

Study: Communities with wider social networks have more economic opportunity

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Illustration of regional communication and socioeconomic ranking in the U.K. Dark blue indicates more diverse communications. Courtesy of Her Majesty's Stationery Office, London, 2004

(PhysOrg.com) -- According to a new study, people who phone diverse acquaintances live in more affluent communities and have more economic opportunities than those who talk to people in their immediate vicinity.

People who phone a diverse group of acquaintances tend to live in more affluent communities and have more socio-economic opportunities than those who talk primarily to people in their immediate vicinity, reports a new study published May 21 in the [journal Science](#).

The researchers analyzed a giant data set from [British Telecom](#) -- mobile and landline telephone calling patterns from the United Kingdom -- which they cross-referenced with socio-economic census data to assess the role of social networks in the socio-economic status of communities.

"Communities that do well are communities whose members have diverse networks, while insular communities are more likely to be economically and socially disadvantaged. This is the first time that researchers have had the full telephone network data for an entire country, so you could scale up from individuals to see how community well-being varies with network structure," said Michael Macy, the Goldwin Smith Professor of Sociology at Cornell, who conducted the study with Nathan Eagle of the Massachusetts Institute of Technology and British Telecom research scientist Rob Claxton. "These new data sources, based on telephone call logs, allow us to measure network structure at the national level."

The researchers found, for example, that residents of prosperous Stratford-upon-Avon speak to people far beyond the town, while those in poorer Stoke-on-Trent speak mostly to each other.

"And it was not a matter of call volume," Macy said. "People in the advantaged communities allocate their calls in a more diverse pattern spatially and through diverse social networks." That's bad news for the folks of Stoke-on-Trent.

Previous studies using individuals as the units of analysis have found that economic opportunities come from outside a small circle of friends. Within organizations, people whose positions expose them to diverse contacts are rewarded with higher pay and promotions. Other studies, Macy said, have found that those with diverse social networks have more bargaining power, make more money and have greater success as entrepreneurs. The new study shows that the relationship between

network structure and economic outcomes scales up from the individual to the community level.

The researchers did not use Twitter or Facebook data. "These social media may provide more data about diverse contacts compared to the telephone," Macy said. "If we follow up this study using social media data, we might find some interesting results to better understand the causal mechanisms from network structure to economic advantage or from economic advantage to network structure."

Macy and his co-authors are working on a paper that examines health, education, environmental quality and economic indicators like employment, income and wealth.

"We would also like to see if occupational and geographic mobility may be an important causal link in this correlation between network diversity and economic development," Macy said. "If people move physically and socially within networks, this may diversify their networks, and it may afford them greater access to resources and opportunities."

The researchers were struck by the magnitude of the correlation between network diversity and economic status, but they believe further study is necessary before their findings can translate into economic policy recommendations. "Knowing that a community has highly insular calling patterns may be potentially useful for targeting economic development efforts more strategically," Macy said. "But until we understand more, we can't be certain that this correlation is useful information for policy."

Provided by Cornell University

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