Social Capital and Public Places: A Study in Greenville, South Carolina

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Abstract

Social capital has been defined many ways (Portes, 2000); for this study, we define it as one's social network, through which one gains information, assistance, cooperation and numerous other benefits. Social scientists from a variety of disciplines have long been interested in social capital, both in deciphering what builds social capital and understanding the benefits of having social capital. This study is an attempt to better understand how public spaces impact the level of social capital, both on an individual and neighborhood basis. Using data from a community survey in Greenville County and county GIS data, spatial relationships were calculated measuring the distance from the survey respondent to the nearest public parks and schools. This data was aggregated for census block groups and regression analysis was used to examine the impact of parks, schools and other survey data on social capital. The results show that the proximity to a school improves social capital for those that have small children. Distance to the nearest park or school had no significant impact on social capital for others, though other neighborhood traits, such as commercial development, are positively correlated with social capital. Further research is recommended such as examining the impact of business density and neighborhood design on social capital.

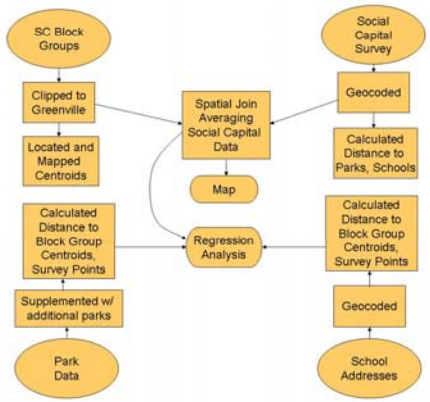
Background Research and Data Collection

There are two main concepts of social capital: aggregate social capital and individual social capital (Portes, 2000). Aggregate social capital measures the social capital of a community while individual relates to one's personal social capital. Both the idea of one's personal social network and the networks within a community have been linked to both community and individual benefits. Building social capital requires a certain amount of investment, which one expects many beneficial returns (Portes, 2000). Many alternate measures of social capital have been correlated with higher incomes (Rupasingha & Goetz, 2007), greater neighborhood stability (Bothwell, Gindroz & Lang, 1998), less crime (Lederman et al., 2002), greater life satisfaction (Brehn & Rehn 1997). One main reason that families invest in social capital is to "facilitate children's access to education" (Portes, 2000). It is clear why many invest in social capital by visiting with neighbors, attending events, and joining organizations.

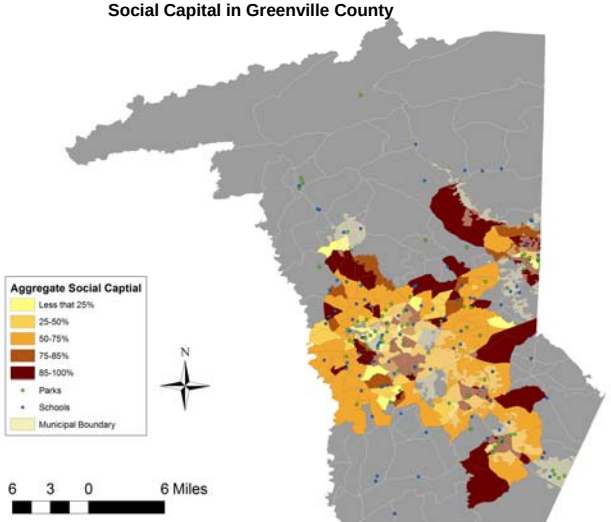
Other studies have shown what may create social capital. The neighborhood environment can have an important impact. One study illustrated this by reporting on the increase in social capital once New Urbanist designs were put in place in a low-income housing development (Bothwell, Gindroz & Lang, 1998). Several studies have linked higher social capital with the quality of the public realm. Having walkable sidewalks, maintained parks, and community gathering spots can significantly improve the social networking opportunities of a neighborhood. Many municipalities have made significant investments for just this reason.

The focus of this project is to identify the impact of nearby public spaces on both individual and community social capital. The study utilizes data from a social capital survey conducted in 2004-2005 by the Economics and Sociology Departments of Furman University. The data was collected over the phone and internet from a randomly generated sample, producing approximately 1,100 responses. This data was geocoded and aggregated over census block groups for this project to analyze the spatial relationships between social capital and the public school and park system.

Method



Social Capital in Greenville County



This map displays the aggregate social capital measure for census block groups in Greenville County. Not every block group was represented, and those with only one point were not included. In addition, this map shows the location of parks and public schools in the county. Proximity to public schools has been shown to be a significant factor in increased social capital for those with young children. Additionally, the municipal boundaries are displayed in order to better interpret the concentration of survey points, social capital, parks and schools.

Projection Information
Coordinate System: South Carolina State Plane
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American Datum 1983

Layers

Layer	Source
SC Block Group	Geographic Data Technology, Inc., ESRI
Aggregate Social Capital	Created by the author by spatial join between geocoded survey data and SC Block Group layer. Survey data compliled by Furman University Departments of Economis and Sociology, geocoded by author using Batch Geocode.
Greenville Parks	Created by the author by overlaying combining geocoded addresses (from Greenville County Recreation District, Greer, Fountain Inn, Easley, Taylors, Mauldin and Simpsonville Recreation Departments) with centroids from Greenville City GIS park layer.
Greenville Schools	Created by author by Geocoding addresses from Greenville County Public Schools.
Municipality	Greenville County GIS

Models

Three models were estimated for this project: (1) A logistical model to explain individual social capital, including a variable for the aggregate social capital in the individuals' neighborhood; (2) A logistical model to explain individual social capital without the neighborhood social capital variable; and (3) an OLS model to explain aggregate social capital within block groups. The first model only utilizes observations that are in a block group with at least 10 other survey responders. The estimator for social capital is a dummy variable (averaged to get percentage for model 3), that indicates whether or not the individual has asked for help for a neighbor in the last year. This variable was chosen because it is indicative of past behavior (not speculation) and whether or not one's social network is sufficient enough to ask a neighbor for help (thus receiving some of the benefits from one's investment in social capital). Included in all models are variables to estimate the proximity to parks and schools. For the first two models, DistancePark and DistanceSchool are the straight line distance between the residence and the nearest point of interest. For the third model, these variables are the distance between the centroid of the block group and the nearest park or school. The centroid was used in order to take into account parks within the boundary. Each model includes an interaction variable, YoungChild*School, measuring the interaction between the distance to the nearest school and whether or not one has kids (dummy variable for models 1 and 2, percentage for model 3).

References and Acknowledgements

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Regression Results

Variable	Model 1 Marginal Effect (Standard Error)	Model 2 Marginal Effect (Standard Error)
Observations	419	1039
YearsinNeighborhood	-0.0000285	0.0030881*
	(0.00043)	(0.00116)
Married	0.021956	0.0946163*
	(0.28776)	(0.03541)
White	-0.00795	0.058542
	(0.10328)	(0.03994)
Male	0.002674	-0.01499
	(0.03563)	(0.03198)
Lesshighschool	-0.00589	0.102398
	(0.07835)	(0.05928)
Highschool	0.000173	0.052059
	(0.00786)	(0.04649)
Somecollege	0.005392	0.006629
	(0.0702)	(0.04636)
AssociateDegree	0.0085	0.063899
	(0.11068)	(0.05912)
BachelorDegree	0.003437	0.006682
	(0.045)	(0.04649)
SomeGraduateSchool	-0.00306	0.006901
	(0.04251)	(0.0817)
Income0to30	0.014363	0.037584
	(0.18598)	(0.04602)
Income30to70	0.003868	-0.01492
	(0.05085)	(0.03551)
Ownhome	-0.00405	0.027444
	(0.05283)	(0.04249)
Builtcomm	-0.00308	0.000911
	(0.04026)	(0.00605)
DistancePark	0.029793	-0.36432
	(0.45277)	(1.62483)
DistanceSchool	0.002792	0.003695
	(0.11776)	(0.0026)
YoungChild	0.006453	0.060134
	(0.07705)	(0.03291)
YoungChild*School	-0.22676	-0.0085917*
	(2.41019)	(0.00377)
NeighborhoodActivities	0.007189	0.044145**
	(0.09371)	(0.01392)
AskOutsideHelp	0.010009	0.1501246***
	(0.13161)	(0.04283)
PercentOwnHome	-0.01109	0.1941692*
	(0.14604)	(0.08674)
MedianAge	-0.0005	-0.00327
	(0.00663)	(0.00337)
AverageNeighborHelp	0.1214	
	(1.58828)	
Psuedo R-squared	0.1765	0.0648

Variable	Model 3 Coefficient (Standard Error)
Observations	162
AverageYearsinNeigh	0.0047671*
	(0.0024435)
PercentMarried	0.2515337
	(0.2836799)
PercentMale	-0.3429944
	(0.5689173)
PercentWhite	0.3004679*
	(0.1081443)
MedianAge	-0.0051663
	(0.0040139)
LessHighSchool	0.4009364*
	(0.1638567)
HighSchool	0.1445811
	(0.1275185)
SomeCollege	0.1220038
	(0.1216714)
AssociateDegree	-0.0240609
	(0.1600402)
BachelorsDegree	0.0503006
	(0.116002)
SomeGraduateSchool	0.1648092
	(0.1783461)
PercentOwnHome	0.0158944
	(.1889883)
AvgBuiltComm	0.0248713*
	(0.0127391)
DistancePark	2.724329
	(2.326571)
DistanceSchool	0.4744216
	(3.841749)
YoungChild*School	3.835013
	(5.922536)
YoungChild	0.1024765
	(0.1265633)
AvgAskOutsideHelp	0.2612027**
	(0.0821842)
Income0to30	-0.0703937
	(0.0961949)
Income30to75	0.1109459
	(0.0909521)
Constant	0.1056178
	(0.3373616)
Adjusted R-square	0.2790

*p-value < 0.05, **p-value < 0.005, ***p-value < 0.0005

Conclusions and Further Research

Several variables were found to have coefficients that were statistically different from zero (highlighted above). The second model proved very interesting, with a significant negative coefficient on YoungChild*School, as expected. This coefficient indicates that for those with children, other variables being equal, a nearby school is associated with higher social capital. This result supports Bourdieu's view that a family's investment in social capital is largely to increase one's children's access to education and cultural capital (Portes, 2000). The logistical regression did not control for school quality, nor can self selection be ruled out (i.e. those who have children and high social capital choose to live near schools). However, the results indicate that if one were trying to improve a social capital, the location of the school might be important to consider. These results underline the importance of neighborhood schools to community development.

Both models two and three indicate the importance of neighborhood establishment to social capital. Both models have significant and positive coefficients associated with home ownership (PercentOwnHome) and the years one has lived in the neighborhood (YearsinNeighborhood and AvgYearsinNeigh). This is consistent with the idea that social capital is linked to neighborhood stability put forth by Temkin and Rohe (1998).

Neither the coefficients on DistancePark nor DistanceSchool were statistically significant. This may be due to the fact that the type and condition of these facilities were not incorporated in this study. It may be the case that a small neighborhood park will add to social capital, while a large soccer complex may not. Similarly, schools in poor condition may hinder the building of social capital. Since these variables were not differentiated, their overall impact was insignificant. GIS might prove useful for further research in this area, as parks can be mapped as polygons and certain features calculated. Additionally, the inclusion of a variable to control for school quality might generate very different results.

The aggregate model also had some significant variables. AvgBuiltComm is the average number of commercial establishments that people in the block group reported in the survey. As expected, the variable had a positive coefficient indicating that more commercial space, other variables equal, is correlated with higher social capital. Additional research in this area would be very timely, as planners grapple with the New Urbanist idea of mixed use development. GIS could be utilized to map the locations and interpolate the densities of specific types of commercial development (e.g. big box developments, restaurants, coffee shops) and used to estimate the impact of these types of development on social capital.