Social Capital and Economic Mobility

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What is “Social Capital”? Three Concepts

**Connectedness**

- High-SES
- Low-SES

**Cohesiveness**

**Civic Engagement**
This Project: Two Papers

Measure Social Capital Using Data on 21 Billion Friendships

Analyze Associations with Economic Mobility

Identify Determinants of Social Connections

Release Publicly Available Data to Target Interventions
Paper 1: Measurement and Associations with Economic Mobility
Data and Sample Definitions

- We measure social capital by ZIP code, high school, and college using privacy-protected data from Facebook and Instagram.

- Baseline analysis sample
  - U.S. Facebook users between ages 25–44 who are 30-day active with at least 100 friends in the U.S. as of May 28, 2022 (1978-1997 birth cohorts)
  - 72.2 million individuals, 21 billion friendships: **84% coverage** of 25–44-year-old population
Economic Connectedness

- Begin by measuring economic connectedness: to what extent are individuals from low vs. high-SES backgrounds friends with each other?

Measuring Socioeconomic Status

- Construct an index of socioeconomic status (SES) by combining several proxies: ZIP code, college, phone model price, donations, ...

- Baseline measure: combination that best predicts median household income in block group (available for a subset of users) using a machine learning model

- Rank users in the national income distribution based on their predicted SES ranks

- Note: all inferences were created and used solely for the purpose of this research and were not used by Meta for any other purpose
<table>
<thead>
<tr>
<th>Setting</th>
<th>Benchmark</th>
<th>Facebook SES Measure</th>
<th>Correlation with % Above-Median SES in Facebook Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZIP Codes</td>
<td>% of individuals with household income above the national median (ACS)</td>
<td>Own SES</td>
<td>0.88</td>
</tr>
<tr>
<td>High Schools</td>
<td>% of students not eligible for free or reduced lunch (NCES)</td>
<td>Parental SES</td>
<td>0.85</td>
</tr>
<tr>
<td>Colleges</td>
<td>% of students with parental household income in the top two quintiles of the national distribution (tax data)</td>
<td>Parental SES</td>
<td>0.91</td>
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</tbody>
</table>
Mean Friend SES Rank vs. Own SES Rank

All Friends: Slope = 0.44 (0.005)
Proportion of Friendships by SES Percentile Rank
Proportion of Friends by SES Percentile Rank for Individuals in the Upper Tail
Mean Friend SES Rank vs. Own SES Rank

- All Friends: Slope = 0.44 (0.005)
- Top 10 Friends: Slope = 0.46 (0.006)
Mean Top 5 High School Friends’ Parents’ Rank vs. Own Parent’s Rank

Facebook Parent-Child Linked Analysis Sample

- Facebook: Slope = 0.31 (0.003)
Mean Top 5 High School Friends’ Parents’ Rank vs. Own Parent’s Rank
Facebook Parent-Child Linked Analysis Sample vs. Add Health Data

Mean SES Rank of Friends’ Parents

Parents’ SES Percentile Rank

Facebook: Slope = 0.31 (0.003)
Add Health: Slope = 0.31 (0.015)
Intergenerational Persistence of SES in Facebook vs. Tax Data

![Graph showing the comparison of mean child SES rank in adulthood against parents' SES percentile rank.](https://via.placeholder.com/150)

- **Facebook**: Slope = 0.32 (0.004)
- **Population Tax Data**: Slope = 0.34 (0.003)
Measuring Economic Connectedness Across Subgroups

- Overarching question: why do the poor have much fewer high-SES friends than the rich and what implications does this have for economic mobility?

- Answer these questions by disaggregating national data across subgroups

- To examine variation across groups, summarize connections between low- and high-SES people with the following statistic:

\[
EC = \frac{\text{Number of friends with above median SES}}{\text{Total number of friends}} / \frac{1}{2}
\]
Economic Connectedness among Low vs. High-SES Individuals
Normalized Share of Above-Median-SES Friends

Average Low-SES Individual: 0.776
Average High-SES Individual: 1.412

All analysis sample users (Paper 1)
Economic Connectedness of Low-SES Individuals by County
Normalized Share of Above-Median Friends Among Below-Median People

Note: see the Social Capital Atlas (www.socialcapital.org) for an interactive version of this map and downloadable data
Cohesiveness: Clustering by County
National Correlation With EC: 0.14
Civic Engagement: Volunteering by County
National Correlation With EC: 0.26
Economic Connectedness of Low-SES Individuals by ZIP Code in LA
Normalized Share of Above-Median Friends Among Below-Median People
Cohesiveness: Clustering Coefficients by ZIP Code in LA
Civic Engagement: Volunteering Rates by ZIP Code in LA
## Correlation Matrix of County-Level Social Capital Measures

### Selected Social Capital Measures

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
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<th>(6)</th>
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<tr>
<td>Economic Connectedness (EC)</td>
<td>1.00</td>
<td></td>
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<td>Language Connectedness</td>
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<td></td>
<td></td>
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<td>Age Connectedness</td>
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<td>Clustering</td>
<td>0.01</td>
<td>0.38</td>
<td>0.51</td>
<td>1.00</td>
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<tr>
<td>Support Ratio</td>
<td>-0.25</td>
<td>0.30</td>
<td>0.50</td>
<td>0.64</td>
<td>1.00</td>
<td></td>
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<tr>
<td>Spectral Homophily</td>
<td>-0.09</td>
<td>-0.37</td>
<td>-0.49</td>
<td>-0.61</td>
<td>-0.51</td>
<td>1.00</td>
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<tr>
<td>Penn State Index</td>
<td>0.31</td>
<td>0.08</td>
<td>-0.04</td>
<td>0.39</td>
<td>0.28</td>
<td>-0.25</td>
<td>1.00</td>
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<td></td>
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<tr>
<td>Civic Organizations</td>
<td>0.27</td>
<td>0.16</td>
<td>0.05</td>
<td>0.37</td>
<td>0.23</td>
<td>-0.33</td>
<td>0.67</td>
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<tr>
<td>Volunteering Rate</td>
<td>0.46</td>
<td>0.28</td>
<td>-0.04</td>
<td>0.30</td>
<td>0.23</td>
<td>-0.35</td>
<td>0.44</td>
<td>0.46</td>
<td>1.00</td>
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</table>
Association with Economic Mobility
Correlations between Upward Mobility and Measures of Social Capital

County-level Univariate Correlations

- Economic Connectedness
- Language Connectedness
- Age Connectedness
- Clustering
- Support Ratio
- Spectral Homophily
- Penn State Index
- Civic Organizations
- Volunteering Rate

Magnitude of Pop-Wtd. Univariate Correlation with Upward Mobility across Counties

- Green circle: Positive
- Red triangle: Negative
Correlations between Upward Mobility and Measures of Social Capital
Coefficients from County-level Multivariable Regression
Relationship between Clustering and Upward Mobility
ZIP-level, selected cities
Relationship between Clustering, Upward Mobility, and EC
ZIP-level, selected cities
Relationship between Upward Mobility and Economic Connectedness
ZIP-level, selected cities
Distributions of ZIP Code-Level Correlations between Upward Mobility and Social Capital Measures across Counties
Why is Economic Connectedness Related to Upward Mobility?

- Economic connectedness may have a causal effect on upward mobility through many mechanisms: aspirations, information, referrals

- But EC may also be correlated with mobility for three other reasons, even in the absence of a causal effect

  1. Reverse causality: mobility affects EC

  2. Selection: people who live in high EC areas differ

  3. Other neighborhood characteristics: other characteristics of high-EC neighborhoods lead to high upward mobility

- Evaluate each in turn
Reverse Causality

To assess reverse causality, examine friendships made before individuals enter labor market, based on parental SES

- Pre-determined relative to ex-post SES, so cannot be mechanically affected by rates of upward mobility

Two approaches to measuring childhood EC: high-school friends, parental SES of Facebook users and current day Instagram users aged 13-18

- Correlation between upward mobility and childhood EC of 0.44 using Facebook measure and 0.62 using Instagram measure
Selection vs. Causal Effects

- To evaluate importance of selection, examine association between estimated causal effects of counties on upward mobility and EC
  - Use causal effect estimates from Chetty and Hendren (2018), identified using a quasi-experimental movers design
Counties’ Causal Effects on Upward Income Mobility vs. Economic Connectedness

Note: causal effects on upward mobility estimated using movers design (Chetty and Hendren QJE 2018b)
Economic Connectedness vs. Other Neighborhood Characteristics

- Preceding results establish that growing up in a high-EC area for more years has a causal effect on upward mobility.

- Is this because of connectedness itself or other characteristics of high-EC neighborhoods?

- Vast literature has shown how a variety of characteristics predict differences in economic mobility across areas (poverty rates, racial segregation, inequality, ...)
  - Low poverty rates are widely used as a marker of “high opportunity” neighborhoods.

- Examine relative explanatory power of these other factors vs. EC, starting with neighborhood incomes.
Economic Connectedness vs. Household Median Income, by ZIP Code
Economic Connectedness vs. Household Median Income, by ZIP Code
Colored by Rate of Upward Mobility

Upward Mobility (Child's Income Rank in Adulthood given Parents at 25th Income Percentile):
- > 48
- 44 – 48
- 42 – 44
- 38 – 42
- < 38
Economic Connectedness vs. Household Median Income, by ZIP Code
Colored by Rate of Upward Mobility
Upward Mobility vs. Economic Connectedness, Inequality, and Segregation
OLS Regression Estimates, Across Counties and ZIP codes

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>Upward Mobility (Mean Income Rank at Age 35 for Children with Parents at 25th Percentile)</th>
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<tbody>
<tr>
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<td>Across Counties</td>
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<tr>
<td></td>
<td>(1)</td>
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<tr>
<td>Income Inequality (Gini coefficient)</td>
<td>-0.449***</td>
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<tr>
<td></td>
<td>(-0.084)</td>
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<tr>
<td>Share Black</td>
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<tr>
<td>Economic Connectedness</td>
<td></td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>2,741</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.207</td>
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</tbody>
</table>

Connectedness explains the link between inequality and mobility (Great Gatsby Curve) [Corak 2013, Krueger 2016]
### Upward Mobility vs. Economic Connectedness, Inequality, and Segregation

**OLS Regression Estimates, Across Counties and ZIP codes**

<table>
<thead>
<tr>
<th>Dependent Variable: Upward Mobility (Mean Income Rank at Age 35 for Children with Parents at 25th Percentile)</th>
<th>Across Counties</th>
<th>Across ZIP Codes</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td>Income Inequality (Gini coefficient)</td>
<td>-0.449***</td>
<td>-0.103</td>
</tr>
<tr>
<td>Share Black</td>
<td>(-0.084)</td>
<td>(-0.091)</td>
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<tr>
<td>Economic Connectedness</td>
<td>0.577***</td>
<td>0.468***</td>
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<td></td>
<td>(0.063)</td>
<td>(0.083)</td>
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<tr>
<td>Observations</td>
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<td>2,741</td>
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<tr>
<td>R-squared</td>
<td>0.207</td>
<td>0.424</td>
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</tbody>
</table>

Connectedness explains why racially segregated areas have lower mobility [Cutler Glaeser 1997]
Correlations between Upward Mobility and Neighborhood Characteristics
County-level Univariate Correlations

- Economic connectedness
- Median HH income
- Share above poverty line
- Income segregation
- Racial segregation
- Share of Black individuals
- Income inequality (Gini coefficient)
- Jobs within 5 miles
- Job growth 2004–2013
- 2000 employment rate
- Mean third grade mathematics score
- Share of college graduates
- Share of Hispanic individuals
- Share of single-parent HH

Magnitude of population-weighted univariate correlation with upward mobility across counties

- Positive
- Negative
Correlations between Upward Mobility and Neighborhood Characteristics
County-level Multivariable Regression Coefficients

- Economic connectedness
- Median HH Income
- Racial segregation
- Share of Black individuals
- Income inequality (Gini coefficient)
- Mean third grade mathematics score
- Share of single-parent HH

Multivariable regression coefficient on standardized measure

Positive
Negative
Greater economic connectedness is strongly associated with better outcomes for the poor, but does this come at the expense of outcomes for the rich?
Economic Mobility vs. Cross-SES Connectedness for Low- vs. High-SES Individuals

County-Level

Predicted Household Income Rank for Children w/ Parents at 25th or 75th Pctile vs. Cross-SES Connectedness

- 25th Percentile: Slope = 18.2 (1.2)
- 75th Percentile: Slope = -8.6 (1.0)
Economic Mobility vs. Cross-SES Connectedness for Low- vs. High-SES Individuals
County-Level, Controlling for Share of High-SES Residents
Different Types of Social Capital Matter for Different Outcomes

- Economic connectedness may predict upward mobility because it provides “bridging” social capital useful for “getting ahead” [Putnam 2000]

- But important to recognize that it is not necessarily the “best” measure of social capital in general
  - Illustrate by looking at correlations with other outcomes, such as life expectancy by income
Correlations between Social Capital and Life Expectancy at Age 40 for Bottom-Income-Quartile Men

Univariate County-level Correlations

- Cross-Type Connectedness
  - Economic Connectedness
  - Language Connectedness
  - Age Connectedness
- Network Cohesiveness
  - Clustering
  - Support Ratio
  - Spectral Homophily
- Civic Engagement
  - Penn State Index
  - Civic Organizations
  - Volunteering Rate

Magnitude of Pop-Wtd. Univariate Correlation with Life Expectancy for Q1 Males

- Green circle: Positive
- Red triangle: Negative
Correlations between Social Capital and Life Expectancy at Age 40 for Bottom-Income-Quartile Men
Cohesiveness vs. Life Expectancy
Paper 2: Determinants of Economic Connectedness
Why Do the Poor Have Fewer High-SES Friends?

Exposure
Segregation by Income

vs.

Friending Bias
Interaction Conditional on Exposure

School A

School B

School A

School B

High-SES

Low-SES
We can decompose economic connectedness (EC) for a given person into the sum of three components across the groups where she makes friends:

\[ EC = \sum_{g \in G} \text{Friend Share}_g \times \text{Exposure}_g \times (1 - \text{Friending Bias}_g) \]

1. **Friend Share**: Share of friends made in group \( g \)

2. **Exposure**: Share of members of group \( g \) who are high-SES

3. **Friending Bias**: \( 1 - \frac{\text{Share high-SES friends made in } g}{\text{Share high-SES members of } g} \)
Exposure vs. Friending Bias

- Demarcation between exposure and friending bias depends on how we define the groups where people interact

  - Friending bias within schools may itself arise from differences in exposure (e.g., across classrooms)

→ Distinction is **policy-dependent** rather than conceptual

  - School-level grouping has policy relevance: many efforts to integrate schools, neighborhoods, etc.
Assign Friendships to One of Six Settings Where They are Formed

- High Schools
- Colleges
- Employers
- Recreational Groups
- Religious Groups
- Neighborhoods
Friendship Shares by Setting vs. Socioeconomic Status
High Schools & Colleges

![Graph showing the proportion of friends made in high school and college relative to national average against SES percentile rank.](image-url)
Friendship Shares by Setting vs. Socioeconomic Status
High Schools, Colleges and Workplaces
Friendship Shares by Setting vs. Socioeconomic Status
High Schools, Colleges, Workplaces, and Recreational & Religious Groups

Proportion of Friends Made in Setting Relative to National Average

SES Percentile Rank

High School
College
Workplace
Recreational Group
Religious Group
Friendship Shares by Setting vs. Socioeconomic Status
All Settings

[Graph showing the proportion of friends made in different settings (High School, College, Workplace, Recreational Group, Religious Group, Neighborhood) relative to the national average across different SES percentile ranks.]
EC By Setting
Low-SES vs. High-SES People

Economic Connectedness

[Bar chart comparing Low-SES and High-SES people across different settings: High school, College, Workplace, Rec. group, Rel. group, Neighborhood]
Exposure By Setting
Low-SES vs. High-SES People

- High school
- College
- Workplace
- Rec. group
- Rel. group
- Neighborhood

Low-SES people
High-SES people
Friending Bias Among Low-SES People, By Setting

- Neighborhood: 0.163
- Workplace: 0.054
- College: 0.049
- High School: 0.041
- Rec. group: 0.025
- Rel. group: -0.035
Friending Bias By Setting
Low-SES People

- High school
- College
- Workplace
- Rec. group
- Rel. group
- Neighborhood
Friending Bias Among Low-SES Members of Religious Groups, Minus Friending Bias in Religious Group

![Graph showing friending bias among low-SES members of religious groups in different settings.](image-url)
We just measured each of three components that determine connectedness: friend shares, exposure, and friending bias.

Now combine these parameters to quantify the contribution of each channel in explaining why the poor have fewer high-SES friends than the rich.
Why do Low-SES People Have Fewer High-SES Friends than High-SES People?

Decomposition Analysis: Group Importance, Exposure, and Friending Bias

Low-SES vs. High-SES Individuals

- **Average Low-SES Individual**: 0.826
  - 17% under-representation of high-SES friends

- **Average High-SES Individual**: 1.534
  - 53% over-representation of high-SES friends
Why do Low-SES People Have Fewer High-SES Friends than High-SES People?

Decomposition Analysis: Group Importance, Exposure, and Friending Bias
Low-SES vs. High-SES Individuals

- Average Low-SES Individual: 0.826
- Equate Friending Rates: 0.910
- Average High-SES Individual: 1.534
- Equate Friending Rates, Exposure & Bias: 1.534

Economic Connectedness (EC)
Why do Low-SES People Have Fewer High-SES Friends than High-SES People?

Decomposition Analysis: Group Importance, Exposure, and Friending Bias
Low-SES vs. High-SES Individuals

- Average Low-SES Individual: 0.826
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- Average Low-SES Individual: 0.826
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- Equate Friending Rates & Exposure: 1.209
- Equate Friending Rates & Friending Bias: 1.150
- Average High-SES Individual: 1.534

Economic Connectedness (EC)
### Determinants of Economic Connectedness

<table>
<thead>
<tr>
<th>Exposure</th>
<th>vs.</th>
<th>Friending Bias</th>
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<tbody>
<tr>
<td>Segregation by Income</td>
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<td>Interaction Conditional on Exposure</td>
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<td><img src="50%25" alt="50%" /></td>
<td><img src="50%25" alt="50%" /></td>
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</table>

“Every time I walked across Eutaw Street, I witnessed the exchange of realities. As I grew older, I’ve come to learn that this was how Baltimore works. Millionaires could live on one side of a street, and the projects could be on the other side. **Those two worlds would never cross, never make friends, never acknowledge each other.** Everybody was OK with it, especially the rich.

- Carmelo Anthony (2021), *Where Tomorrows Aren’t Promised*
Exposure and Bias Across Areas
Exposure of Low-SES Individuals by County
Share of above-median-SES people in below-median-SES people’s communities
Friending Bias of Low-SES Individuals by County
Share of above-median-SES friends of below-median-SES people, conditional on exposure
Exposure of Low-SES Individuals by ZIP Code in LA
Share of above-median-SES people in below-median-SES people’s communities
Friending Bias of Low-SES Individuals by ZIP Code in LA
Share of above-median-SES friends of below-median-SES people, conditional on exposure
Why Does Economic Connectedness Vary Across Areas?

Low-EC vs. High-EC ZIP Codes

- Average Low-EC ZIP Code: 0.520
- EquateFriending Rates: 0.597
- Equate Friending Rates & Exposure: 1.080
- Equate Friending Rates & Friending Bias: 0.680
- Average High-EC ZIP Code: 1.222

Economic Connectedness (EC)
## Associations between Friending Bias, Exposure, and Upward Mobility across Counties and ZIP Codes

<table>
<thead>
<tr>
<th>Dependent Variable:</th>
<th>( \log(\text{Upward Mobility}) )</th>
<th>( \log(\text{Causal Upward Income Mobility}) )</th>
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<tbody>
<tr>
<td></td>
<td>ZIP Codes (1)</td>
<td>ZIP Codes (2)</td>
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<td>( \log(\text{Economic Connectedness}) )</td>
<td>0.236*** (0.01)</td>
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<td>( \log(\text{High-SES Exposure}) )</td>
<td>0.185*** (0.03)</td>
<td>0.236*** (0.04)</td>
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<td>( \log(1 - \text{Friending Bias}) )</td>
<td>( \text{County FEs} )</td>
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<td>Observations</td>
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<td>24,200</td>
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<tr>
<td>R-squared</td>
<td>0.42</td>
<td>0.43</td>
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Using New Public Data to Target Interventions
Targeting Interventions to Increase Connectedness

- We release granular statistics on social capital measures in the Social Capital Atlas (www.socialcapital.org)
  - Connectedness: EC, exposure, bias
  - Other measures of social capital: cohesiveness and civic engagement
  - By ZIP code, high school, and college

- Here, show how these new statistics can be useful to
  - Understand institutional determinants of friending bias
  - Inform interventions to increase social connections

- Contrast two approaches: increasing integration vs. reducing friending bias
Friending Bias vs. Exposure to High-SES Students, by High School
Among Low-SES Students in 1990-2000 Birth Cohorts

Exposure Reliability = 99%
Friend Bias Reliability = 58%
Mary Barr: sociologist who attended Evanston Township HS

**BARR:** Interracial friendships that had been building and blossoming, even though it was more difficult, beginning in the elementary schools, and then really flourishing in the middle school, just sort of come to an abrupt halt.

The process of social segregation began again in high school, reinforced by academic tracking that guided white students towards an academic focus and black students to a vocational focus. Some of that tracking came through the school itself; some from families.

**BARR:** This is where our friendship ended. I think that it wasn't... when we think about tracking, we think about "college bound," right? The gifted group, the AP classes, or the remedial or vocational courses. And that's where all of my black friends ended up.
Friending Bias in High Schools vs. AP Enrollment
Bias Measured using Parental SES
Friending Bias in High Schools vs. School Size

Bias Measured using Parental SES
Friending Bias in High Schools vs. Socioeconomic Diversity
Bias Measured using Parental SES
Friending Bias in High Schools vs. Racial Diversity
Bias Measured using Parental SES
Friending Bias vs. Exposure to High-SES Students, by College
Among Low-SES Students in 1990-2000 Birth Cohorts
Racial Diversity vs. Friending Bias
In Colleges and Neighborhoods
Friending Bias at the University of Alabama
Greek Life as a Potential Source of Friending Bias on College Campuses

Greek diversity: Why not socioeconomic too?

Leigh Terry
January 22, 2014

One of the reasons I chose the Capstone over other institutions of higher learning was my awareness and appreciation of the socioeconomic variety composed in its student body.

However, I have been dismayed over the course of my three semesters at The University of Alabama by how few interclass interactions I have on a monthly basis. This stark contrast from my pre-college days is most striking among my friends and acquaintances in the Greek community.

It is no secret that sorority and fraternity dues are expensive. According to the UA National Panhellenic Conference website, the average sorority member (not living in-house) paid $3,300.25 per semester during the 2012-2013 academic year. That adds up to more than $26,000 – equal to 64 percent of the cost of four years of in-state tuition – over the course of a member’s four years in Tuscaloosa.
Targeting Interventions to Increase Connectedness

- Relative importance of reducing bias vs. increasing exposure differs across schools

- School-level statistics can be useful in predicting impacts of marginal efforts to increase integration vs. reduce friending bias

- To illustrate, estimate causal effects of marginal integration on social interaction

  - Use quasi-experimental variation in share of high-SES classmates across cohorts within high schools [Hoxby 2001, Sacerdote 2011]
Causal Effects of Integration on Connectedness: Cross-Cohort Fluctuations
Cohort-level Changes in EC vs. Changes in Exposure

Slope = 0.89 (0.005)
Causal Effects of Integration on Connectedness:
Cross-Cohort Fluctuations
Causal Impacts of High-SES Share on Connectedness, by Level of Friending Bias
Causal Effects of Integration on Connectedness:
Regression Discontinuity
Changes in EC Around School Entry Cutoffs, by Friending Bias

EC Jump in Low-Bias Schools = 0.39 (0.01)
EC Jump in High-Bias Schools = 0.33 (0.01)
Causal Effects of Integration on Connectedness: Regression Discontinuity
Impacts of Exposure on EC, by Friending Bias

Slope in Low-Bias Schools = 0.94 (0.02)
Slope in High-Bias Schools = 0.80 (0.01)
Ongoing Efforts to Reduce Friending Bias

A structure of division: Berkeley High School attempts to tackle segregation on campus

Greek diversity: Why not socioeconomic too?

Thinking Outside the Checkbox: How HKS Teamed Up With a Dallas School to Connect Divided Campus

A Weightlifting Program Gives Ex-Cons A Chance At Change

April 20, 2017 · 3:58 PM ET
Heard on All Things Considered
Berkeley High School: Initiatives to Reduce Friending Bias

THE DAILY CALIFORNIAN
SUNDAY, MAY 14, 2017

A structure of division: Berkeley High School attempts to tackle segregation on campus

Today, Berkeley High is split into five learning communities, with two larger schools — Berkeley International High School, or BIHS, and Academic Choice, or AC — and three smaller schools — the Academy of Medicine and Public Service, Arts and Humanities Academy, or AHA, and Communication Arts and Sciences, or CAS.

Though the movement toward a small program structure was meant in part to address racial achievement gaps and improve outcomes for students of color, many students feel it has created a segregated school and fueled racist attitudes.

Intervention

To attempt to address this divisive climate, Berkeley High's Design Team has proposed the creation of a ninth grade that places incoming students into intentionally diverse communities. Under a universal ninth grade, students would begin their time at Berkeley High in one of various houses, rather than in one of the five learning communities.
A Gym in Boston Pushes to Reduce Friending Bias
Inner City Weightlifting (ICW), Boston MA

At ICW, through our career track in personal training, we help create economic mobility for people in our program as they begin earning $20-$60 per hour training clients from opposite socio-economic backgrounds. More importantly, this flips power dynamics, bridges social capital, and creates a genuine form of inclusion that disrupts the system of segregation, isolation, and racism that leads to the streets. The people in our program gain access to new networks and opportunities, while our clients gain new insights and perspectives into complex social challenges.

During Stage III, students form relationships with clients from opposite socioeconomic backgrounds, bridging social capital, and creating a dynamic support network.
Two broad takeaways:

1. Social capital as measured by *economic connectedness* appears to be a key mediator of economic mobility

2. Economic connectedness is shaped by segregation (exposure) and friending bias (interaction), both of which can be measured and shaped by policy

More generally, increasing social connectedness lies at the heart of many recent programs that have shown promise in increasing upward mobility

- Ex: CMTO (neighborhoods) and YearUp (job training)

→ Designing policies going forward to provide not just economic resources but relevant socioeconomic connections may be critical for expanding opportunity
Research papers:


Data: www.socialcapital.org

Questions: info@opportunityinsights.org
Supplementary Slides
Connectedness by County
Age and Language

Age Connectedness

Language Connectedness
Cohesiveness by County
Support Ratio and Spectral Homophily
Civic Engagement by County
Number of Civic Organization Pages per 1,000 Facebook Users
Friending Bias in High Schools vs. Gifted & Talented Enrollment
Bias Measured using Parental SES
Friending Bias in High Schools vs. Share of White Students

Bias Measured using Parental SES
Friending Bias in High Schools vs. AP Enrollment

Bias Measured using Own SES
Friending Bias in High Schools vs. Gifted & Talented Enrollment

Bias Measured using Own SES

![Graph showing the relationship between Friending Bias among Low-SES Students (%) and Share in Gifted & Talented Program (%)](image-url)
Friending Bias in High Schools vs. School Size

Bias Measured using Own SES
Friending Bias in High Schools vs. Exposure
Bias Measured using Own SES
Friending Bias in High Schools vs. Racial Diversity

Bias Measured using Own SES
Friending Bias in High Schools vs. Share of White Students
Bias Measured using Own SES
Correlations with High School Completion Rate for Children with Parents at 25\(^{th}\) Percentile

- Economic Connectedness
- Language Connectedness
- Age Connectedness
- Clustering
- Support Ratio
- Spectral Homophily
- Penn State Index
- Civic Organizations
- Volunteering Rate

Magnitude of Pop-Wtd. Univariate Correlation with High School Completion across Counties

- Positive
- Negative
Correlations with Teen Birth Rate for Women with Parents at 25th Percentile
Stability of County-Level Economic Connectedness Across Cohorts

A. Autocorrelation of Economic Connectedness Across Counties by Cohort

B. Correlation between Upward Mobility for 1978-83 Cohorts and Cohort-Specific EC
LASSO Estimates

A. LASSO for Social Capital Measures

B. LASSO Including Other Neighborhood Characteristics
**Incremental R-Squared of Predictors**

**C. Additional R-Squared for Social Capital Measures**

**D. Additional R-Squared Incl. Other Nbhd. Characteristics**
Correlations between Upward Mobility and Measures of Social Capital
ZIP-level Univariate Correlations

- Economic Connectedness
- Language Connectedness
- Age Connectedness
- Clustering
- Support Ratio
- Civic Organizations
- Volunteering Rate

Magnitude of Pop-Wtd. Univariate Correlation with Upward Mobility across ZIP Codes

Positive - Green Circle
Negative - Red Triangle
Correlations between Upward Mobility and Measures of Social Capital
Coefficients from ZIP-level Multivariable Regression
Relationship between Upward Mobility and EC
ZIP-level Regression

Predicted Household Income Rank for Children w/ Parents at 25th Pctile

Economic Connectedness

Slope = 18.3 (0.6)
Correlation = 0.69 (0.02)
Relationship between Upward Mobility and EC
ZIP-level Univariate Correlations

![Graph showing the relationship between Economic Connectedness and various ZIP-level indicators with univariate correlations.](image-url)
Relationship between Upward Mobility and EC
Coefficients from ZIP-level Multivariate Regression

- Economic Connectedness
- Mean HH Income
- Share Black
- Mean 3rd Grade Math Score
- Share Single Parent HH

Multivariable Regression Coefficient on Standardized Measure

- Positive
- Negative
Social Capital and Upward Mobility in Counties with Predominantly White Residents
Spatial Variation in EC
Social Capital and Upward Mobility in Counties with Predominantly White Residents

EC vs. Upward Mobility

Correlation = 0.68
Social Capital and Upward Mobility in Counties with Predominantly White Residents

Univariate Correlations with Upward Mobility

C. Univariate Correlations between Upward Mobility and Social Capital

D. Univariate Correlations between Upward Mobility and Other Neighborhood Characteristics
Regression of Counties’ Causal Effects on Upward Mobility on Social Capital
Multivariable Regression Coefficients

- Economic Connectedness
- Language Connectedness
- Age Connectedness
- Clustering
- Support Ratio
- Spectral Homophily
- Penn State Index
- Civic Organizations
- Volunteering Rate

Multivariable Regression Coefficient on Standardized Measure

- Positive
- Negative
Regression of Counties’ Causal Effects on Upward Mobility on Social Capital
Incremental R-Squared

Increase in R-Squared from Additional Regressor

- Economic Connectedness
- Language Connectedness
- Age Connectedness
- Clustering
- Support Ratio
- Spectral Homophily
- Penn State Index
- Civic Organizations
- Volunteering Rate
Upward Mobility, EC, and Income Levels across Counties
Median Household Income vs. Upward Mobility

A. Upward Mobility vs. Median Income, by County

B. Upward Mobility vs. Median Income Controlling for EC, by County
Upward Mobility, EC, and Income Levels across Counties

Poverty Rate vs. Upward Mobility

C. Upward Mobility vs. Poverty Rate, by County

D. Upward Mobility vs. Poverty Rate Controlling for EC, by County
Upward Mobility, EC, and Income Levels across ZIPs

Median Household Income vs. Upward Mobility

A. Upward Mobility vs. Median Income, by ZIP Code

B. Upward Mobility vs. Median Income Controlling for EC, by ZIP Code
Upward Mobility, EC, and Income Levels across ZIPS

C. Upward Mobility vs. Poverty Rate, by ZIP Code

D. Upward Mobility vs. Poverty Rate Controlling for EC, by ZIP Code
Upward Mobility, EC, and Inequality and Segregation across Counties

Income Segregation vs. Upward Mobility

A. Upward Mobility vs. Income Segregation, by County

B. Upward Mobility vs. Income Segregation Controlling for EC, by County
Upward Mobility, EC, and Inequality and Segregation across Counties

Racial Segregation vs. Upward Mobility

C. Upward Mobility vs. Racial Segregation, by County

D. Upward Mobility vs. Racial Segregation Controlling for EC, by County
Upward Mobility, EC, and Inequality and Segregation across Counties
Gini Coefficient vs. Upward Mobility

E. Upward Mobility vs. Gini Coefficient, by County

F. Upward Mobility vs. Gini Coefficient Controlling for EC, by County
Upward Mobility, EC, and Share of Black Residents across ZIPs
Black Share vs. Upward Mobility for White Individuals

A. Upward Mobility for White Individuals vs. Black Share, by ZIP Code

B. Upward Mobility for White Individuals vs. Black Share Controlling for EC, by ZIP Code
Upward Mobility, EC, and Share of Black Residents across ZIPs
Black Share vs. Upward Mobility for Black Individuals

C. Upward Mobility for Black Individuals vs. Black Share, by ZIP Code

D. Upward Mobility for Black Individuals vs. Black Share Controlling for EC, by ZIP Code
Relative Geographic Coverage of Facebook Data
Distribution of ZIP-level Incomes in Facebook Data vs. ACS
Ages 25 to 44
Distribution of ZIP-level Incomes in Facebook Data vs. ACS
Ages 45 to 64
County-level Correlations for Top 25% of Counties by FB Coverage Rates
Social Capital vs. Upward Mobility

- Cross-Type Connectedness
  - Economic Connectedness
  - Language Connectedness
  - Age Connectedness
- Network Cohesiveness
  - Clustering
  - Support Ratio
  - Spectral Homophily
  - Penn State Index
- Civic Engagement
  - Civic Organizations
  - Volunteering Rate

Magnitude of Pop-Wtd. Univariate Correlation with Upward Mobility across Top 25% of Counties in terms of Coverage

- Green circle: Positive
- Red triangle: Negative
County-level Correlations for Top 25% of Counties by FB Coverage Rates
Neighbourhood Characteristics vs. Upward Mobility

- Economic Connectedness
- Median HH Income
- Share Above Poverty Line
- Income Segregation
- Racial Segregation
- Share Black
- Income Inequality (Gini coefficient)
- Jobs Within 5 Miles
- Job Growth 2004–2013
- 2000 Employment Rate
- Mean 3rd Grade Math Score
- Share College Grad.
- Share Hispanic
- Share Single Parent HH

Magnitude of Pop-Wtd. Univariate Correlation with Upward Mobility across Top 25% of Counties in terms of Coverage

Green circle: Positive
Red triangle: Negative
Relationship Between Friends’ and Own SES on Instagram

Slope = 0.50 (0.008)
Proportion of Friendships by SES Percentile Rank
Friending Shares by Own and Friends’ Ranks