



Communication and Safety

Tracy A. Thompson
Milgard School of Business
U.W. Tacoma

Overview

- Social capital is “the goodwill available to individuals or groups. Its source lies in the structure and content of the actor's social relations. Its effects flow from the information, influence, and solidarity it makes available to the actor” (Adler & Kwon, 2002, p. 23).
- Directs attention to the patterns of communication and relationships among actors, viewing these as resources that lead to safety culture and performance.
- Outline
 - Social network analysis – a way to measure/identify social capital
 - How social capital theory can advance knowledge of HRO's and benefit managers

What Is Social Network Analysis?

- A method for empirically assessing sources of social capital, the patterns of relationships, ties, exchanges among individuals in a group
- Social networks can be described according to:
 - The types of ties between actors, e.g., communication, friendship, trust, resources, requests for information
 - The structural property of the network, e.g., density, stability, centrality, connectivity, symmetry.



Collecting Social Network Data

- List all individuals in an organization, say, by function or professional credential
- Ask each person how often/much they communicate with each other person on the list (or how much they trust each other person, etc.)
- Each person's questionnaire becomes a row in a matrix

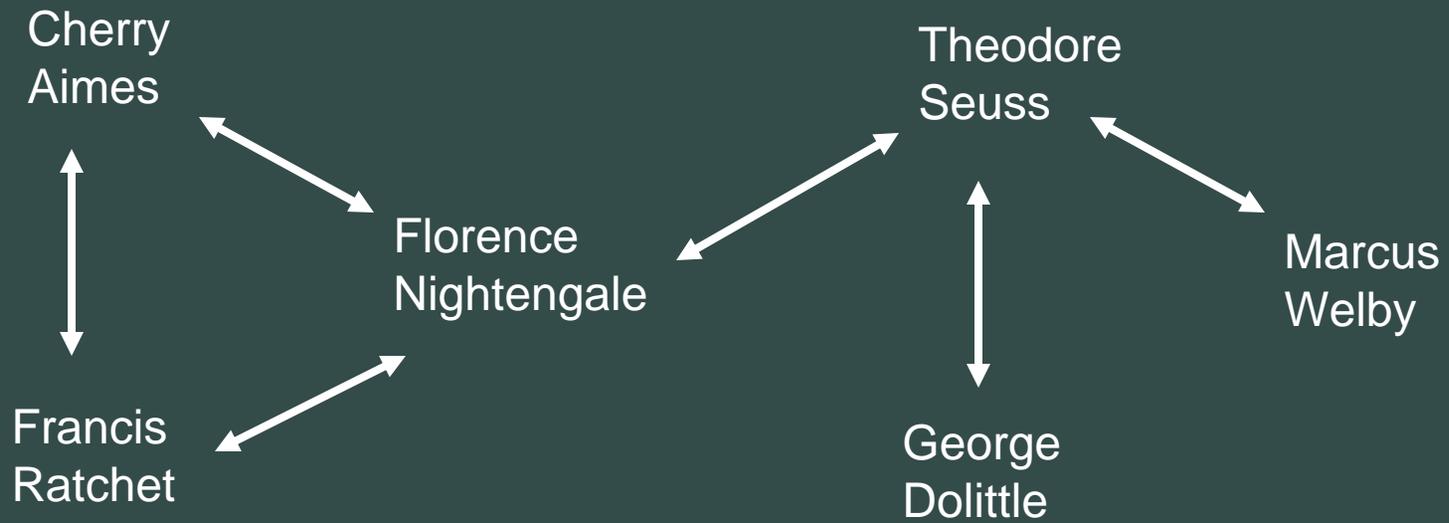
Example Questionnaire

	What is your RELATIONSHIP with this person?					At work, how often do you COMMUNICATE with this person on job-related issues?					How often do you go to this person for ADVICE on job-related issues?					How much are you willing to talk with this person about problems, mistakes and tough issues even if they could use that information against you?				
Name	Prefer to Avoid		Consider a Friend			Less than Once a Week		Several Times a Day			Less than Once a Week		Several Times a Day			Not at All Willing		Very Willing		
Nursing																				
Nightengale, F.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Aimes, C.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Ratchet, F.	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Physicians																				
Seuss, T	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Dolittle, G	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
Welby, M	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Example Matrix – e.g. Trust

	Nightengale, Floence	Aimes, Cherry	Rachchet, Francis	Seuss, Theodore	Dolittle, George	Welby, Marcus
Nurses	Nightengale, Floence	X	X	X		
	Aimes, Cherry	X	X			
	Ratchet, Francis	X	X			
Physicians	Seuss, Theodore	X			X	X
	Dolittle, George				X	
	Welby, Marcus				X	

Trust Within and Between Groups



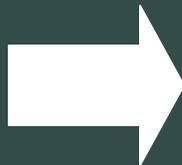
HROs Require Good Communication

Sources of
Social Capital:

Structural –
Opportunity for
Communication

Relational –
Trust

Cognitive –
Shared Mental
Models



HRO Characteristics:

- A positive safety culture
- Clear policies and procedures to create quality
- Management and workers understand the work and try to identify hazards and problems.
- A formal system to identify hazards and to correct any safety problems.
- Leaders who are committed to safety



Performance

How SNA Contributes to HROs

- Basic hypothesis: Social relationships characterized by *open communication, trust and shared mental models* are critical to HRO functioning.
- With SNA data one can:
 - Examine how various network characteristics relate to *safety climate/culture* and to HRO *performance*.
 - Diagnose the organization and design appropriate *change interventions*.

Where Does This Apply?

- Can identify and analyze different places where social capital (open communication, trust & shared mental models) is important.
- In healthcare:
 - Within cross-professional work groups (patient care teams)
 - Between patient care teams (within same shift, across shifts)
 - Between professional groups (MDs and nurses), departments or units (Labor & Delivery and Neo-natal ICU) in an organization
 - Across hierarchical levels in an organization (workers & supervisors)
 - Across organizations in the medical system (paramedics and hospitals)

Communication Structure (Structural Social Capital) and HROs

- Can distinguish between the opportunity for interaction and who actually interacts/communicates.
- How dense or intense does communication need to be within a group or across groups?
- Who needs to communicate with whom? Is there appropriate access to expertise? Who actually talks to whom?
- Is advice-seeking especially important in HROs? Who is central in the advice network?
- Are there certain individuals who act as “translators” from one group to another to bridge “structural holes” between otherwise isolated groups so that expertise can be shared appropriately?

Trust (Relational Social Capital) and HROs

- Trust, perceptions of benevolence, of competence
- Do HROs need more trust overall? Or trust between certain critical parties ?
- Do trusting relations during routine times foster the conditions for decisions to be migrated to the person with the most expertise regardless of hierarchical level during events?
- Do negative relationships (the existence of distrust) play a more important role than trusting/positive relationships in predicting the performance of HROs?

Shared Mental Models (Cognitive Social Capital) and HROs

- Cognitive understanding – knowing who knows what, where the expertise lies, having a shared mental model of the system
- Do actors know what other actors know?
- Do they share an understanding of how the system works and each person's place in it?
- Does everyone in a network need to have this knowledge? If not, how many are needed to ensure that expertise will be located quickly when necessary?



SNA and Organizational Change

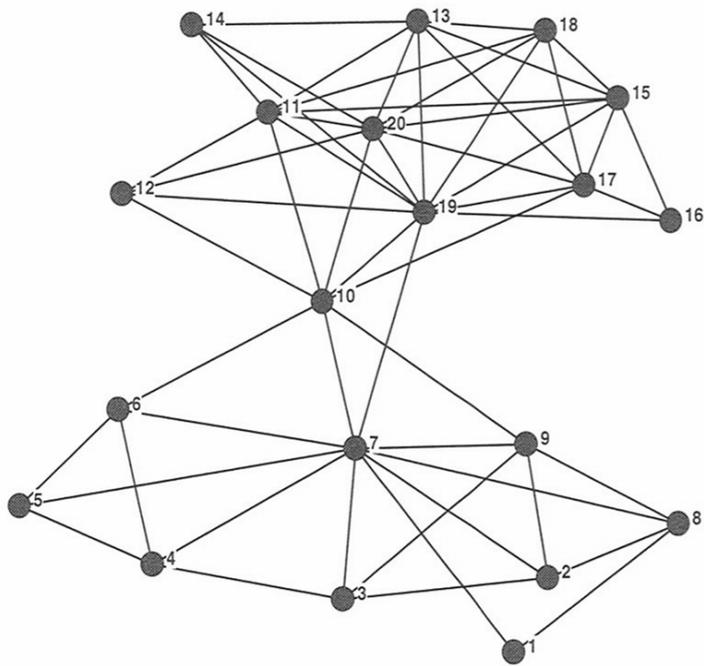
- Actual communications and social relations do not necessarily map onto the existing organizational chart, but they are nonetheless crucial to business effectiveness
- Can use SNA:
 - To diagnose structural problems
 - To suggest changes
 - To evaluate whether subsequent changes helped to improve communication and relationships (and by extension, safety culture and performance)

Caveats

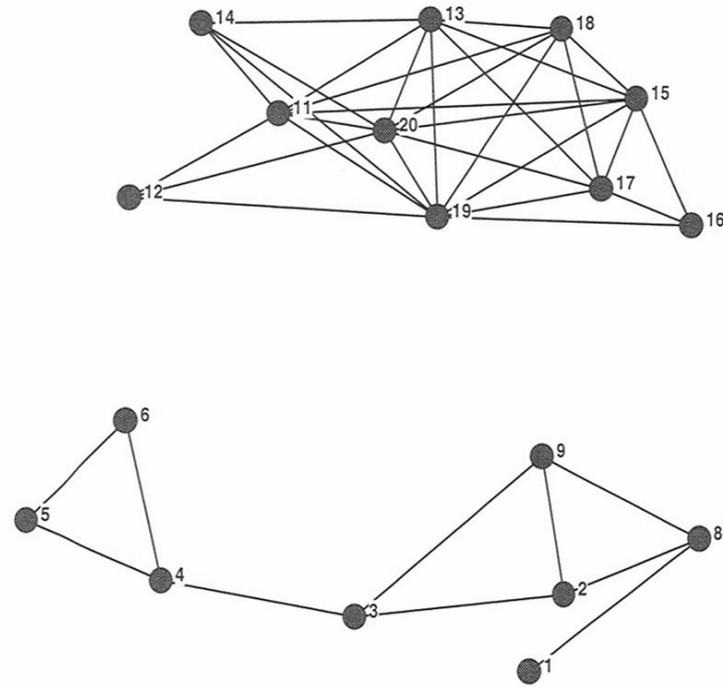
- Need to “know” the organization before you can interpret SNA data.
- Relationships revealed by SNA may be symptoms of organizational issues rather than the issues themselves.
- Data collection can be challenging:
 - The trust paradox: you need trust to collect data
 - Roster method doesn't work with big organizations

Response Rates and Accuracy (Borgatti & Molina, 2003)

Map B = 80% Response Rate



A



B

Current Research on Social Capital and HROs

- Longitudinal study of a pediatric intensive care company that is doing the OSES. Examines how safety culture assessments are actually used and how they might alter social capital.
- Pilot study in 4 hospitals
 - Examines how the 3 forms of social capital among occupational groups generates a positive safety culture and performance
 - Develops and evaluates a cost-effective methodology for obtaining social network data at the occupational group level (instead of at the individual level)

Benefits of SNA

- Allows managers to go beyond their “hunch” of how things work to see what’s really going on:
 - Where things are working well
 - Where there are problems
 - Where and how you might intervene
- Allows researchers a different lens on High Reliability *Organizing* – how people are actually working together
- **What benefits do you see? How might you use this?**