Voting Together

How social networks affect the emergent norm of voter turnout

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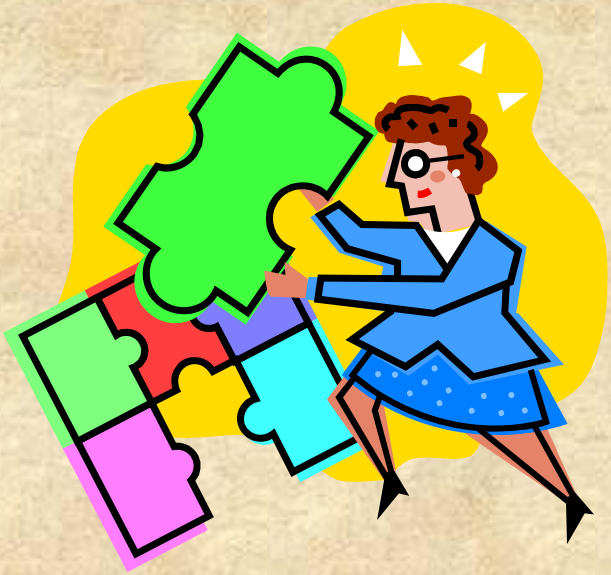
Why voter turnout?

- 1922: First survey study of non-voting (Merriam and Gosnell)
  - Education, income, race/ethnicity, gender, language, registration, length of residence, age, political interest
- *1995: People participate because they can (skills), they want to (interest) and somebody asked.* (Verba, Schlozman, and Brady)
  - Education, income, race/ethnicity, ~~gender,~~ language, registration, length of residence, age, political interest, church attendance



Persistent puzzles…

- Puzzle: Turnout dropped over time period when access to college education increased
- Puzzle: Education doesn't impact turnout in many countries
- Puzzle: Vote by mail (lower costs) doesn't increase turnout
- Puzzle: In theory, "Rational" citizens don't vote

Why agent-based modeling?

- Multiple criticisms
  - Just a passing fad
  - "Where are the social science applications?"
  - Models are "made up" -- there are no constraining assumptions
  - Realistic models include "everything" (KISS)
  - Is it a "third way" of doing science?

Conditional Choice

Modeling the decisions
of social actors

Social Actor

1. *Social interaction*
2. *Social meaning of situation (norms)*
3. *Rules of thumb*
4. *Mixed motives*
5. *Individual difference*
6. *Social structure*

Rational Actor

1. *Strategic interaction**
2. *Game structure of situation*
3. *Maximize payoffs**
4. *Preferences*
5. *Individual homogeneity**
6. *--**

Using data to engineer a conditional decision model

1. Identify social meaning of situation

   Media, surveys, self-reports, discourse
2. Identify conditional decision-making rules

   Experiments, existing theory
3. Analyze decision model

   Proofs, simulations
4. Develop theory and look for "traces"

   Multiple data sources

A conditional decision-model of political participation

1. Identify social meaning of situations

   "Voting is a public good"

2. Identify rules of thumb

   Conditional d-m in public good experiments

3. Analyse social model

   ↑network size → ↑turnout

4. Look for traces in the data

   surveys, geo-spatial, interviews

Voting is a civic duty
American citizens are equals

QuickTime™ and a
decompressor
are needed to see this picture.

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Experimental social dilemmas

- *Goal: split the money with equals*
- *Unanimous agreement on fair response*
  - *public goods games*
  - *bargaining games (ultimatum, dictator)*
- *Not everyone splits the money "fairly"*

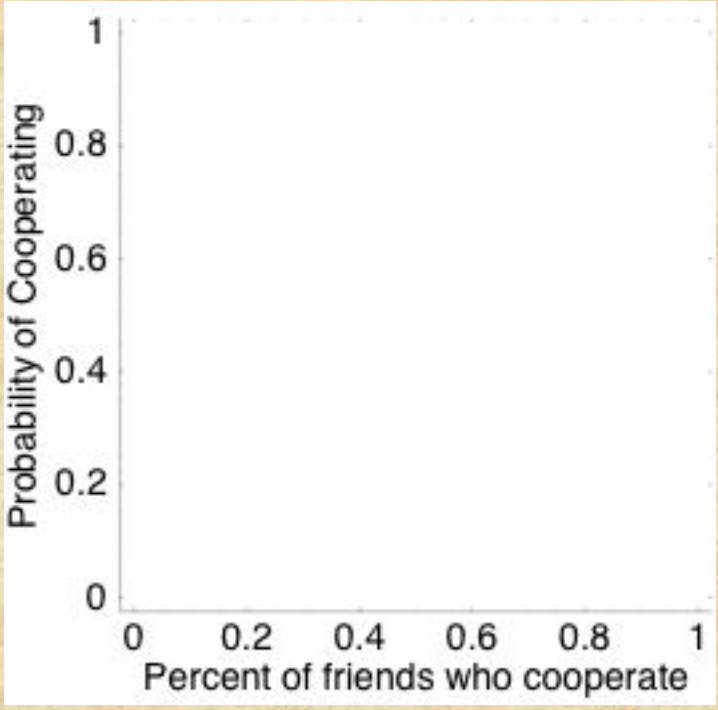
Conditional decisions: the basic model

$$pr(d_{i,s}=1)=\alpha_{i,s}(1)+\beta_{i,s}\frac{\sum\left(d_{j,s}\times r_{i,j}\right)}{\sum r_{i,j}}+\gamma_{i,s}\,1\Big/\,1+\exp\left((a-b)\frac{\sum\left(d_{j,s}\times r_{i,j}\right)}{\sum r_{i,j}}\right)+\delta_{i,s}(0)$$

Probability of cooperating [0,1]

i = individual heterogeneity

s = variation in situations



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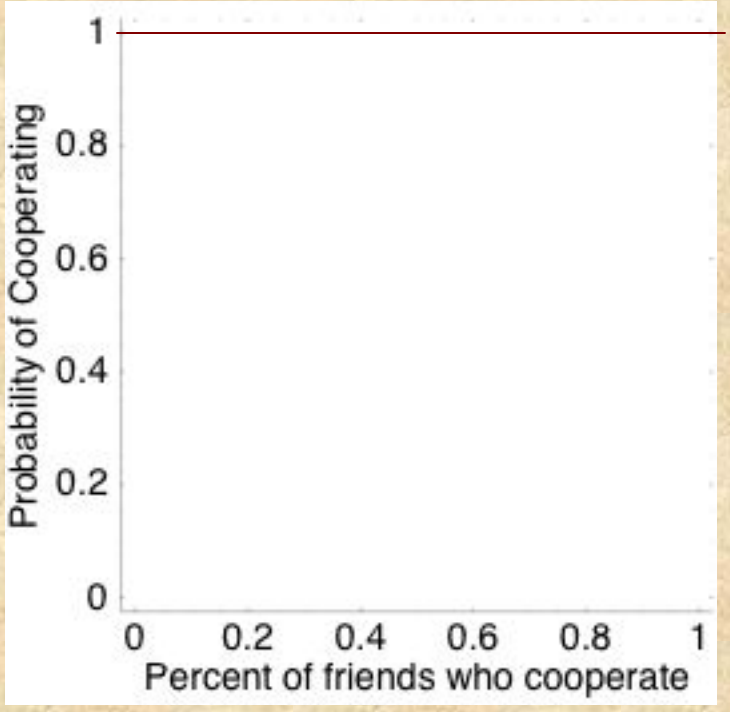
Unconditional Cooperation
"Civic Duty"



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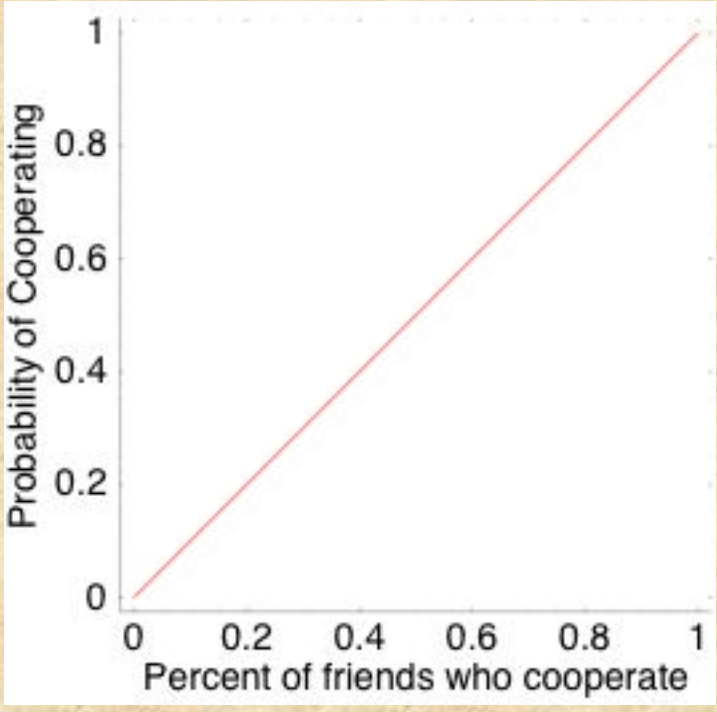
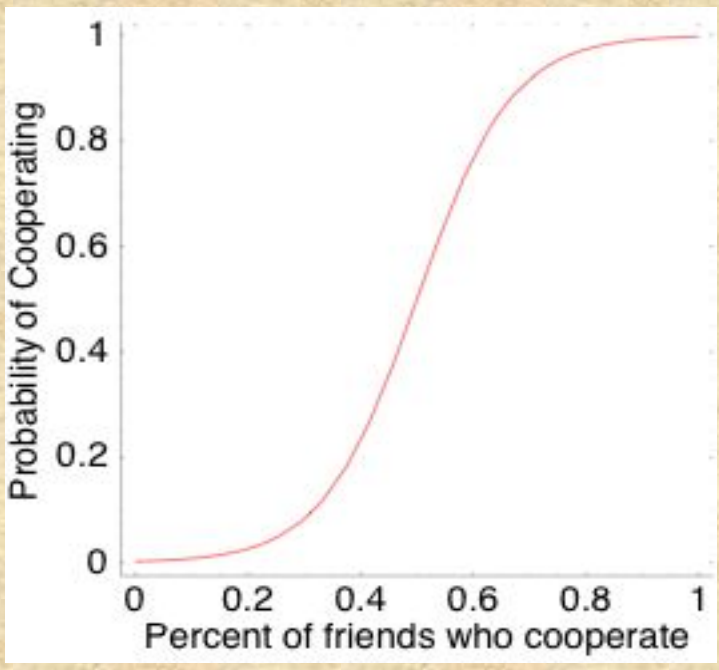
"Fairness": conditional cooperation in proportion to mean of friends and family



Conditional adoption: the basic model

$$pr(d_{i,s}=1)=\alpha_{i,s}(1)+\beta_{i,s}\frac{\sum\left(d_{j,s}\times r_{i,j}\right)}{\sum r_{i,j}}+\gamma_{i,s}\,1\Big/\,1+\exp\left((a-b)\frac{\sum\left(d_{j,s}\times r_{i,j}\right)}{\sum r_{i,j}}\right)+\delta_{i,s}(0)$$

"Conformity": conditional cooperation in proportion to median of friends and family



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Unconditional non-cooperation

Use of conditional strategies

- 10-20% unconditional cooperation
  - Ledyard (1994)
  - final round contributions >25%
  - 50/50 split in anonymous dictator
  - No increase when contributions are public
  - Conditional contribution tables
- Split across the conditional strategies

A conditional decision-model of political participation

1. Identify social social meaning of situations
   Voting is a public good
2. Identify rules of thumb
   Conditional d-m in public good experiments
3. Analyze social model
   - ↑ *First movers → ↑cooperation*
   - ↑ *network size → ↑cooperation*
4. Look for traces in the data
   surveys, geo-spatial, interviews

What happens, in general?

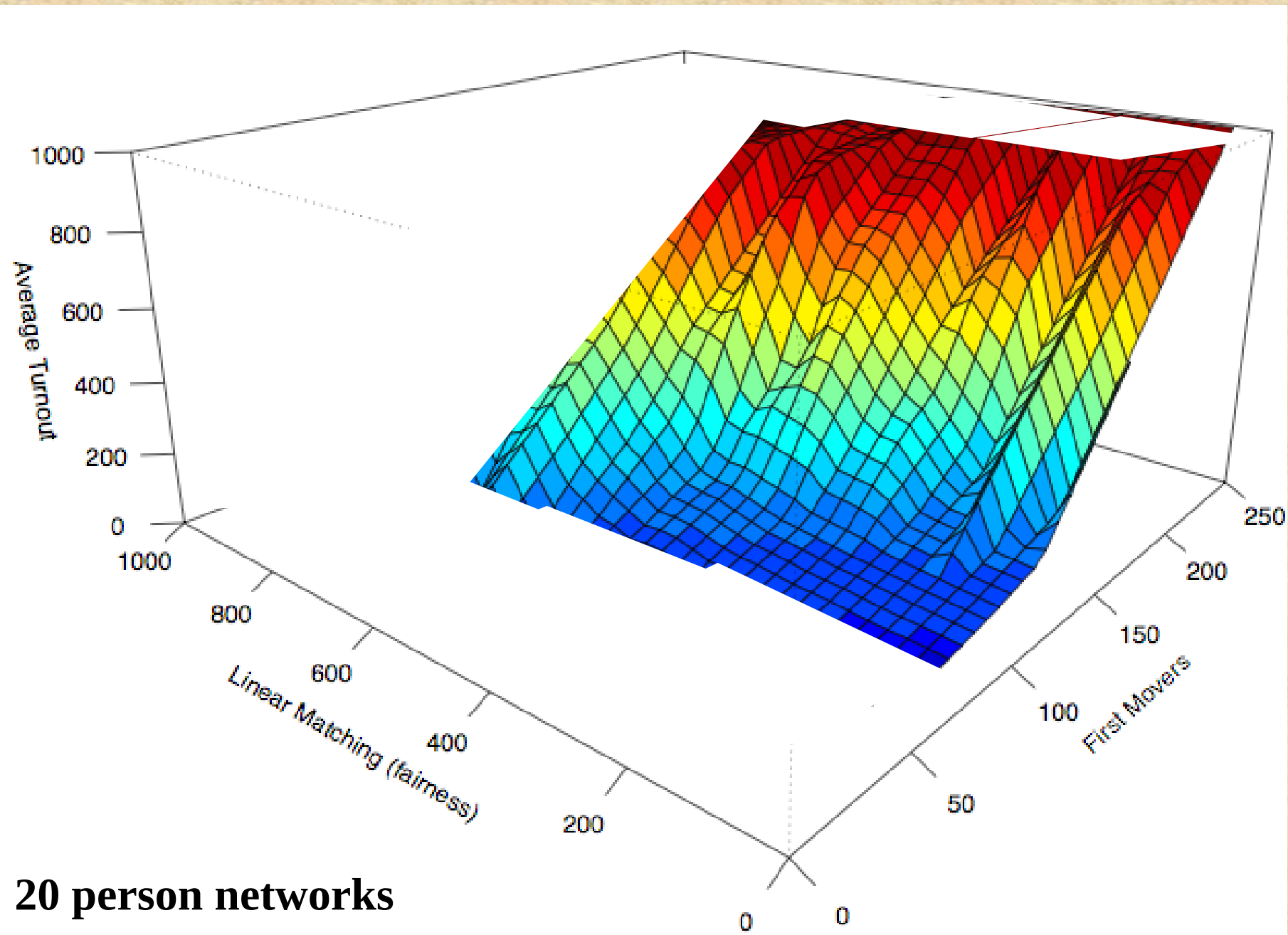
- *In some situations, behavior spreads easily*
  - *↑ unconditional cooperation*
  - *fairness > conformity*
- *In some situations, behavior doesn't spread*
  - *↓ unconditional cooperation*
  - *conformity > fairness*

What happens in local social networks?

- *Small, dense personal networks impede spread of innovations when behavior spreads easily*
- *Small, dense personal networks incubate small pockets of adoption when behavior doesn't spread easily*

Threshold simulation

- *Agents randomly given weights for decision function (α, β, γ)*
- *Agents given friends*
- *Simulation is run: first movers vote, and then others join in*
- *Final round turnout recorded*

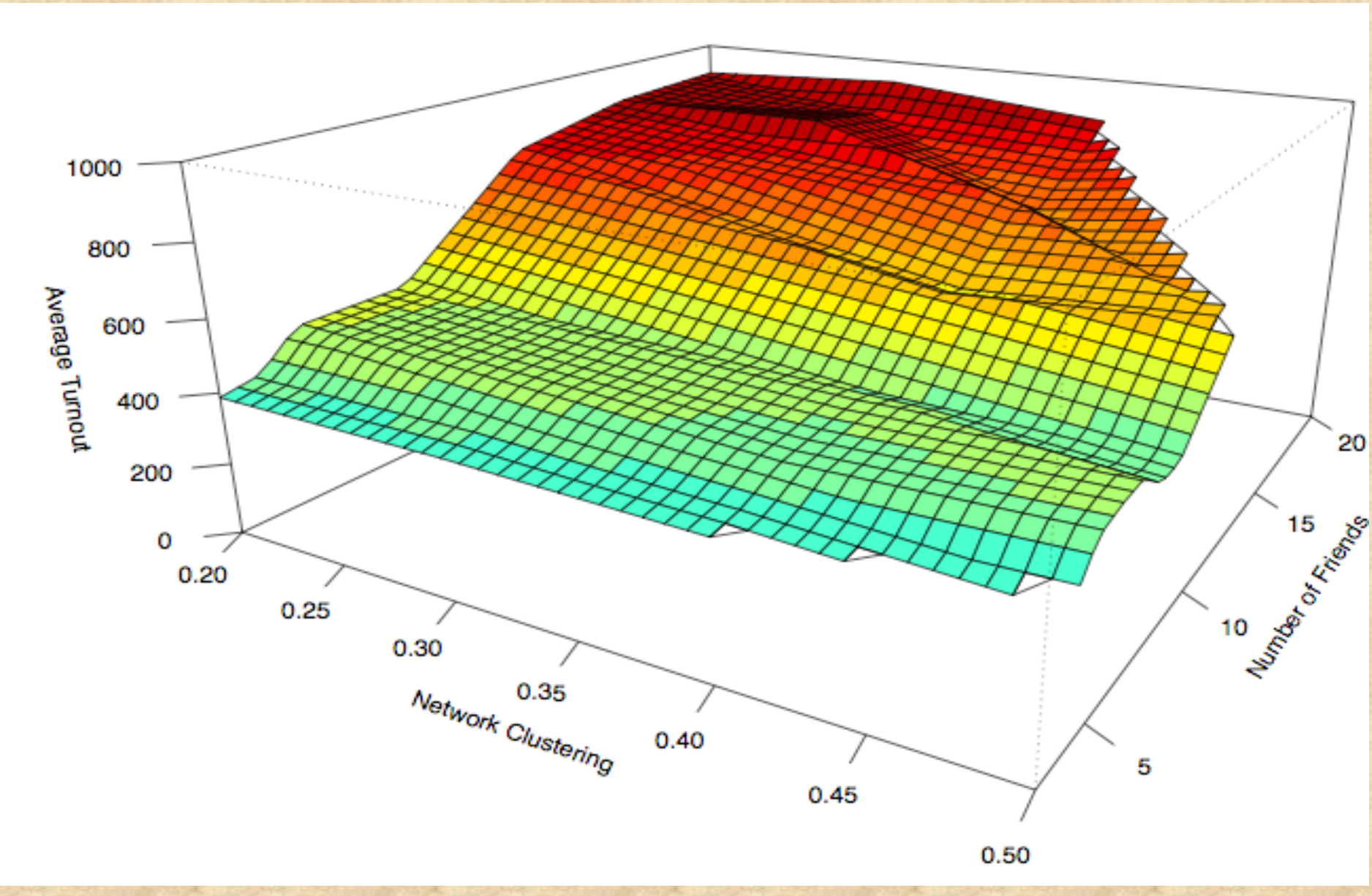


20 person networks

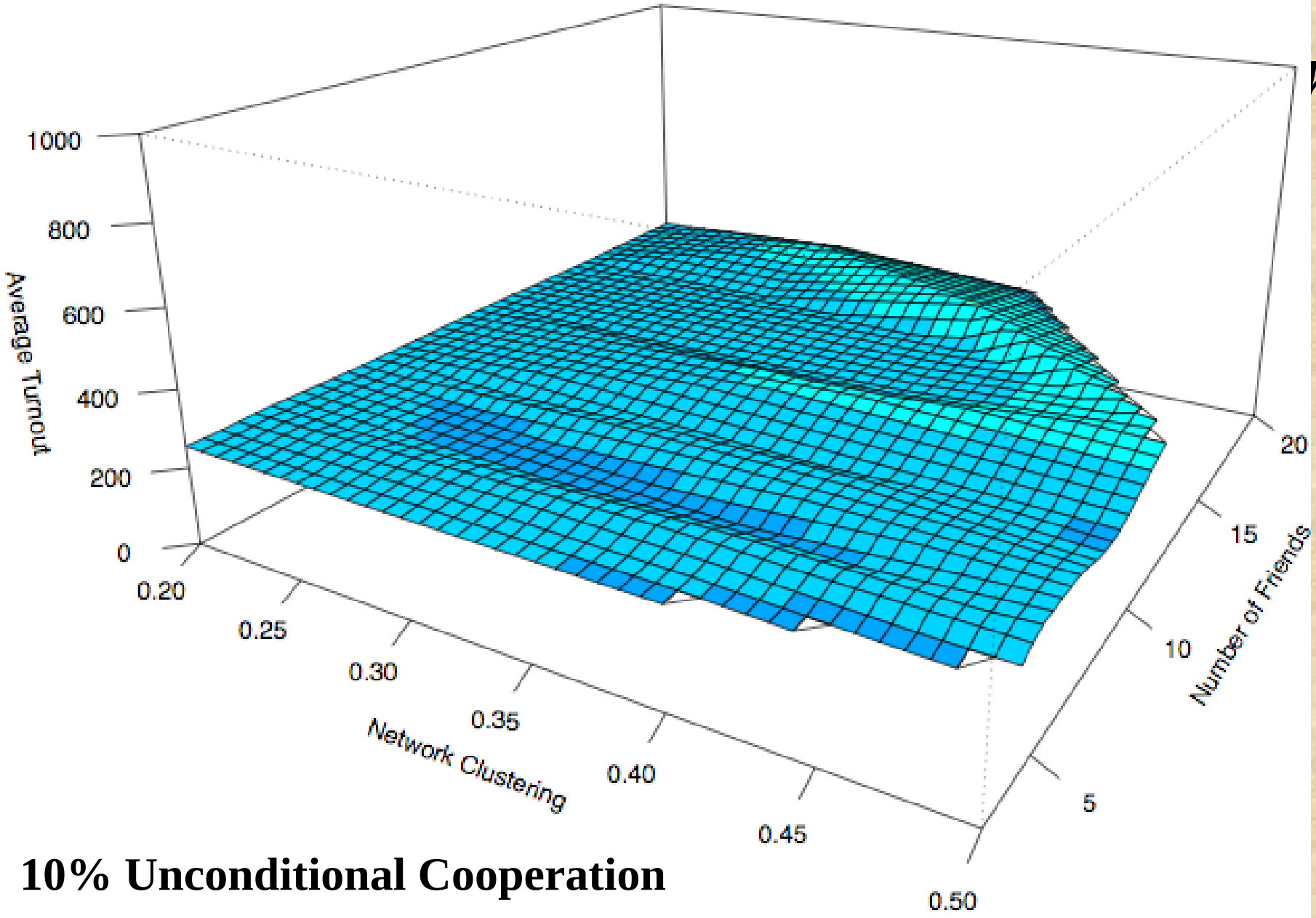
Fully specifying the model

Personal networks

- Use surveys of personal networks
- Estimates of 12-20 “friends”



Simulated turnout with 15% unconditional cooperation



10% Unconditional Cooperation

Finally…

A social theory of voter turnout

A conditional decision-model of political participation

1. Identify social beliefs

   Voting is a public good

2. Identify rules of thumb

   Conditional d-m in public good experiments

3. Analyse social model

   ↑network size → ↑turnout

4. Develop social theory and look for traces in the data

   surveys, geo-spatial, interviews

A social theory of voter turnout

- Turnout is low cost "social dilemma"

  ↑ network size → ↑ turnout

  ↑ costs → ↓ first movers → ↓ turnout

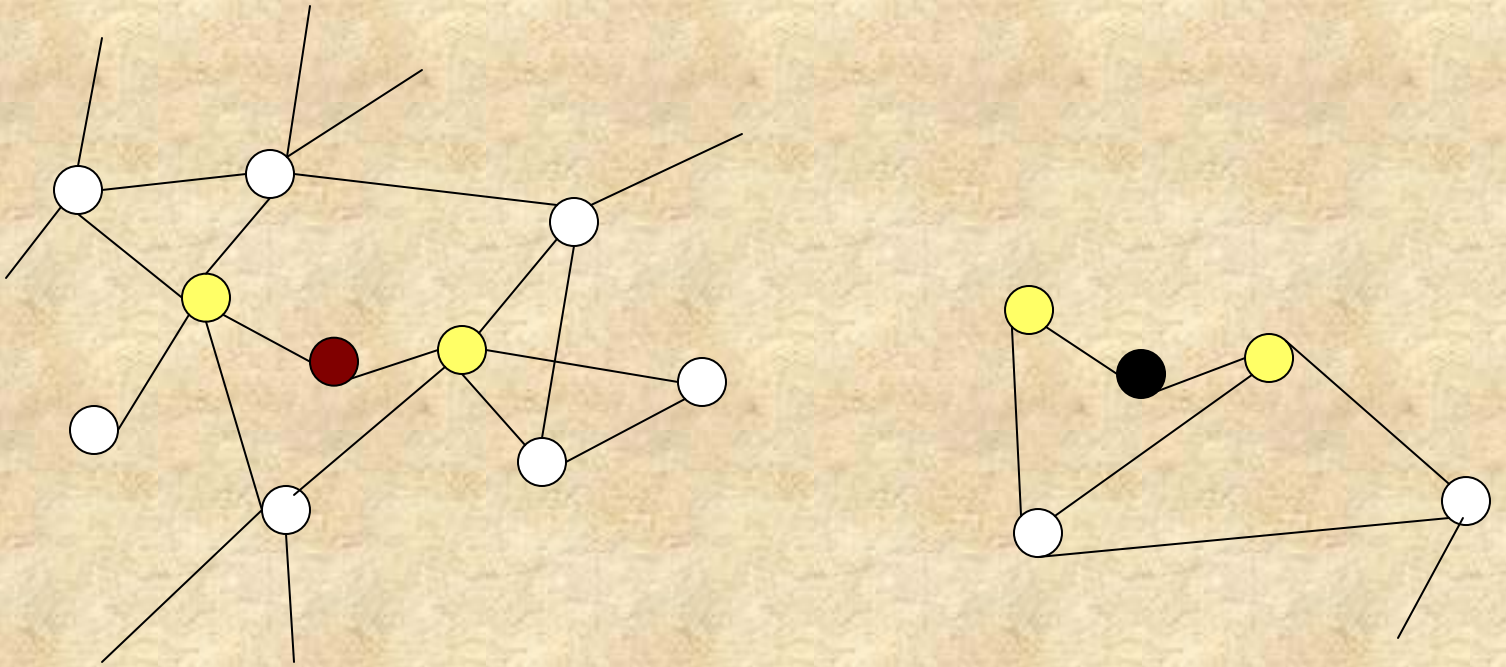
- Mobilization stimulates political discussion

  ↑ mobilization → ↑ network size → ↑ turnout

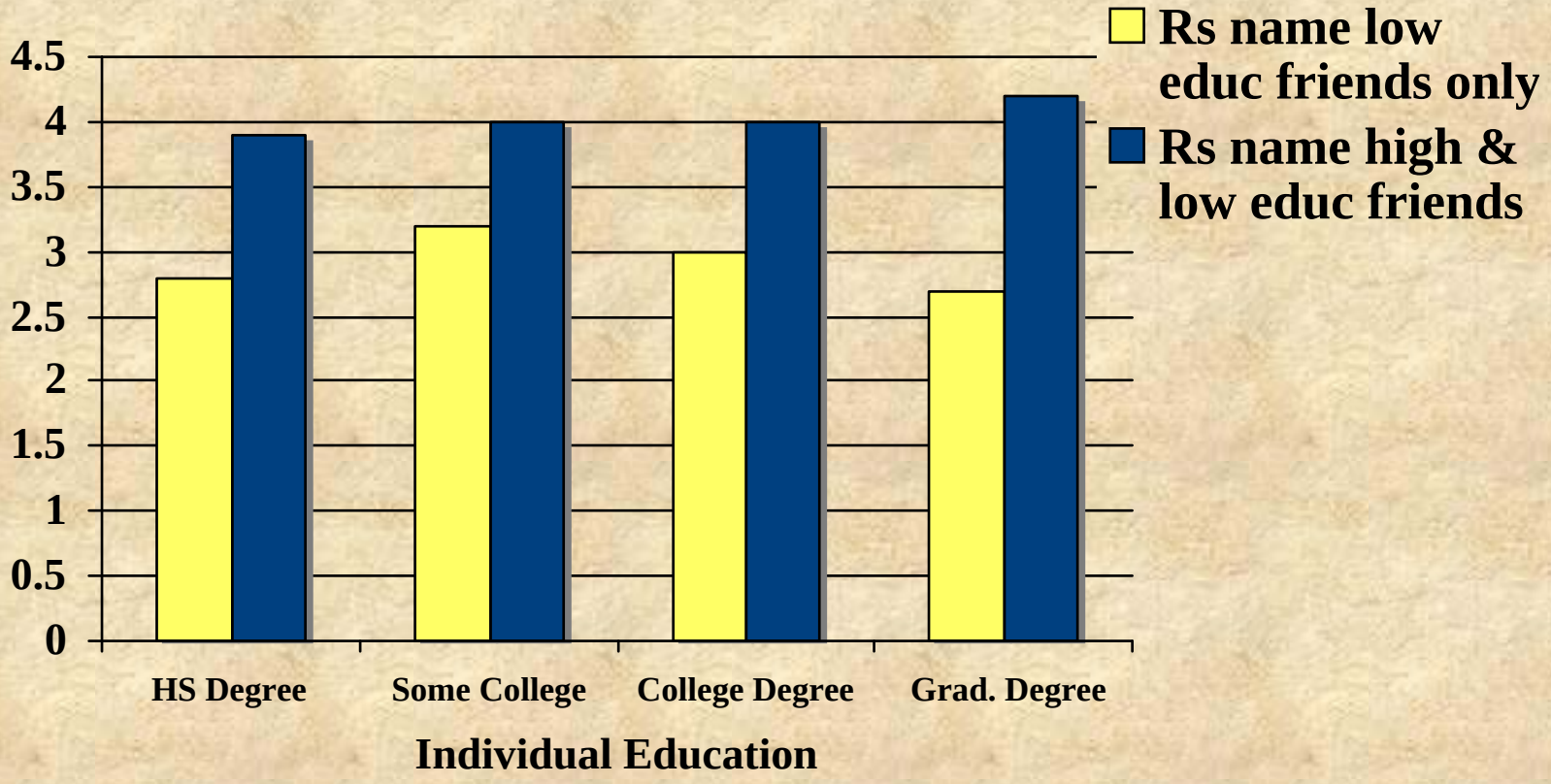
Variation across individuals: ↑ network size → ↑ turnout

- *Social network context*
  - *College-educated have larger networks*
- *Mobilization and political discussion*
  - *Candidate social networks*
  - *Direct mobilization*

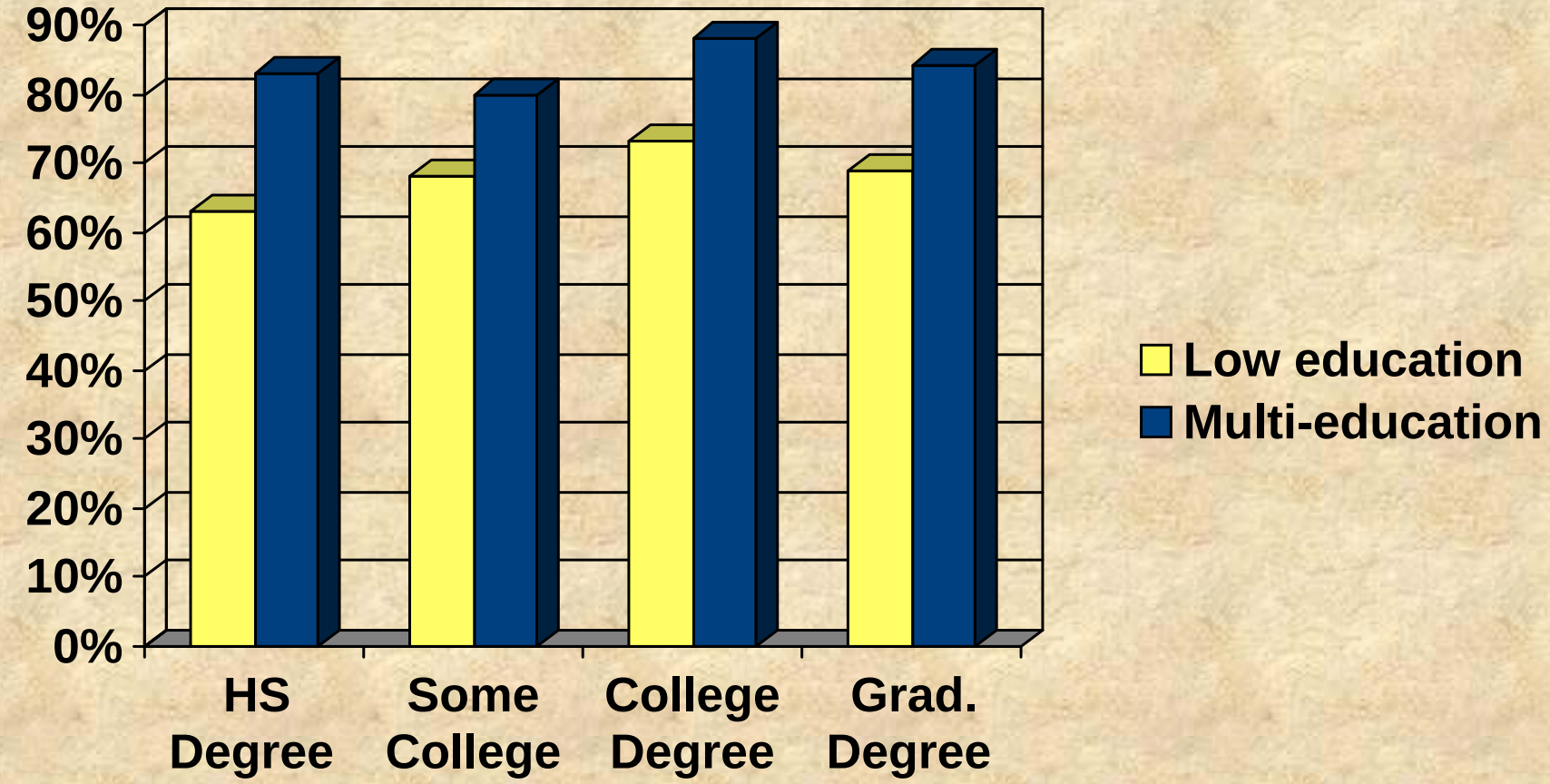
Structure of social context



Social context and network size (1985 GSS)



Voter turnout by social context (1985 GSS)

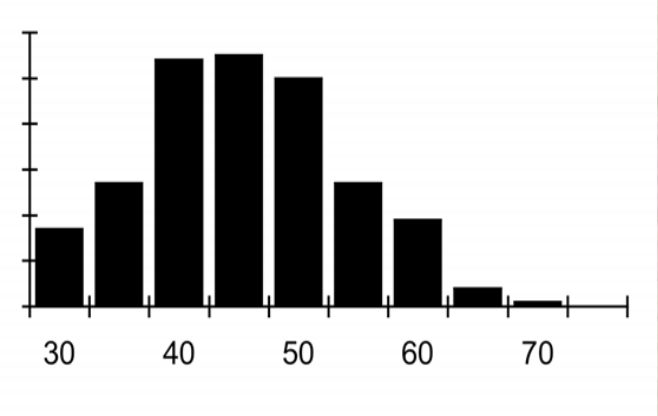


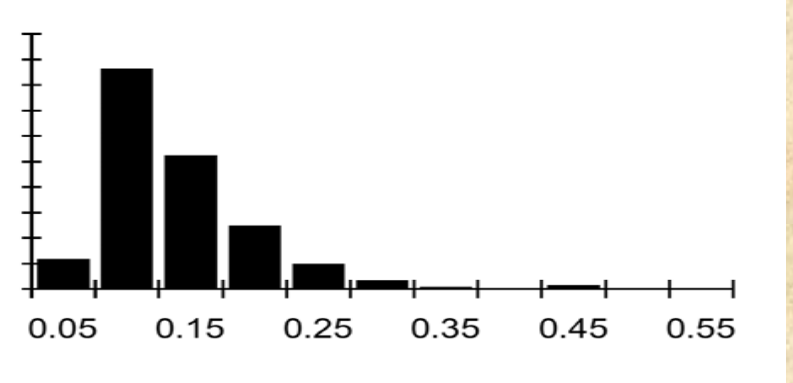
Low Salience Elections

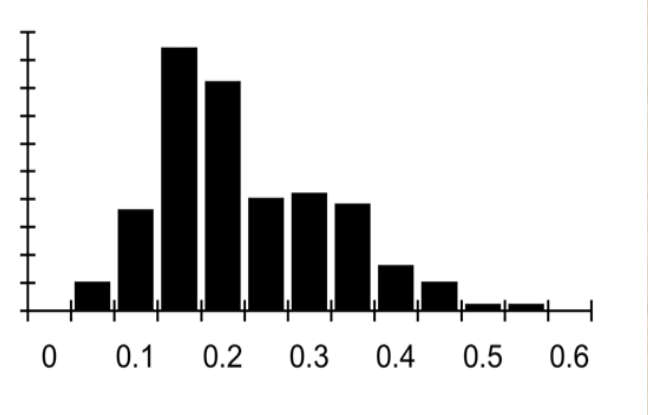
↑mobilization → ↑network size → ↑turnout

- *No discussion of the election, only first movers vote (~8-12%)*
- *UNLESS mobilized by candidate*
- *Prediction: Range of turnout same in high and low salience, mean varies*
- *Prediction: no relationship between education and turnout in low salience*

Variation across elections: ↑mobilization→↑network size







1) off-year Congress
2) Municipal election
3) Municipal primary

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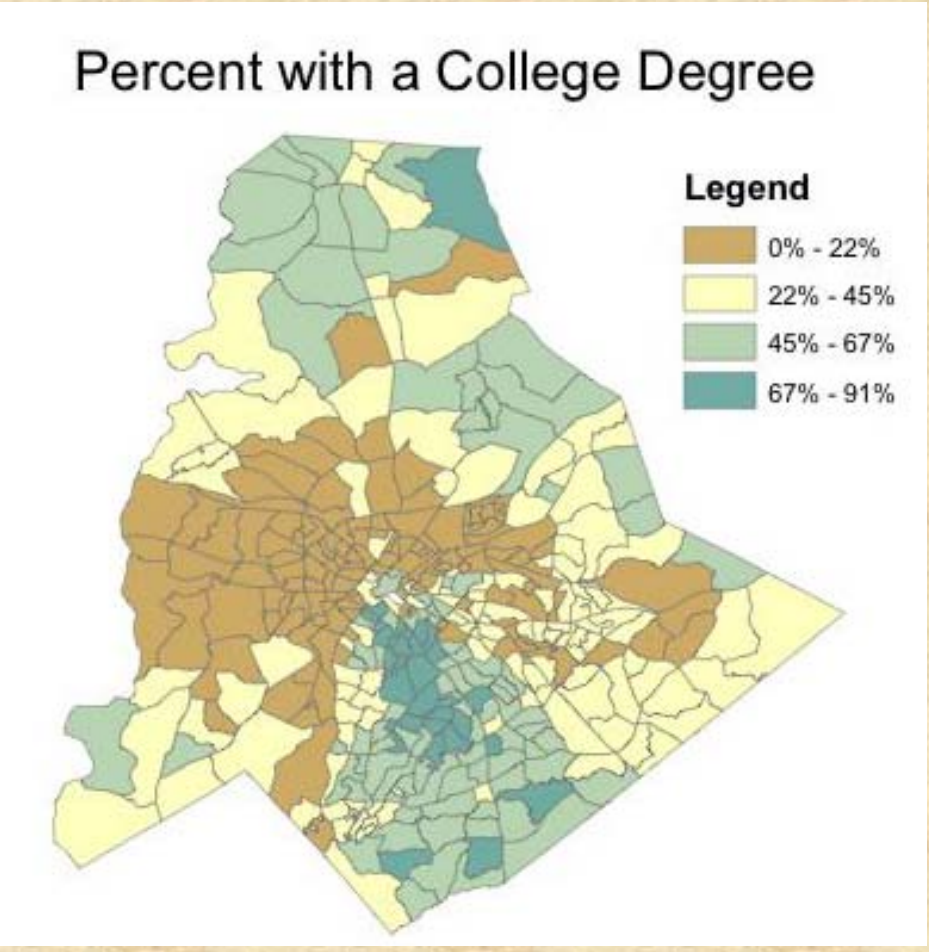
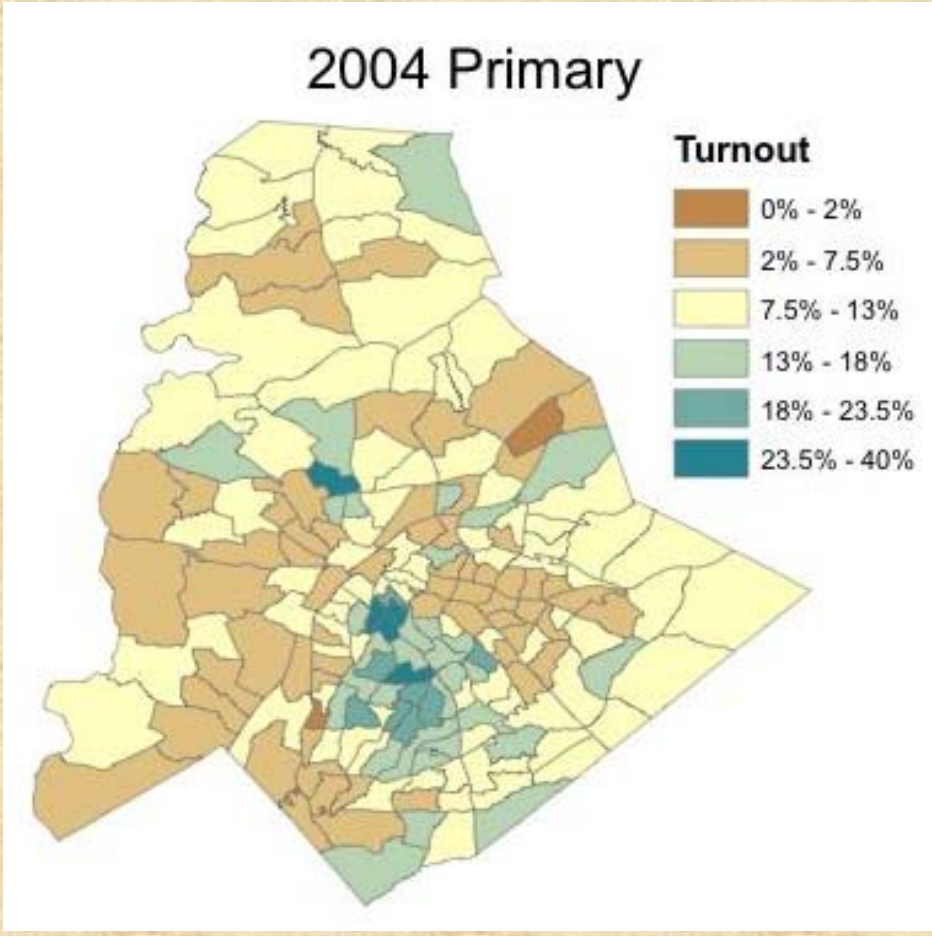
Turnout in a congressional primary





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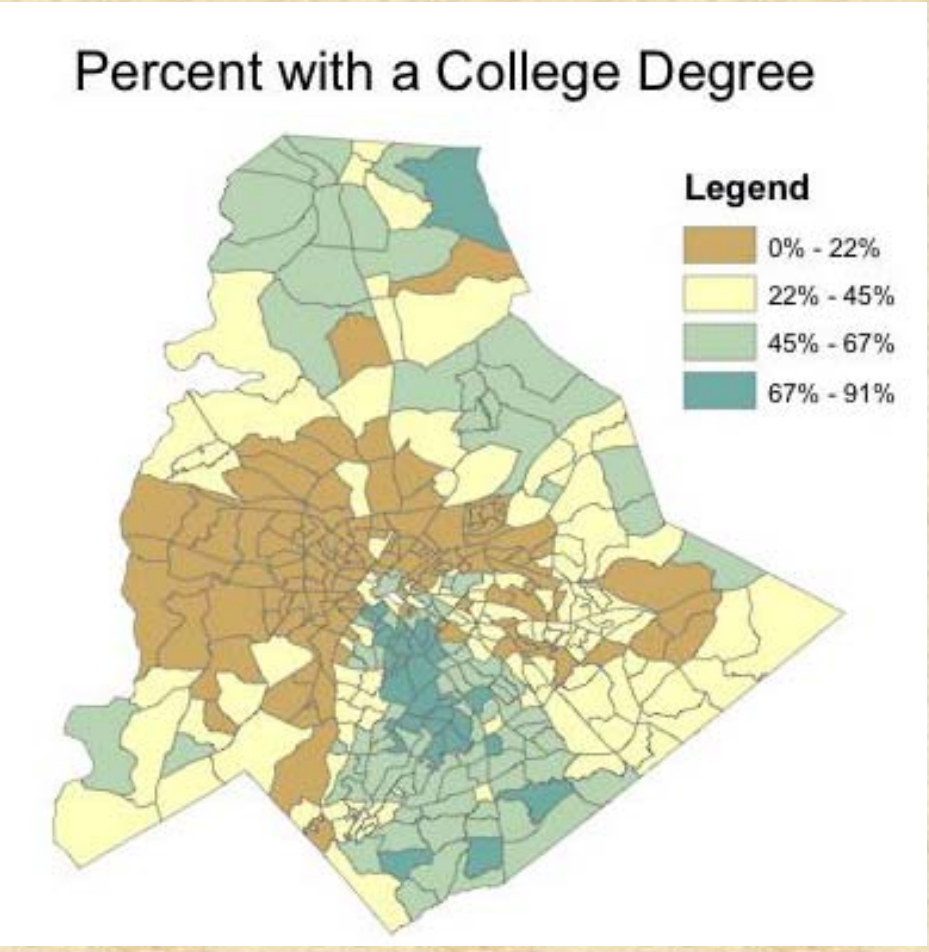
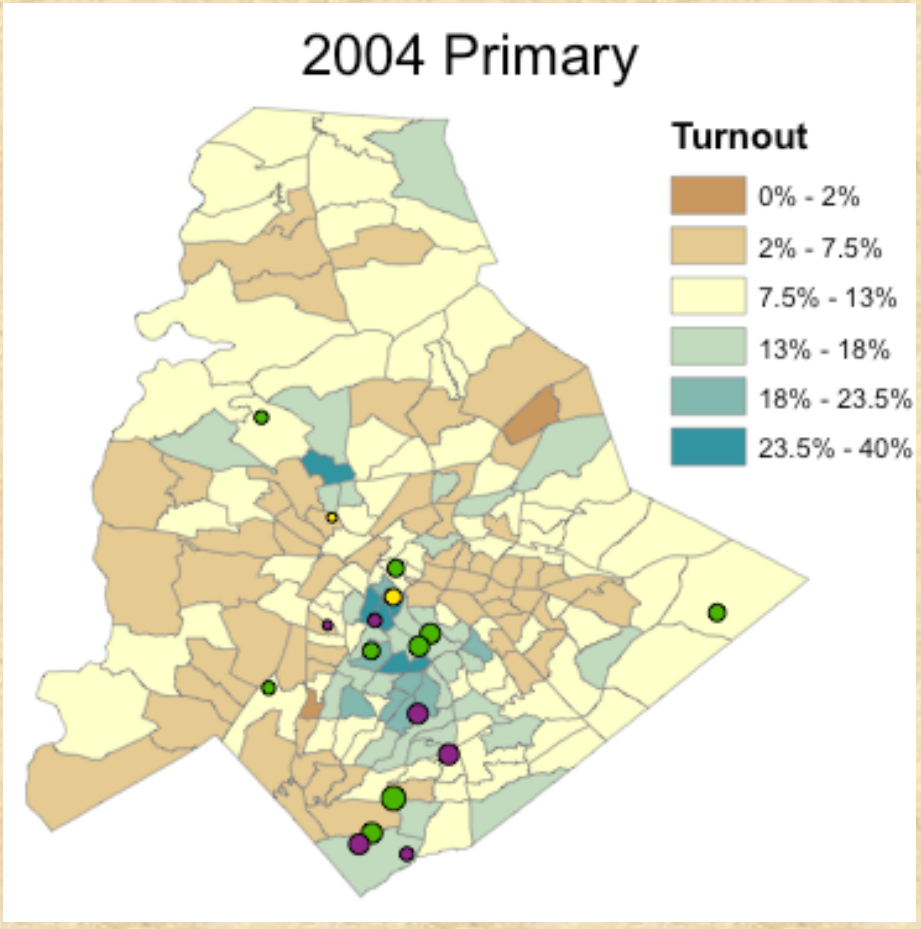
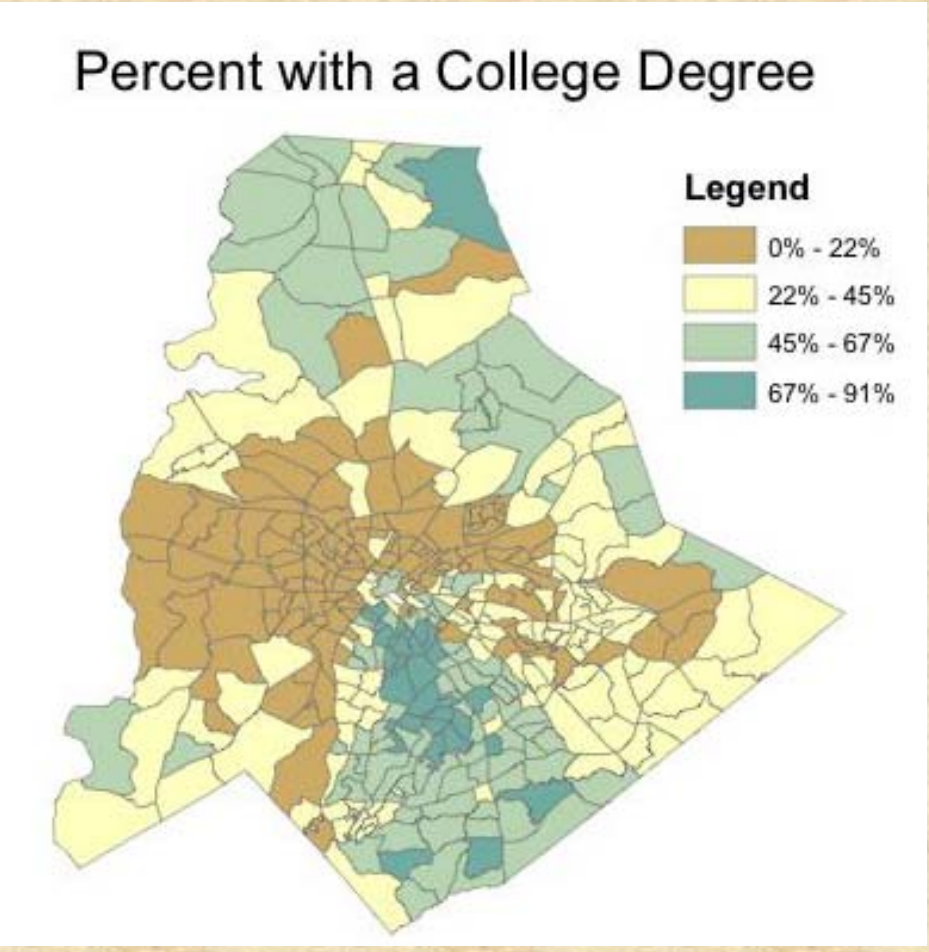
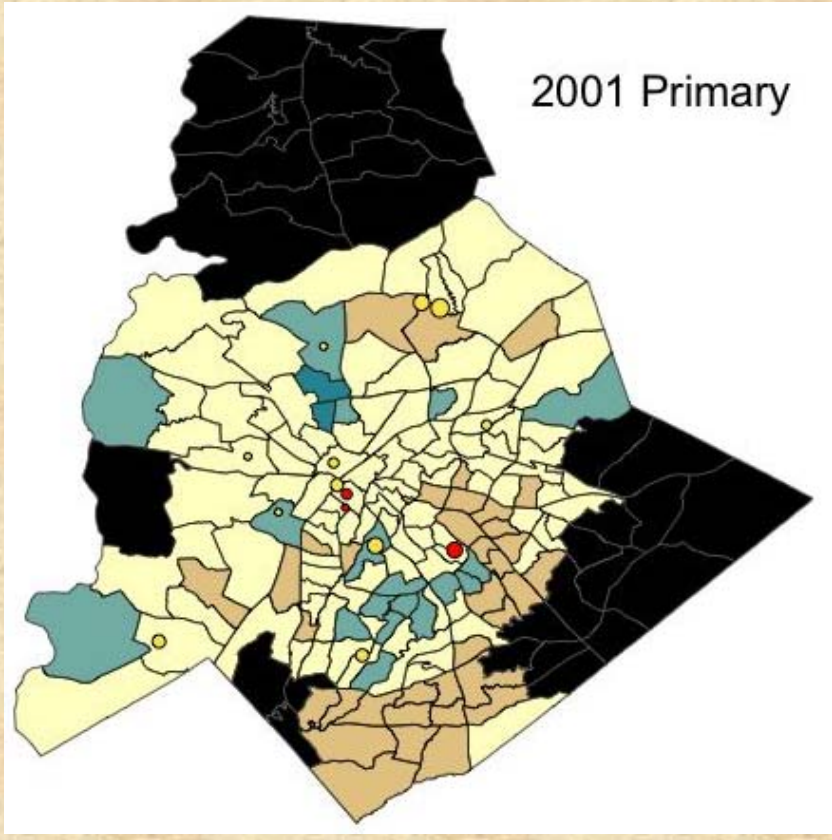




Turnout in a municipal primary





REGIME CHANGE BEGINS AT HOME.

★VOTE★