

2008 SOCIAL CAPITAL GLOBAL NETWORK WORKSHOP
ON SOCIAL CAPITAL AND HEALTH
OCTOBER 10-11, 2008

Community Social Capital, Medical Utilization and Education

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Outline

- Introduction
- Data and methods
- Results
- Discussion

Structural Social Capital Measures

- Community Social Capital (CSC)
 - Demand Side: Aggregate Individual Level Responses to Community Level (Putnam)
 - Supply Side: Petris Social Capital Index



Putnam and Petris Social Capital Index:

- **Putnam's Measure**
 - **Membership** in voluntary organizations
 - Data sources: Social Capital Community Benchmark Survey
- **Petris Measure**
 - **Employment** in voluntary organizations
 - Data source: County Business Patterns (U.S. Census)
 - Match organizational types
 - Compute community social capital measure as the ratio of:

$$\frac{\text{Total employment in voluntary organizations}}{\text{Total county population}}$$



Social Capital Community Benchmark Survey

Charity or Social Welfare
Organization

Professional, trade, farm or
business association

Hobby, Investment, or Garden club

Youth Organization

Neighborhood Association

Literary, Art, or Musical Group

Service or Fraternal Organization

Self-help Program

Parent Association or other School
Support Group

Political Group

Organization Affiliated with Religion

Seniors Groups

Sports Club, League, or Outdoor
Activity Club

Ethnic, Nationality, or Civil Rights
Organization

Other kinds of Clubs or Organizations

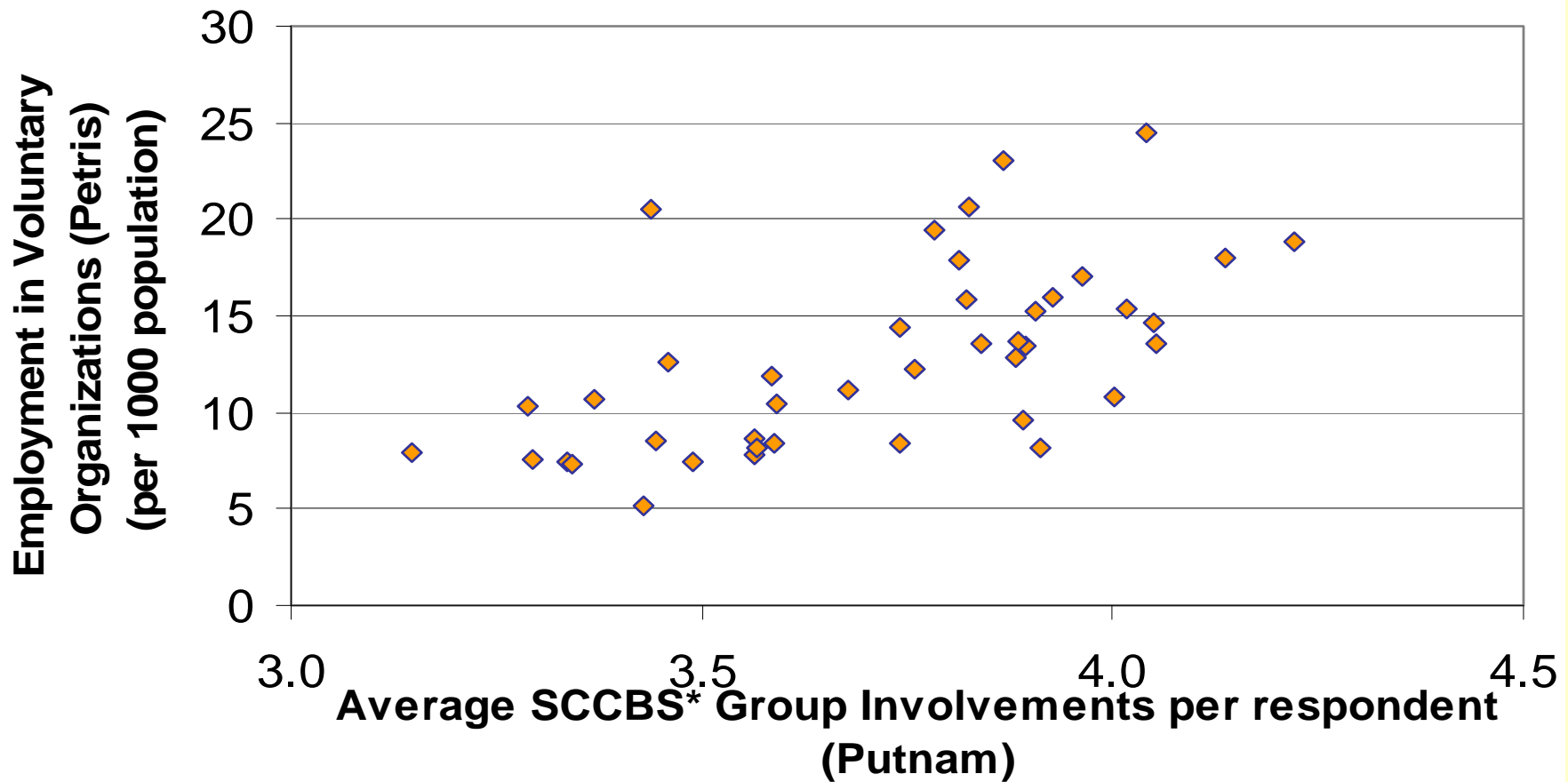
Veterans Group

Labor Union

Group that meets over the Internet*

* Putnam only

Petris vs. Putnam



Correlation: 0.60 (p<0.01)

Petris Social Capital Index

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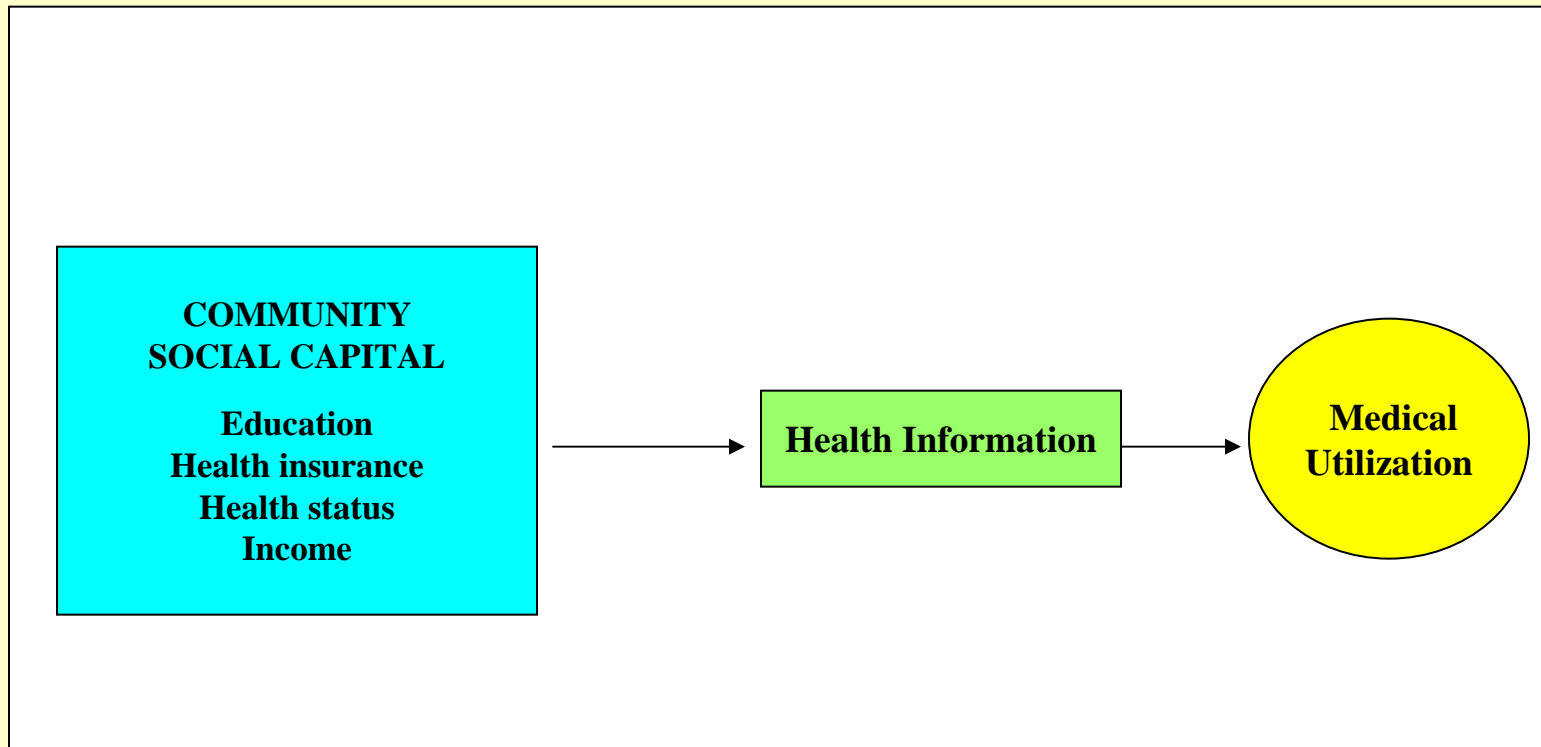
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Pathway from social capital to medical utilization



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Early Childhood Longitudinal Study- Kindergarten Class of 1998-1999 (ECLS-K)

- Panel dataset
 - Five waves between fall of kindergarten fall and spring of fifth grade
 - 21,356 kindergarten children (1998-99)
 - 11,820 fifth grade children remaining (2003-04)
 - **8,370 children** used for longitudinal analysis
 - Sponsored by the U.S. Department of Education (National Center for Education Statistics)



Dependent Variable

- Medical visit
 - Did your child visit a clinic, health center, hospital, doctor's office, or other place for routine health care in the past year?
 - Yes
 - No



Descriptive Statistics: Probability of Medical Visit in Past Year

School Year	Mean	SD
Kindergarten - spring 1999	0.94	0.23
First Grade - spring 2000	0.86	0.35
Third Grade - spring 2002	0.83	0.37
Fifth Grade -spring 2004	0.83	0.38

Petris Social Capital Index Example Calculation

- $$\text{PSCI} = \left[\frac{\text{total employment in voluntary organizations}}{\text{total county population}} \right] \times 100$$

- Example calculation for Los Angeles County, 2003:

$$\text{PSCI} = \left[\frac{74,648}{9,871,506} \right] \times 100 = 0.76\%$$



Descriptive Statistics: Petris Social Capital Index by School Year

School Year	PSCI Year (March)	Mean (%)	SD (%)	Min (%)	Max (%)
Kindergarten - spring 1999	1998	0.94	0.47	0.14	3.98
First Grade - spring 2000	1999	0.96	0.43	0.13	4.03
Third Grade - spring 2002	2001	1.00	0.46	0.07	4.32
Fifth Grade -spring 2004	2003	0.97	0.46	0.05	4.37

Descriptive Statistics: ECLS-K

<u>Demographic Characteristics</u>	<u>Statistic</u>
Female (%)	48.7
Race (%)	
White	57.8
Black	15.9
Hispanic	18.9
Asian/Pacific Islander	3.5
Other	3.8
Age (months, Feb. 2004), mean (sd)	143.0 (4.3)
Parents Married (fifth grade spring) (%)	66.7
Household Size (fifth grade spring) (%)	
2 to 3	20.5
4 to 5	60.9
6+	18.5
Household Income (fifth grade spring) (%)	
<= \$25,000	26.6
\$25,001 to \$50,000	29.5
\$50,001 to \$75,000	17.7
> \$75,000	26.2
Mother's Education (fifth grade spring) (%)	
Less than high school	11.2
High school graduate (or equivalent)	26.0
Some college	36.6
College graduate	16.8
Some graduate school	9.5
Disability/IEP (at any wave) (%)	18.8

8,370 children located in 267 counties located in 40 states



Methods

Estimated parameters using a fixed-effects model:

Variables

- y : whether child had medical visit in past year
- s : Petris Social Capital Index (lagged one year)
- \mathbf{x} : vector of time-varying control variables
- \mathbf{c} : county dummy variables
- \mathbf{t} : time period dummy variables
- \mathbf{i} : individual dummy variables (fixed effects)

Subscripts

- i : individual child
- c : county
- t : time period

Fixed-effects model

$$y_{ict} = \alpha_0 + \alpha_1 s_{ct} + \alpha_2 \mathbf{x}_{ict} + \alpha_3 \mathbf{c}_c + \alpha_4 \mathbf{t}_t + \alpha_5 \mathbf{i}_i + \varepsilon_{ict}$$

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Fixed-Effects Regression Results

	Model 1	Model 2	Model 3	Model 4
	All	Unhealthy	Healthy	All
<u>Variable</u>				
Petris Social Capital Index	0.09* (0.04)	0.30** (0.14)	0.05 (0.03)	0.10* (0.05)
Mother's Education				
Less than high school				reference
High school graduate				0.04*** (0.01)
Some college				0.04*** (0.01)
College graduate				0.04 (0.03)
Household Income				
<= \$25,000				reference
\$25,001 to \$50,000				0.02** (0.01)
\$50,001 to \$75,000				0.03 (0.02)
> \$75,000				-0.01 (0.02)
Married				-0.04*** (0.01)
Household Size				
2 to 3				reference
4 to 5				-0.03*** (0.01)
6+				-0.04* (0.02)
Wave dummies				
Kindergarten - spring	reference	reference	reference	reference
First grade -spring	-0.08*** (0.01)	-0.05*** (0.01)	-0.08*** (0.01)	-0.08*** (0.01)
Third grade - spring	-0.11*** (0.01)	-0.10*** (0.02)	-0.11*** (0.01)	-0.11*** (0.01)
Fifth grade - spring	-0.10*** (0.01)	-0.07*** (0.01)	-0.11*** (0.01)	-0.10*** (0.01)
Constant	0.53*** (0.08)	0.64*** (0.13)	0.63*** (0.06)	0.59*** (0.08)
N	30,423	4,546	25,851	29,863
R-squared	0.44	0.42	0.44	0.44

Legend: parameter estimate (standard error)

*p<0.1, **p<0.05, ***p<0.01

All models included child and county dummy variables, but results are not displayed.

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Discussion

- Social capital was positively associated with whether a child had a medical visit in the past year
 - At the mean PSCI, a 10% increase was associated with approximately a 1-percentage-point increase of having a medical visit
 - The magnitude of this association increased about 3-fold for less healthy children
 - The association did not differ across mother's education level

Backup Slides



Key Independent Variable Petris Social Capital Index (PSCI)

ECLS-K School Grade	Medical Visit Question Asked	PSCI Year (as of March)	Implied Lag (months)
Kindergarten - fall 1998		1998	6
Kindergarten - spring 1999	X	1998	12
First grade - spring 2000	X	1999	12
Third grade - spring 2002	X	2001	12
Fifth grade - spring 2004	X	2003	12

Descriptive Statistics: Health Status

Variable	Mean	SD	Min	Max
Health Status				
K - fall	4.3	0.8	1	5
1 - spring	4.3	0.8	1	5
3 - spring	4.3	0.8	1	5
5 -spring	4.3	0.9	1	5
Health Status Change				
1 - spring	0.03	0.9	-4	4
3 - spring	0.01	0.9	-4	4
5 -spring	-0.08	0.9	-4	3

Scale: Excellent (5), Very good (4), Good (3), Fair (2), Poor (1)