• Benefits of building a hierarchical network depend on the contact around whom it is built.

• Building around the immediate supervisor is unproductive.
Fig. 6. Personality distinctions associated with structural holes.
Lin (1999)

Figure 1  The social capital model of status attainment
Comparing Social Capital: Coleman vs. Burt

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Defines social capital as a function of brokerage opportunities</td>
<td>Defines social capital as a function of social structure that constitutes social relations</td>
</tr>
<tr>
<td>Social capital is created by a sparse network with few redundant ties, where individuals broker connections between otherwise disconnected segments</td>
<td>Social capital is created by a dense network of strongly interconnected members, where strong norms and sanctions dominate</td>
</tr>
<tr>
<td>Focuses on social capital’s cost-effective benefits for competitive actions brought about by an ego’s external linkages</td>
<td>Focuses on social capital’s collective benefits within a community</td>
</tr>
</tbody>
</table>
In our second week...

- Think about the similarities and difference between two pictures using different level of analysis

Borgatti et al. (2009) Science
In our second week... 

- Think about the similarities and differences between two pictures using different levels of analysis.

Business field, this is popular because, typically, organization is assumed to make relationship decisions based on "self-interest".

- Ego-centric approach
  - actor level
  - dyadic level

- Entire network approach
  - actor level
  - dyadic level
  - triadic level
  - group level

* Because of "collective action problem (CAP)"

CAP = describing a problematic situation where multiple individuals would benefit a certain joint actions.

Borgatti et al. (2009) Science
Ego network

a~g = Alters
Why Study Ego Networks?

• Ego’s network is a source of:
  • Information
  • Social support
  • Access to resources
  • Sense-making
  • Normative pressures
  • Influence
  • etc.

• All of which can influence Ego’s behavior

Source: 2008 Halgin & DeJordy
Network> Ego Networks> Egonet Basic Measures

- **Data**: KNOKI.##h and ##d
  - (10 Organizations’ information exchange relations)

- More detailed information in PS7
Burt’s structural holes

- **Basic idea:**
  - Lack of ties among alters (=Structural holes) may benefit ego

- **Benefits to ego**
  - Autonomy
  - Control
  - Information
Ego with many structural holes can enjoy benefits ...

Source: 2008 Halgin & DeJordy
Network>Ego networks> Structural holes

- **Data:** KNOKI.##h and ##d
  - (10 Organizations’ information exchange relations)
- **Method:** “Whole network!!”
Burt’s measures of structural holes

1. Effective size
2. Efficiency
3. Constraint

Source: 2008 Halgin & DeJordy
1. Effective size (Ego = G)

- Effective size of G = # of G’s Alters – Sum of redundancy of G’s Alters
  = 6 - 1.33 = 4.67

Source: 2008 Halgin & DeJordy
2. Efficiency (Ego = G)

- Efficiency
  \[ \text{Efficiency} = \frac{\text{Effective size}}{\text{Actual size}} \]
  
  - E.g.,
    
    Effective size of G = 4.67
    Actual size = 6
    
    Efficiency = 4.67/6 = 0.78

Source: 2008 Halgin & DeJordy
3. Constraint

• Constraint is a summary measure that taps the extent to which ego’s connections are to others who are connected to one another.

• E.g., If ego’s boyfriend bowls with her brother and father every Wednesday night, she may be constrained in terms of distancing herself from him, even if they break up.

• There's a normative bias in much of the literature that less constraint is good

Source: 2008 Halgin & DeJordy
3. Constraint

- The underlying idea of constraint:
  - actors must divide their attention!
  - actors can only invest a certain amount of time and energy in their contacts, and must divide the available time and energy across contacts.

- E.g., At the dyadic relation between A and B
  - Ego (A) is constrained by its relationship with the Alter (B)
    - to the extent that Ego(A) does not have many alternatives (has few other ties except that to the Alter (B)),
    - and Ego (A)'s other alternatives are also tied to the Alter (B) (e.g., alters can create coalitions to constrain A)
3. Constraint (lonely guy vs. popular guy in a bar)

Source: 2008 Halgin & DeJordy
Hole signature

- **Data:** ClassData06.##h and ##d
- **To create hole signature**
  - Investment (time and energy allocation) and Constraint of each actor in the network
Incorporates the measures of network resources (time or energy) required to maintain relations and constraint characteristics of an actor’s contacts to determine patterns across networks.

Source: Catherine, Kate and Mehdi’s presentation tonight