Social Network and Collective Action

Based on David A. Siegel

2009 and 2011 (Winner of the 2012 Political Ties Award for the best paper on political networks over the past two years)

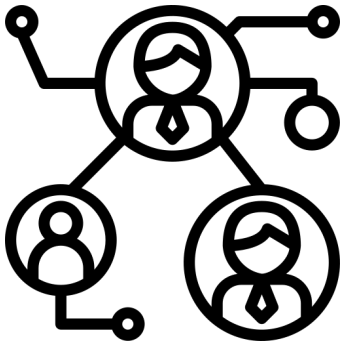
By Caterina Suitner

Collective action

demonstrations
petition
voting
flash mob
strike
fundraising

«as any action that aims to improve the status, power, or influence of an entire group, rather than that of one or a few individuals» Tajfel & Turner, 1979; Wright, Taylor, & Moghaddam, 1990

NEW MODEL

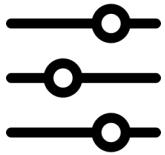


A model of indipendent decision making within Social Network in which individuals have heterogeneous motivation to partecipate, and networks are defined via a qualitative typology mirroring common empirical cotexts.

What can it offer?

The role of the network structure.

Prediction of expected levels of partecipation across network types.



Distribution of motivation as a function of network size, weak and string ties, elite influence.

Individuals do not make political decisions in a vacuum.

INTERDEPENDENCY

The more the people who participate, the more likely it is that one will decide that it is in one's best interest to participate as well:

-> assortativity

This is a typology of **collective action**.

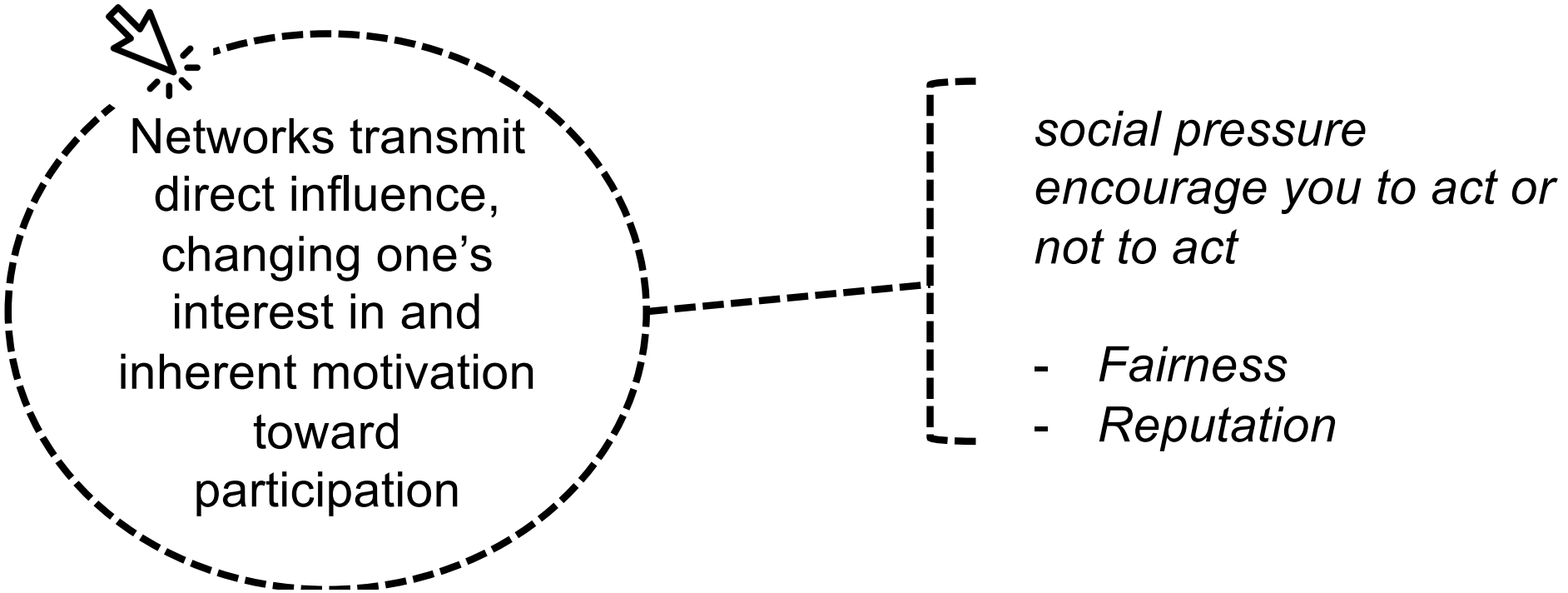
Information exchange allows people to update their beliefs about the costs and the benefits inherent participation, change their decisions.

Network can also coordinate and transfer resources, which have an indipendent effect on one's willingness to partecipate.

SAFETY

The risk associated to movement, protest, and rebellion is reduced by collective participation

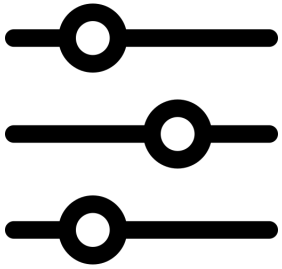
->you are safer the more others join your actions.



Basic Network Dynamics

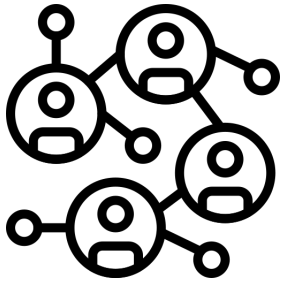
Model

ASSUMPTION



Individuals have varied motivations to partecipate.

Individuals adjust their desires to partecipate over time, in response to the behaviour of those to whom they are connected via local network.

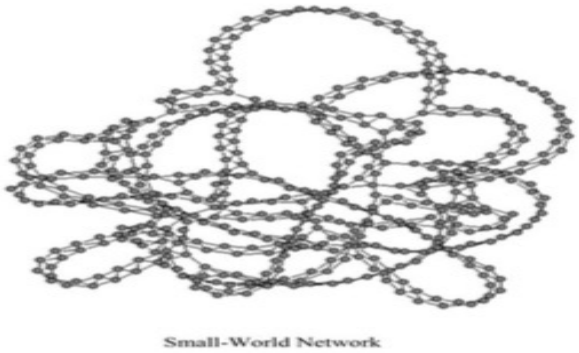


Complex Network and Network Elites

Model

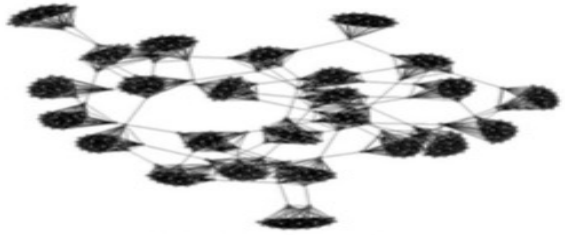
NETWORK TYPE

The model is dynamic, and each realization begins with the assignment of internal and external motivations to individuals, and their placement within the appropriate network.

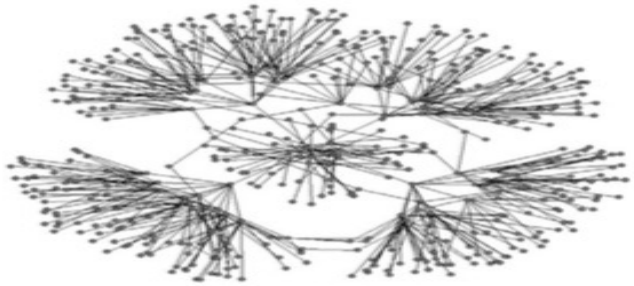


Small-World Network

Opinion-Leader Network



Village (Clique) Network



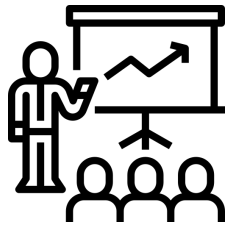
Hierarchical Network

MODEL

Now are studied more common and realistic types of network. 4 possible kind:

The Small World

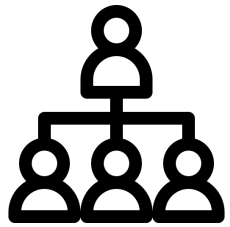
The Opinion Leader



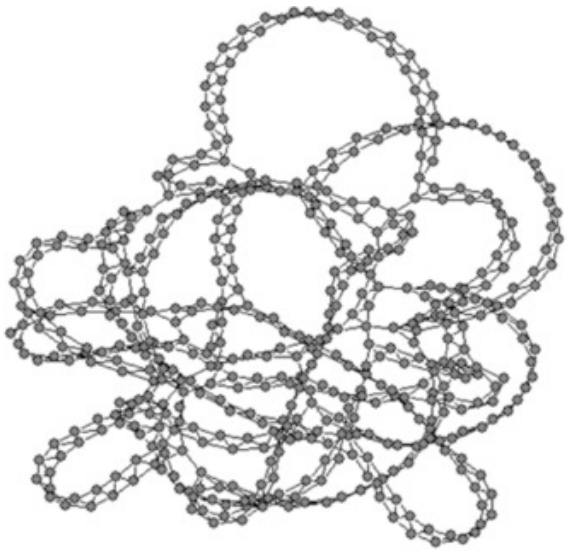
For simplicty they assume that all ties between individuals in these networks are symmetric (undirected NTW).

The Village (or Clique)

The Hierarchical



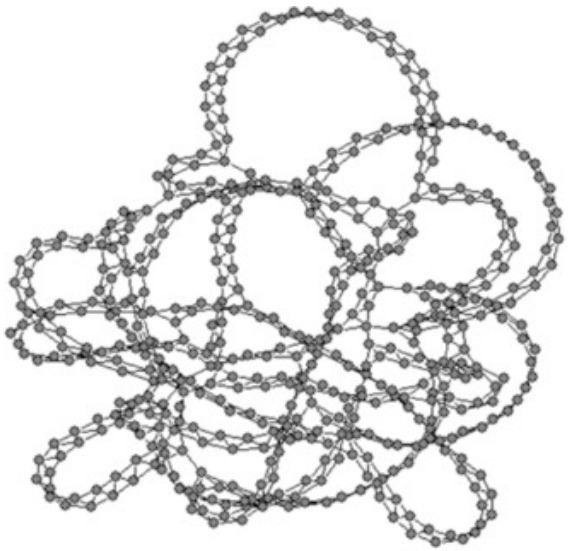
SMALL WORLD NETWORK



Small-World Network

The Small World network (Watts 1999) is used here to correspond to modern, reasonably **dense cities and suburbs, in which there are no exceptional citizens** who hold an inordinate amount of sway over their peers. Individuals have substantially **overlapping networks, but each also has some chance to influence individuals outside these clusters**.

SMALL WORLD NETWORK



Small-World Network

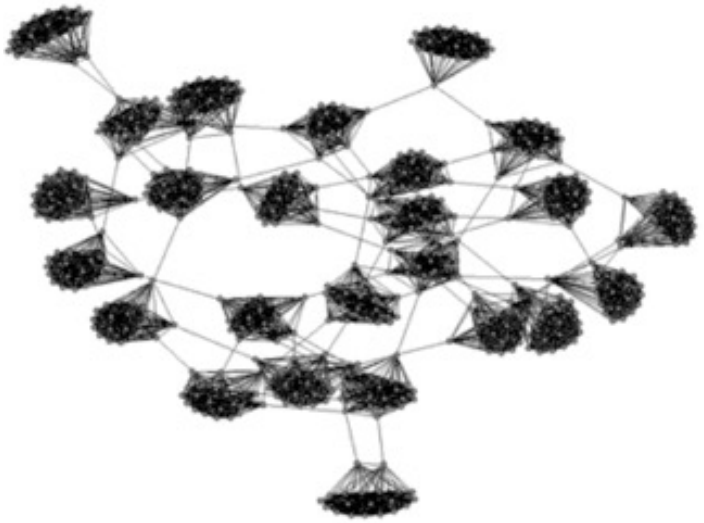
. Very robust
. High clustering coefficient
. All nodes similarly central
. A distributed network

VILLAGE NETWORK

Village network similar tp SMALL W.

-> but **more tightly clustered.**

It is meant to mimic **small towns, villages**, and cliques, in which everyone knows everyone else within the social unit, and all exert equal influence on each other. Only the rare person who spans multiple cliques, acting as a “social relay” (Ohlemacher 1996) who possesses “bridging,” rather than only “bonding” social capital (Putnam 2000), is able to exert influence outside the unit.



Village (Clique) Network

VILLAGE NETWORK

- Very robust
- High clustering coefficient
- All nodes similarly central

Village (Clique) Network

HIERARCHICAL NETWORKS

Like the one described in Morris (2000), the backbone of the Hierarchy is a series of **levels expanding exponentially in width**. Individuals are connected to one person above them, and a number of people one level below them equal to the rate of expansion of the hierarchy.

-> power of elites lies in their privileged placement at its top.

Hierarchical Network

HIERARCHICAL NETWORKS

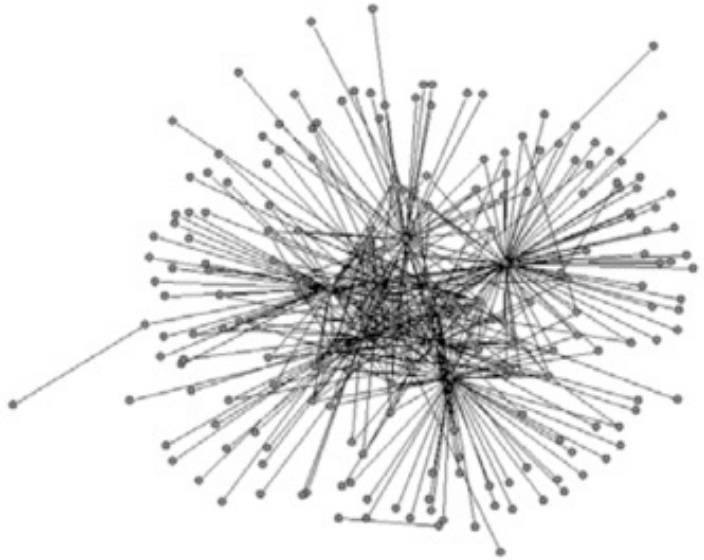
- Half way in robustness
- Few central nodes
- Low clustering coefficient

Hierarchical Network

OPINION LEADER NETWORK

Most people have few connections, while a few (the opinion leaders) have many. A single parameter determines both the number of opinion leaders and the number of connections each has. Simple versions of such networks have also been termed “star” or “wheel” networks (e.g., Gould 1993).

-> power of elites lies in their greater number of network ties

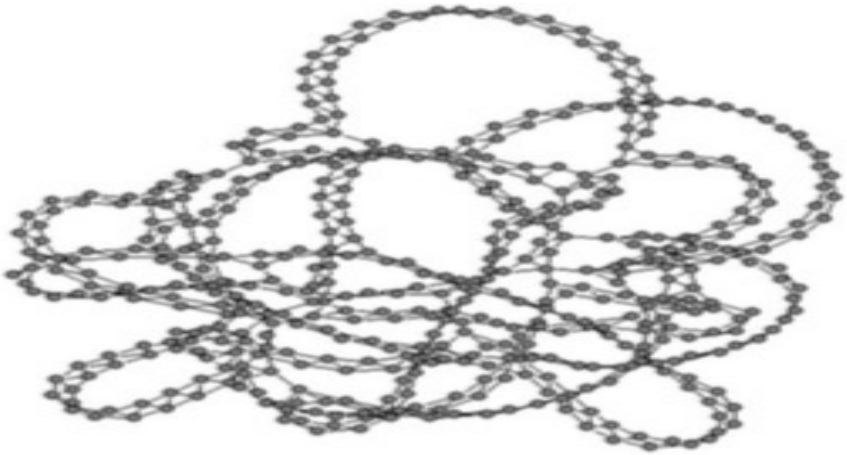


Opinion-Leader Network

OPINION LEADER NETWORK

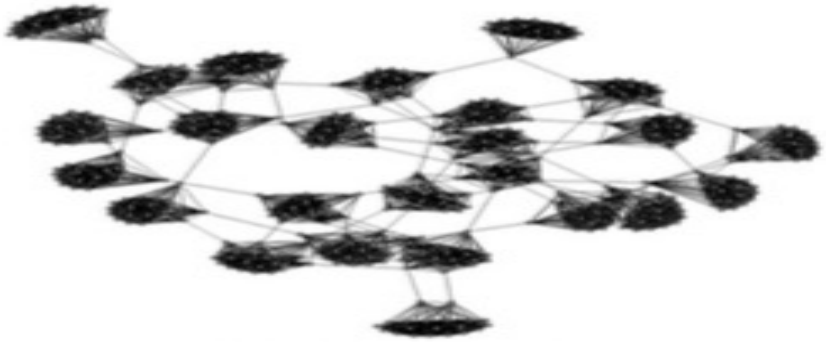
- Not robust
- Low clustering coefficient
- Few central nodes

Opinion-Leader Network

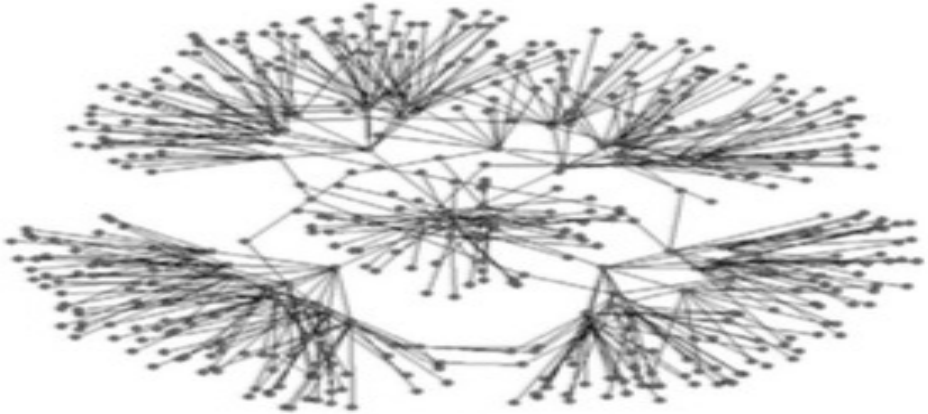


Small-World Network

Opinion-Leader Network



Village (Clique) Network



Hierarchical Network

Social change

- interventions to produce behavior change (Walton & Wilson, 2018)

- -> One strategy is to target an intervention to those individuals who are most influential within the group, the social referents to whom others look to determine the group norm (Prentice & Paluk, 2020)
- -> e.g. a social-norm intervention informs individuals of what others are doing or what others approve of, in order to encourage them to do the same

When Does Repression Work? Collective Action in Social Networks

David A. Siegel Florida State University

Empirical studies reach conflicting conclusions about the effect of repression on collective action. Extant theories cannot explain this variation in the efficacy of repression, in part because they do not account for the way in which social networks condition how individual behavior is aggregated into population levels of participation. Using a model in which the population is heterogeneous in interests and social influence, I demonstrate that the extent to which repression reduces participation, and the extent to which an angry backlash against repression increases participation, depends critically on the structure of the social network in place; this implies the need for greater empirical attention to network structure. To facilitate the model's empirical application, I focus on broad qualitative network types that require comparatively little data to identify and provide heuristics for how one might use qualitative network data to derive quantitative hypotheses on expected aggregate participation levels.

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Repression

Repression is the process by which powerful actors attempt to deter a population from participating in a collective action that threatens them, such as protest, dissent, or rebellion.

HONG KONG – A water cannon spraying stinging blue dye flanked by dozens of riot officers rolled through central Hong Kong on Sunday, sending protesters running in one of the fiercest clashes in three months of anti-government protests.

Goal: ‘‘When does repression work?’’

- to tackle the collective action problem of why people follow their leadership and rise up, despite the clear risks and uncertain benefits.

- Repression:
  - Effective
  - Ineffective
  - Backlash

Two dimensions of variation in repression

- a continuous dimension corresponding to the strength of repression
- a dichotomous dimension corresponding to the technology of repression:
  - RANDOM REPRESSION
  - TARGETED REPRESSION

PSYCHOLOGICAL RESPONSE

REPRESSION
X
NETWORK FORM

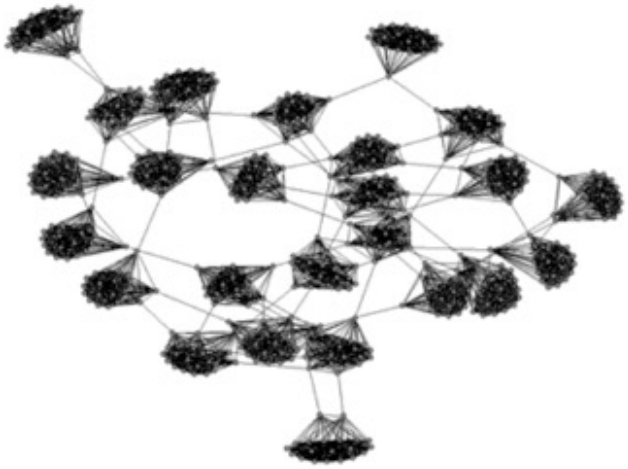
FEAR

ANGER

PARTICIPATION
IN COLLECTIVE
ACTION

DIFFERENT REPRESSION STRATEGIES X DIFFERENT NTW

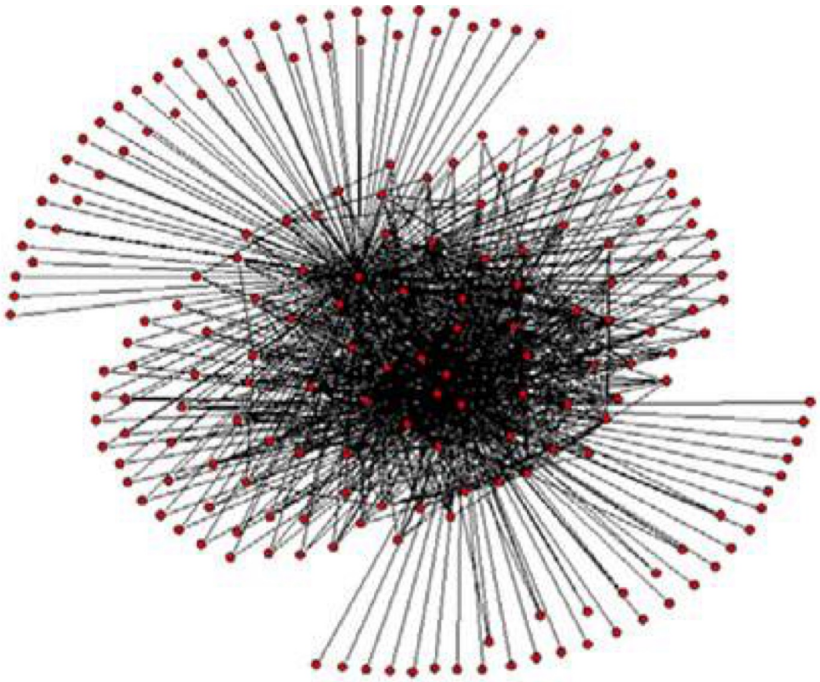
FOR EXAMPLE… TARGETED REPRESSION IN OPINION LEADER VS. VILLAGES



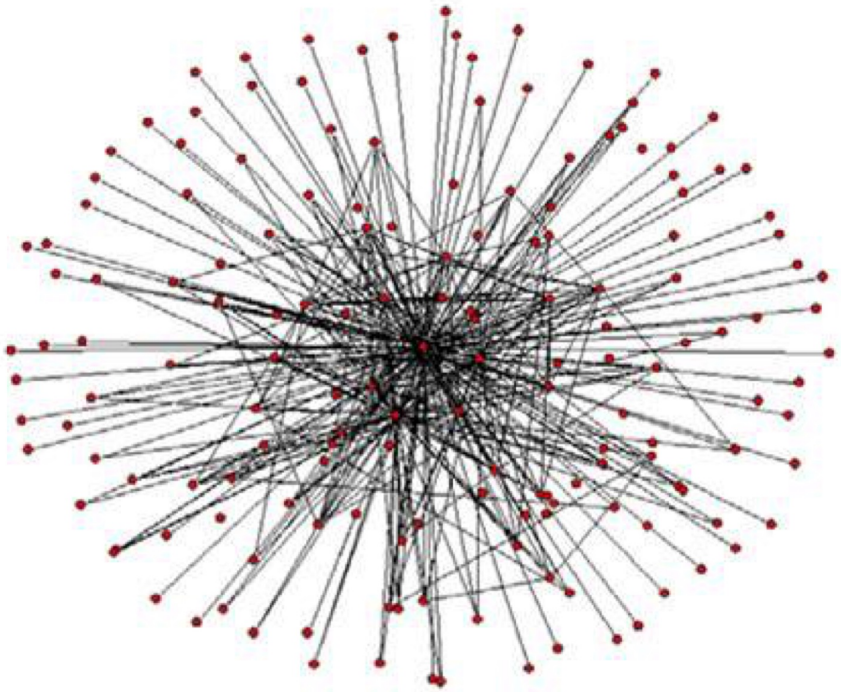
Village (Clique) Network

Opinion-Leader Network

Change in OPINION LEADER Network Structure under Targeted Repression

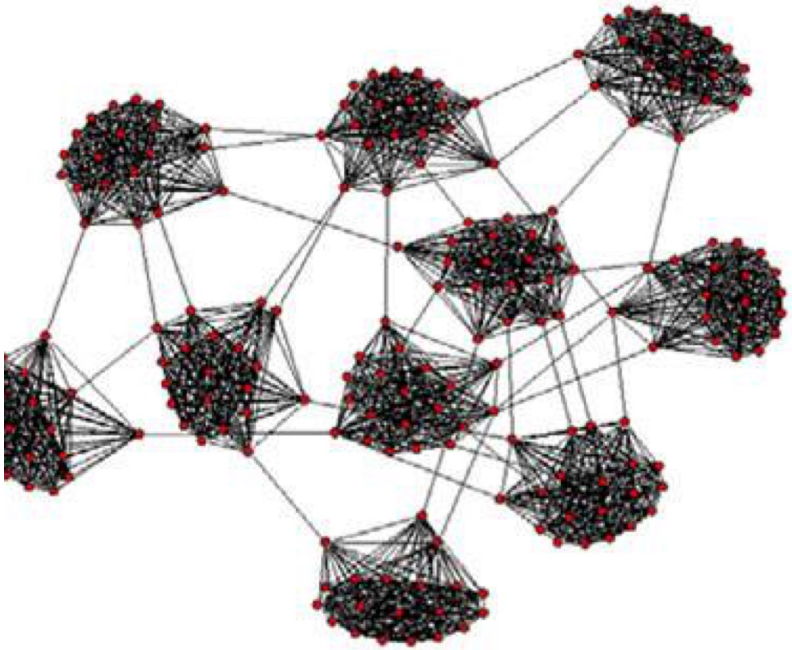


PERIOD 1



PERIOD 100

Change in SMALL VILLAGE Network Structure under Targeted Repression



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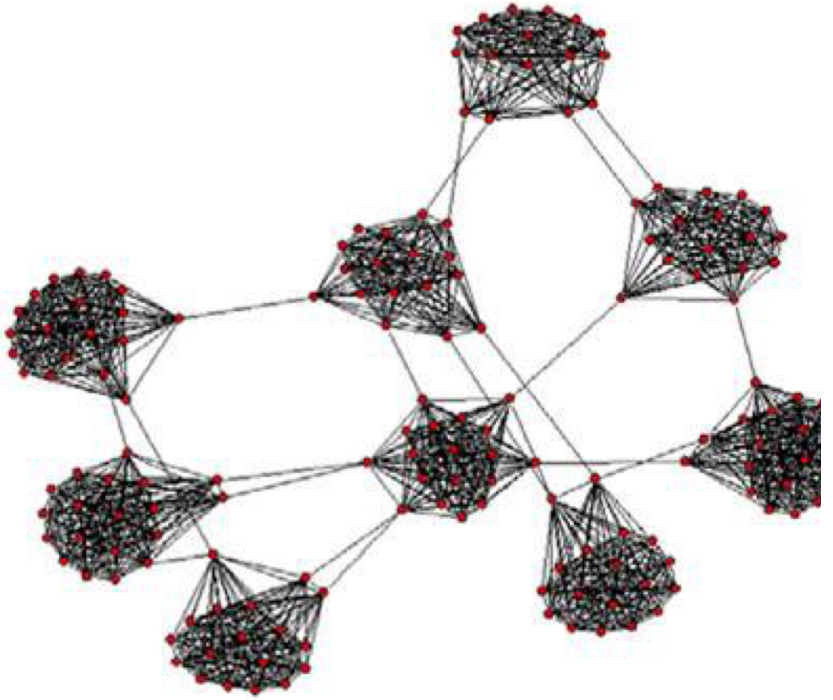


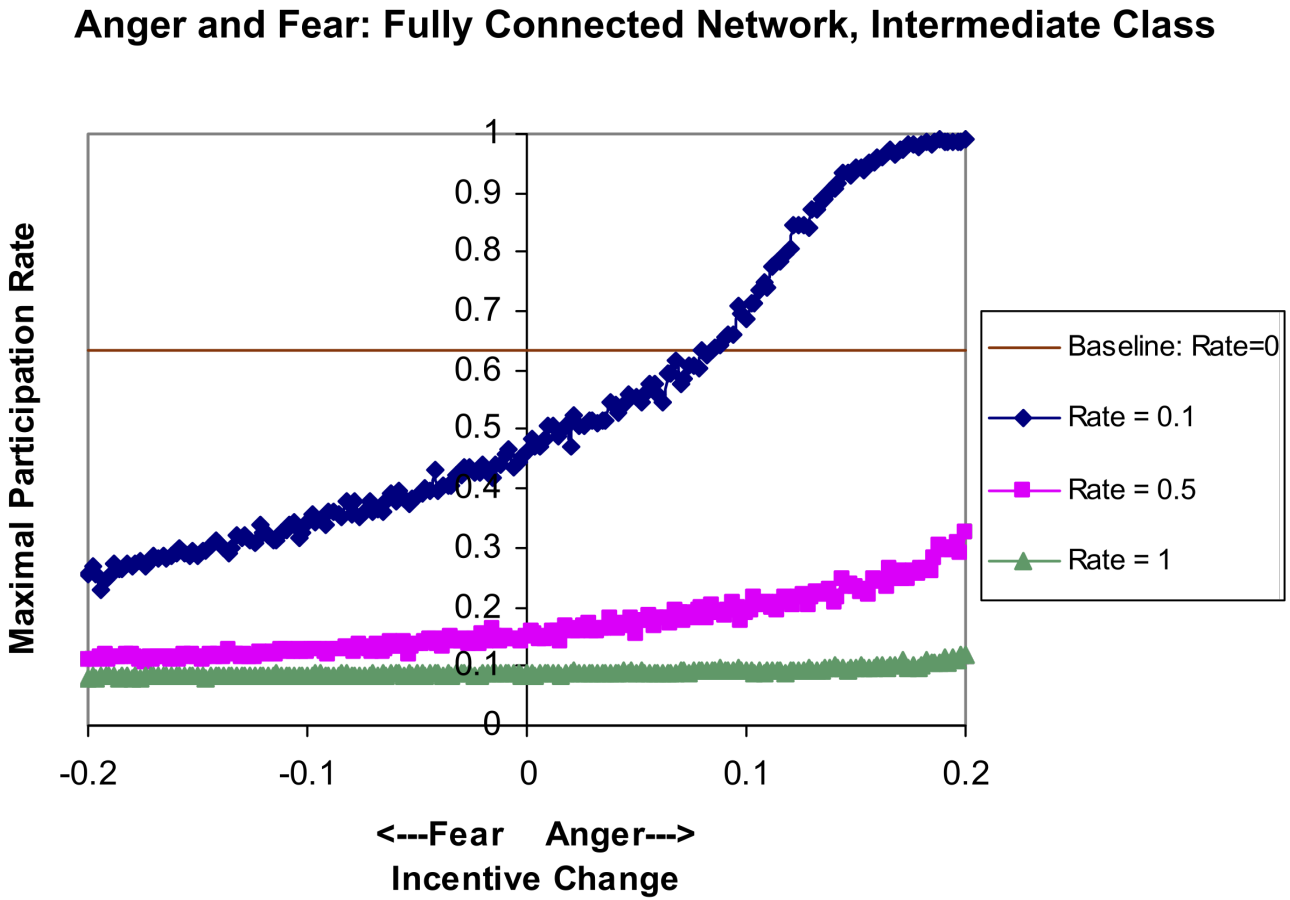
PERIOD 100

- networks that rely on very specific parameter configurations to achieve significant levels of participation (opinion leader & hierarchical) are more vulnerable to repression.

Introducing people responses….

Just one example

Fully connected NTW: baseline model according to removal rate



(a) Anger Can Lead to Backlash

Conclusions

- Different types of network are more or less robust to external attempts to change them:
  - Random & village NTW: very robust
  - Hierarchical: middle level of robustness
  - Opinion leader: very weak

- Social change can be achieved more effectively by tuning interventions to network properties
  - Random repression: ok for random & village network
  - Target repression: more effective for opinion leader & heorarchical then for small village
  - Interventions can backlash