Social Capital and Social Resilience: Different Approaches for Different Disasters

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Late Antique
Little Ice Age
536 to ca.
560 CE
caused by two massive volcanic eruptions
Resilience to Natural Disasters

• **Resilience**: “to successfully avoid crossing into an undesirable system regime, or to succeed in crossing back to into a desirable one” following a disaster (Walker, Holling, Carpenter and Kinzig 2004).

• **Flexibility Theory**: More “flexible” social structures provide greater resilience to disaster than more “rigid” social structures.

• **Tightness Theory**: Societies with stronger social norms that are adhered to rigidly are more resilient to disaster.
Cases

- Temperature change as percent of total (green)
- Social change as percent of total (blue)
Variables

• **Independent**
  - **Corporate-Exclusionary Index**: five variables measuring the extent to which political participation, community orientation, and interaction across communities within and outside the polity is encouraged by leaders.
  - **Looseness-Tightness Index**: six variables measuring the strength of social norms and the degree to which they are enforced.

• **Dependent**
  - Six variables measuring change following the catastrophic natural disaster: Population, Health, Conflict, and Community, Regional, and Ritual Organization. Also the **Social Change Index** combining all six variables.
## Results

<table>
<thead>
<tr>
<th>One-tailed Pearson correlations</th>
<th>Social Change Index</th>
<th>Controlling for political hierarchy</th>
<th>Bayes Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate-Exclusionary Index</td>
<td>.463 (p &lt; .02)</td>
<td>.537 (p &lt; .009)</td>
<td>.716</td>
</tr>
<tr>
<td>Looseness-Tightness Index</td>
<td>.374 (p &lt; .052)</td>
<td>.187 (p &lt; .065)</td>
<td>1.587</td>
</tr>
</tbody>
</table>

Support for “Flexibility Theory” but not for “Tightness Theory”

WHY?
Discussion

• LALIA marks a catastrophic disaster, and “Flexibility Theory” applies well in that context, but.
• “Tightness Theory” appears to apply well to smaller, episodic disasters. WHY?
• Catastrophic disasters require society-wide responses = bridging social capital
• Episodic disasters require community responses = bonding social capital
Social Capital and Social Resilience

• **Social Capital**: social networks and interpersonal relationships that tie communities together

• **Bridging Social Capital**: networks of social ties that link diverse individuals and groups together across and between communities

• **Bonding Social Capital**: inter-relational ties that bond together individuals within communities and social groups
Policy Implications

• Build **bridging social capital** where there are catastrophic hazards
  = foster local participation in planning and decision-making;
  ongoing communication across agencies and stakeholders
• Build **bonding social capital** where there are episodic hazards
  = support community-building organizations and activities
• Build **both** through collaborative forums.
Takeaway

We need to design risk-reducing social capital the same way we design risk-reducing infrastructure, with specific hazards in mind.
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