

# Social Network Measures of **Social Capital**

A **Methodological** Perspective

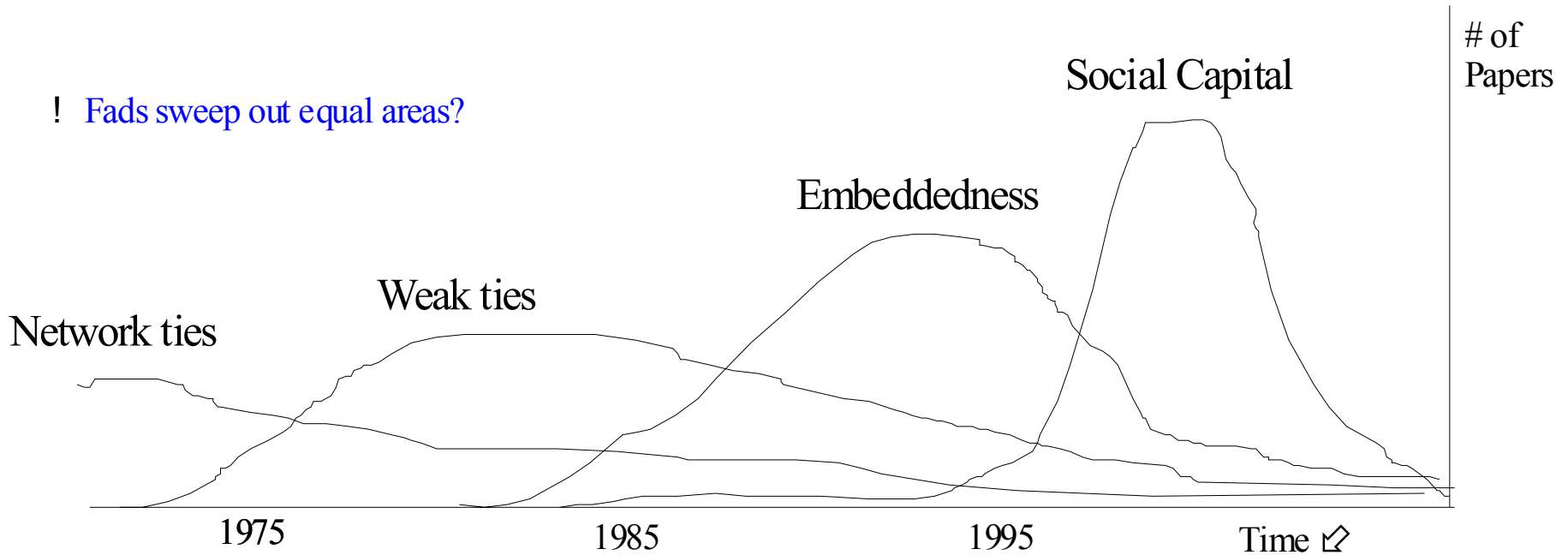
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# Procedures

- Search for mentions of “social capital”
- Code mentions as ...
  - definition
  - implicit definition
  - causes
  - consequences
  - properties
  - meta-commentary
- Classify by ...
  - date
  - substantive distinctions
  - methodologically relevant attributes
- Map to (existing) social network formal concepts
- What is missing? What new measures need to be constructed?

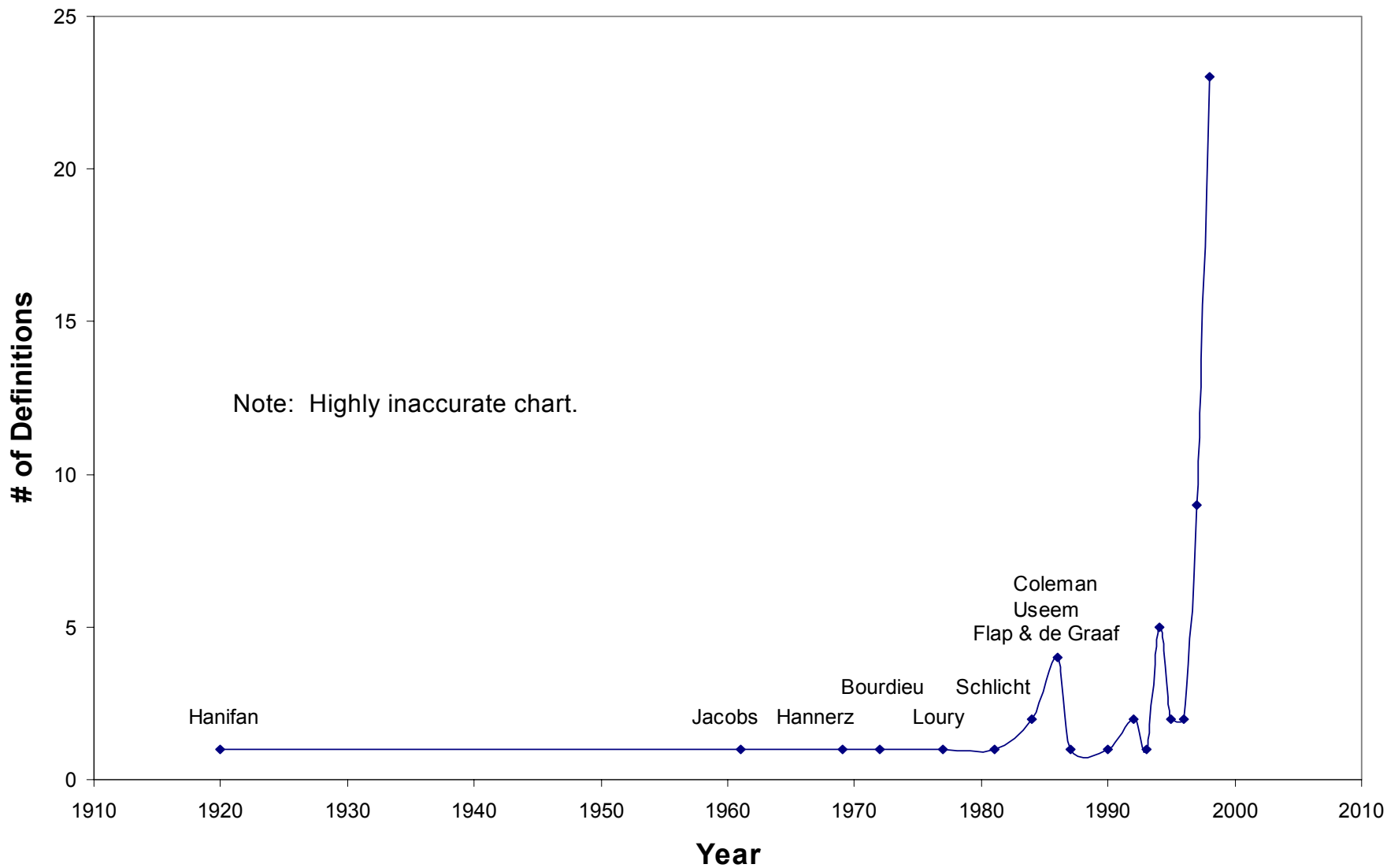
# Social Network Fads

! Fads sweep out equal areas?



WARNING: Totally made-up data! Do not take seriously!

# Definitions of "Social Capital" in the Literature



## Hanifan, 1920

- "Social capital defined. In the use of the phrase 'social capital' no reference here is made to the usual acceptation of the term 'capital,' except in a figurative sense. We not refer to real estate or to personal property or to cash, but rather to that in life which tends to make those tangible substances count for most in the daily lives of people: namely **good will, fellowship, sympathy, and social intercourse among the individuals and families who make up a social unit,** the rural community, whose logical center is in most cases the school. In community building, as in business organization, there must be an **accumulation of capital before the constructive work can be done....**
- Now we may easily pass from the business corporation over to the social corporation, the community, and find many points of singularity. The individual is helpless socially, if left by himself. Even the association of the members of one's own family fails to satisfied that desire which every normal individual has of being with his fellows, of being a part of a larger group than the family. If he comes into **contact with his neighbors,** there will be an accumulation of social capital, which may immediately satisfy his social needs and which may bear a **social potentiality sufficient for the substantial improvement of life in the whole community.**
- (continued ...)

## Hanifan, 1920

- **The community as a whole will benefit by the cooperation of all its parts, while the individual will find in his associations the advantages of the help, the sympathy, and the fellowship of his neighbors.** First, then, there must be an accumulation of community social capital. Such accumulation may be effected by means of public entertainments, picnics, and a variety of other community gatherings. When the people of a given community have **become acquainted with one another and have formed a habit of coming together occasionally for entertainment, social intercourse, and personal enjoyment, then by skillful leadership this social capital may easily be directed** towards the general improvement of the community well\_being.“
- **Codes:**  
potential | cumulable | productive | interactions | public\_good | affective | internal | group
- **Notes:**  
measure density of positive-affect relations such as likes, respects, cares-about, etc.

# More Definitions

**Jacobs, 1961**

network | group | internal

These **networks** are a city's irreplaceable social capital. Whenever the capital is lost, from whatever cause, the income from it disappears, never to return until and unless new capital is slowly and chancily accumulated.

**Hannerz, 1969**

exchange | reciprocity | support | relationships |  
internal | group

Ulf Hannerz, the Swedish anthropologist who studied poor urban neighborhoods, also used the term. By social capital, he referred to the **resources reflected in favors that friends and acquaintances did for one another** as part of coping with poverty. (Described by Xavier de Souza Briggs, 1998.)

**Bourdieu, 1972** (but this is the '84 mention)

network | affiliations | family socializing |  
individual?

Take social capital, for example: one can give an intuitive idea of it by saying that it is what ordinary language calls '**connections**'. ... by constructing the concept, one acquires the means of analyzing the logic whereby this particular kind of capital is accumulated, transmitted and reproduced, ... the means of grasping the function of institutions such as clubs or, quite simply, the family, the main site of the accumulation and transmission of that kind of capital, and so on. ... So it was necessary to construct the object that I call social capital ... to see that high-society **socializing** is, for certain people, whose power and authority are based on social capital, their principal occupation.

## Loury, 1977

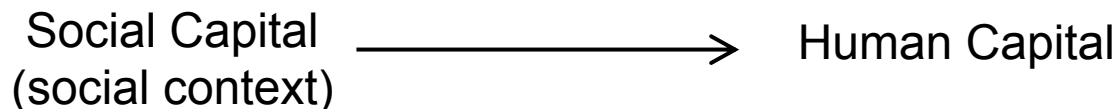
opportunity | context | create\_humancapital

- The merit notion that, in a free society, each individual will rise to the level justified by his or her competence conflicts with the observation that **no one travels that road entirely alone**. The **social context** within which individual maturation occurs strongly conditions what otherwise equally competent individuals can achieve. This implies that equality of opportunity... is an ideal that cannot be achieved.
- Coleman (1990): "In Loury's usage social capital is the set of resources useful for the cognitive or social development of a child or young person. These resources differ for different persons and can constitute an important advantage for children and adolescents in the **development of their human capital** (see also Bourdieu, 1980, and Flab and De Graaf, 1986, who have used the term in a similar fashion)."

## Schlicht, 1984

social\_control | transaction\_costs | values | group | internal

- It is obviously very important for the efficiency of any economic system that people obey the rules even if unobserved since this **saves control costs**, and their desire to appear to themselves as law-abiding citizens is a very important economic asset and can be considered as a kind of social capital -- one might speak of '**moral capital**' just in the same sense as von Weizsacker speaks of the "organizational capital" of a society as embodying the **value of the organizational structures** present within an economy.





## Useem & Karabel, 1986

class | individual |

Social capital -- defined in our study as originating in an **upper-class family** -- has positive effects on the careers of corporate managers with identical educational credentials.

## Coleman, 1990

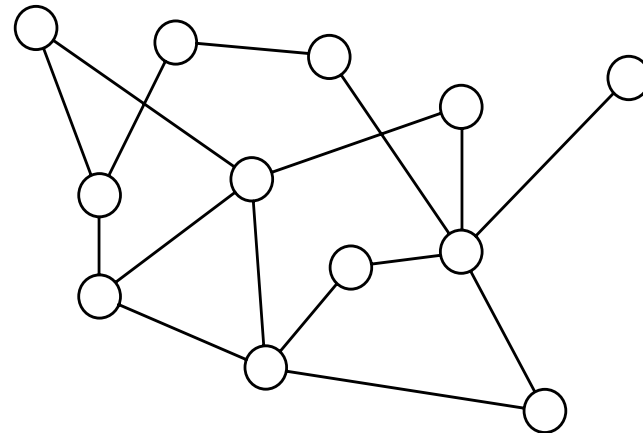
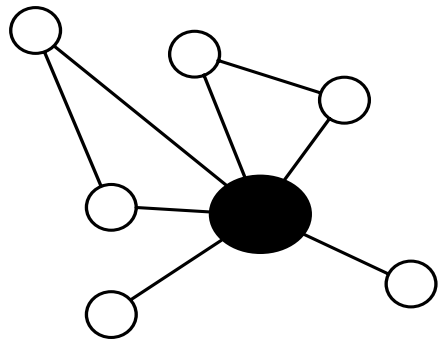
outcome | opportunity | productive | public\_good |  
nonevaluative? | context

Social capital is defined by its **function**. It is not a single entity, but a variety of different entities having two characteristics in common: They all consist of some aspect of **social structures**, and they **facilitate certain actions of individuals** who are within that structure. Like other forms of capital, social capital is **productive**, making possible the achievement of certain ends that would not be attainable in its absence. Like physical capital and human capital, social capital is not completely fungible, but is fungible with respect to certain activities. A given form of social capital that is **valuable in facilitating certain actions may be useless or even harmful for others**. Unlike other forms of capital, **social capital inheres the structure of relations** between persons and among persons. It is lodged neither in individuals nor in physical implements of production.

## Bourdieu, 1992

access | relationships | resources |

- [Social capital] is the sum of the **resources**, actual or virtual, that accrue to an **individual or a group** by virtue of **possessing a durable network** of more or less institutionalized relationships of mutual acquaintance and recognition.



## Burt, 1992

relationships | return\_on\_humancapital | external | individual

- Third, the player has social capital: **relationships** with other players. You have friends, colleagues, and more general contacts through whom you receive opportunities to use your financial and human capital. .... The social capital of people **aggregates** into the social capital of organizations. ... In a firm ... there are people valued for their ability to deliver a quality product. Then there are "rainmakers", valued for their ability to deliver clients. Those who deliver the product do the work, and the rainmakers **make it possible for all to profit** from the work. The former represent the financial and human capital of the firm. The latter represent its social capital. More generally, property and human assets define firm's production capabilities. Relations within and beyond the firm are social capital.
- The market production equation predicts profit: invested capital, multiplied by the going rate of return, equals the profit to be expected from the investment. ... The rate of return is keyed to the social structure of the competitive arena and is the focus here. Each player has a network of contacts in the arena.

(continued ...)

## Burt, 1992

relationships | return\_on\_humancapital | external | individual

- There are two routes into the social capital question. The **first describes a network as your access to people with specific resources**, which creates a correlation between theirs and yours. ... A **second line of work describes social structure as capital** in its own right. The first line describes the network as a conduit; the second line describes how networks are themselves a form of social capital. ... Both lines of work are essential to a general definition of social capital. Social capital is at once the resources contacts hold and the structure of contacts in a network. **The first term describes whom you reach. The second describes how you reach.** For two reasons, however, I ignore the question of **who** to concentrate on **how**. ...
- Thus, the rate of return keyed to structural holes is a product of the extent to which there are: (a) many primary structural holes between the contact and others in the player's network, and (b) many secondary structural holes between the contact and others outside the network who could replace the contact. There is also the issue of structural holes around the player...developing entrepreneurial opportunities depends on having numerous structural holes around your contacts and none attached to yourself.

# The Burtian View

**human &  
financial  
capital**

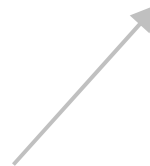
**profit**



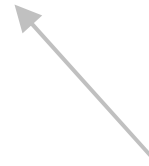
**rate of  
return**



**social capital (relationships)**



**access to  
resources**



**structural  
holes**

## Portes and Sensenbrenner, 1993

group | nonevaluative |

- We begin by redefining social capital as those **expectations for action** within a collectivity that **affect the economic goals and goal-seeking behavior** of its members, even if these expectations are not oriented toward the economic sphere.

## Coleman, 1994

productive | informal | public\_good

- Social capital is any aspect of informal social organization that constitutes a productive resource for one or more actors. ... The term "capital" as part of the concept implies a resource or factor input that facilitates production, but is **not consumed or otherwise used up in production**. ..... The other half of the concept, "social", refers in this context to aspects of social organizations, ordinarily informal relationships, established for non-economic purposes, yet with economic consequences. .. Individuals may rationally **invest in social capital**, and the formation of friendships and acquaintanceships can be seen as just such investments. ... However, there will be an underinvestment in most forms of social capital because of its public good character. Social capital is inherently social, and most forms of social capital come into being through the combined actions of several or many people. The decisions of each have consequences for all.

## Putnam, 1995

networks | culture | social\_outcome | group | internal

- By analogy with notions of physical capital and human capital -- tools and training that enhance individual productivity -- "social capital" refers to **features of social organization such as networks, norms, and social trust** that facilitate coordination and cooperation for mutual benefit.

## Belliveau, O'Reilly & Wade, 1996

similarity | individual

- First, social capital can be viewed as based on **social similarity**, the shared affiliations or activities that indicate how one knows someone. .... Second, social capital can be viewed as an individual's personal network and **elite institutional affiliations**.

## Woolcock, 1997

culture | inherent | social\_outcome | individual?

- In the apparent absence of what an increasing number of social scientists now refer to as 'social capital' -- generally defined as the **information, trust, and norms of reciprocity inhering in one's social networks** -- seemingly obvious opportunities for mutually beneficial collective action are squandered.

## Fukuyama, 1997

culture | social\_outcome | group | internal

- Civil society presupposes social capital -- the **norms and values** that **permit cooperative behavior** on the part of groups.

## Burt, 1997

dyadic\_public\_good | context |

returns\_on\_humancapital | opportunity | brokerage

- With respect to etiology, social capital is a **quality created between people**, whereas human capital is a quality of individuals. Investments that create social capital are therefore different in fundamental ways from the investments that create human capital (Coleman, 1988, 1990). ... With respect to consequences, social capital is the **contextual complement to human capital**. Social capital predicts that **returns to intelligence, education and seniority** depend in some part on a person's location in the social structure of a market or hierarchy. While human capital refers to individual ability, social capital refers to **opportunity**. Some portion of the value a manager adds to a firm is his or her ability to coordinate other people: identifying opportunities to add value within an organization and getting the right people together to develop the opportunities. Know who, when, and how to coordinate is a function of the manager's network of contacts within and beyond the firm. Certain network forms deemed social capital can enhance the manager's ability to identify and develop opportunities. Managers with more social capital get higher returns to their human capital because they are positioned to identify and develop more rewarding opportunities. Structural hole theory gives concrete meaning to the concept of social capital. The theory describes how social capital is **a function of brokerage opportunities in a network**. ..... The structural hole argument defines social capital in terms of the information and control advantages of being the broker in relations between people otherwise disconnected in social structures.



## Friedman and Krackhardt, 1997

status | influence | individual

- Social capital is defined as **the standing one has in a social organization** and the concurrent ability to draw on that standing to **influence actions of others** in the organization and the concurrent ability to draw on that standing to influence actions of others in the organization. From a social capital perspective, what is critical to success is not individual attributes but the way one is embedded in an organization -- that is, one's **position in a web of social relations that provide information and political support** (Brass, 1994).

## Fligstein, 1997

social\_outcome | skill? | individual

- The idea that some social actors are better at producing desired **social outcomes** than are others is the core notion that underlies the concept of institutional entrepreneurs (DiMaggio, 1988), actors with high levels of social capital (Coleman, 1988), or actors who engage in what has been called robust (Padgett & Ansell, 1992) or local action (Leifer, 1988).

## Kreuter, 1998

social\_outcome | group | internal

- We define social capital as the **processes and conditions** among people and organizations that lead to **accomplishing a goal of mutual social benefit**. Those processes and conditions are manifested by four, interrelated constructs: **trust, social engagement, civic participation, and reciprocity**.

## Pennings, Lee & van Witteloostuijn, 1998.

group | external

- We defined an organization's social capital as the aggregate of firm members' **connectedness with potential clients**.

## Tsai & Ghoshal, 1998

context | culture | trust | individual?

- Hence, viewed broadly, social capital encompasses many aspects of a social context, such as social ties, trusting relations, and value systems that **facilitate actions of individuals** located within that context.

## Miles, Miles, Perrone & Edvinsson, 1998

outcome | culture | group |  
external | internal

- Social capital, for example, is increasingly being discussed at both a firm and societal level. At the firm level, social capital refers to **connections with outside parties that give a firm or individual access to new knowledge**..... At the state or national level, however, social capital takes a different meaning, referring broadly to issues such as **moral character, crime and trust**. While the concept is still evolving, there are increasing calls for expanded "investment" on the part of business, government, and other organizations that promote the development and maintenance of social capital.

## Sirianni & Friedland, 1998

cumulative | network | culture |  
social\_outcomes | group | internal?

- Social capital refers to those stocks of **social trust, norms and networks** that people can draw upon to **solve common problems**.

## Nahapiet & Ghoshal, 1998

network | access | information |  
context | external?

- The central proposition of social capital theory is that networks of relationships constitute a valuable resource for the conduct of social affairs, providing their members with "the collectivity-owned capital, a 'credential' which entitles them to credit, in the various senses of the word (Bourdieu, 1986: 249). Much of this capital is embedded within networks of **mutual acquaintance and recognition**.
- For our purposes here, we adopt the latter view and define social capital as the **sum of the actual and potential resources** embedded within, **available through, and derived from the network of relationships** possessed by an individual or social unit.
- The fundamental proposition of social capital theory is that network ties provide access to resources. One of the central themes in the literature is that social capital constitutes a valuable source of information benefits.

## Adler & Kazanowski, 1998

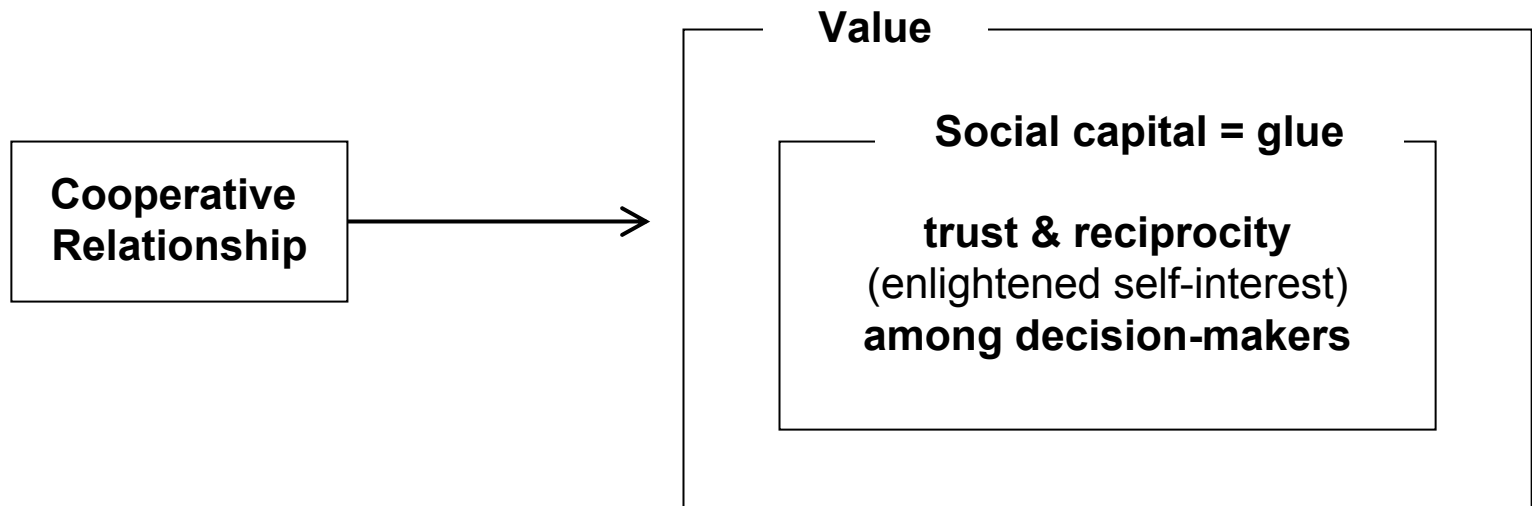
group | internal

- We are seeing, for example, a tremendous growth in social capital, whether measured in terms of increased **parent involvement in schools or volunteerism** in churches.

## Fountain & Atkinson, 1998

cumulative | culture | network | group | internal

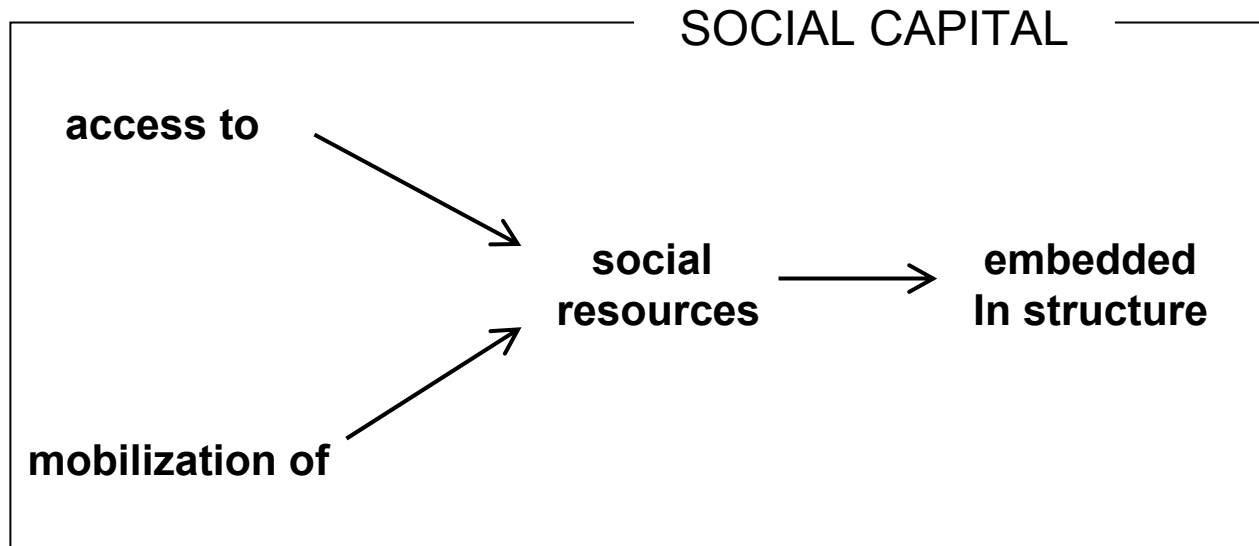
- This policy brief argues that in the New Economy, "social capital" has become a critical enabler of **innovation**. Social capital represents the "stock" created when a network of organizations develops the ability to work in collaboration to promote mutual productive gain.
- Rather, the glue that makes collaboration feasible in the New Economy is **composed of trust and a norm of reciprocity, or enlightened self-interest**, among decision makers in networks. ...This "glue" or social capital is a critical component of the value created by these cooperative relationships in terms of economic performance and innovative capacity.



**Lin, 1999**

network | access | use | individual?

- These debates and clarifications lead to the suggestion that social capital, as a concept, is **rooted in social networks and social relations**, and must be measured relative to its root. Therefore, social capital can be defined as **resources embedded in a social structure which are accessed and/or mobilized in purposive actions**. By this definition, the notion of social capital contains three ingredients: resources embedded in a social structure; accessibility to such social resources by individuals; and use or mobilization of such social resources by individuals in purposive actions. Thus conceived, social capital contains three elements intersecting structure and action: the **structural (embeddedness), opportunity (accessibility) and action-oriented (use) aspects**.



Refreshing Pause

# What is Social Capital?

- results from networks
- inheres in networks
- access to resources controlled by network members
- structure of networks
- individual position in networks
- trust
- result of trust
- results in trust
- norms, especially norm of reciprocity
- volunteerism
- belonging to clubs, associations
- property of groups
- property of individuals
- property of dyads
- creates human capital
- created by human capital
- determines the rate of return on human capital
- something that cumulates (build up “stocks”)
- facilitates individual action
- expectation of action that has economic outcomes
- something that has social outcomes
- something that solves common/group problems
- cooperative behavior
- brokerage
- reputation / status

# Distinguishing Features & Dimensions

- Group vs individual (Wellman & Bartram, 1998)
- Public vs private (Coleman, 1990; Putnam, 1998)
- Individual | dyadic | group (combining Burt, 1992 with Coleman, 1992 and W & B, 1998)
- Individual's ties to benefit individual vs group's ties to benefit individual vs group's ties to benefit group
- "Cultural" vs socio-structural (various)
- Structural vs relational vs cognitive (Nahapiet & Ghoshal, 1998)
- Resource access/mobilization vs structure/position (Lin, 1999; Burt, 1992)
- Principled (Consummatory) vs Instrumental (Portes & Sensenbrenner, 1993; Portes, 1998)
- Value introjection | Reciprocity exchange | Bounded solidarity | Enforceable trust (P&S, 1993)
- Potential vs actual resources or benefits
- Internal vs external



# Discussion

## The internal / external dimension

- not previously recognized

## The individual / group dimension

- not just an issue of level of analysis
- incompatibility of structural holes with cohesion
- individual's ties vs individual's benefit

## The cultural aspect

- better left as “cultural capital”?
- human capital writ large?

# Discussion

## The positive bias

- the opportunities & constraints on action due to structure / position
- we know very little about the effects of network structure on performance
- algorithms for maximizing social capital

## Next steps

- mathematical ethnography
- building the complete social capital frame: causes, effects, players, conditions
- popularity and diffusion of memes