Importantly, I do not interpret these results as evidence of mediation. Instead, the analyses document that wealth inequality is associated with adult inter-class social ties and with school economic isolation, while the wealth-ties association appears to persist beyond what can be accounted for by school isolation alone.

In other words, results presented here suggest that childhood exposure to local wealth inequality is central to understanding spatial disparities in inter-class social ties across the United States. That is, where wealth is distributed more unequally during childhood, low-income individuals in particular have fewer social ties with peers with high incomes later in life. Less exposure and thus less contact with peers from a different social class likely contributes to weaker bridging social capital and lower community integration, even beyond its implications for later economic attainment (Chetty et al., 2022a, 2022b).

This paper is first to establish the association between local wealth inequality and disparities in inter-class social ties. Investigating this relationship was made possible thanks to recent developments in publicly available data on wealth and social capital. At the same time, data constraints remain a serious challenge. First, the key predictors and outcomes are not measured in the same calendar year: the wealth inequality measure is observed in decennial snapshots (with 2000 as the primary baseline), whereas inter-class social ties are measured among adults in 2022. Because the social ties measure pools individuals from several cohorts, any single cross-section of local wealth inequality inevitably corresponds to different ages at exposure across individuals, introducing measurement error in

Table 3
Local wealth inequality and school economic isolation estimates by TWFE.

School economic isolation	(1)	(2)	(3)
	Model 1	Model 2	Model 3
Wealth inequality [Gini index]	0.16	0.24*	0.31**
	(0.10)	(0.10)	(0.11)
Black school children [share]		0.05	0.00
		(0.11)	(0.12)
School racial isolation [Black]		−0.02	0.03
		(0.13)	(0.12)
N schools [log]		0.10***	0.10***
		(0.02)	(0.02)
College degree [share]		0.26**	0.39***
		(0.08)	(0.08)
Age [mean]		0.44***	0.45***
		(0.11)	(0.11)
N households [log]		−0.15***	−0.12***
		(0.03)	(0.03)
Mean household income [log]			−0.08**
			(0.03)
Mean household wealth [log]			−0.06***
			(0.01)
Share renters			−0.01
			(0.08)
Income inequality [Gini index]			0.09*
			(0.05)
Constant	0.38***	−0.25	0.88
	(0.08)	(0.54)	(0.58)
Observations	2219	2219	2219
R-squared	0.52	0.55	0.58
Number of cz	741	741	741
Year FE	yes	yes	yes
CZ FE	yes	yes	yes

Clustered standard errors in parentheses, ***p < 0.001, **p < 0.01, *p < 0.05, + p < 0.10.

childhood exposure.

Second, population-level social ties are currently available only as a cross-sectional snapshot, which prevents tracing within-place change in inter-class social ties over time. This limitation is also why results here are not presented as a mediation test (directly linking wealth inequality, school economic isolation, social ties). Doing so would require longitudinal measurement of school isolations and social ties for the same cohorts (and stronger assumptions about timing than the present design can support). Finally, to better isolate the role of spatial sorting in wealth itself, wealth segregation as distinct from wealth inequality, future research will require more granular, repeated measures of the wealth distribution below the commuting-zone level.

All told, wealth is a key component of socio-economic status that has the potential to shape individuals' lives and realities over and above their income; we can no longer afford to ignore it's unequal distribution when examining spatial disparities in social ties and social fragmentation in present-day America.

Declaration of competing interest

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ssresearch.2026.103355.

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