

Simulating Extraversion

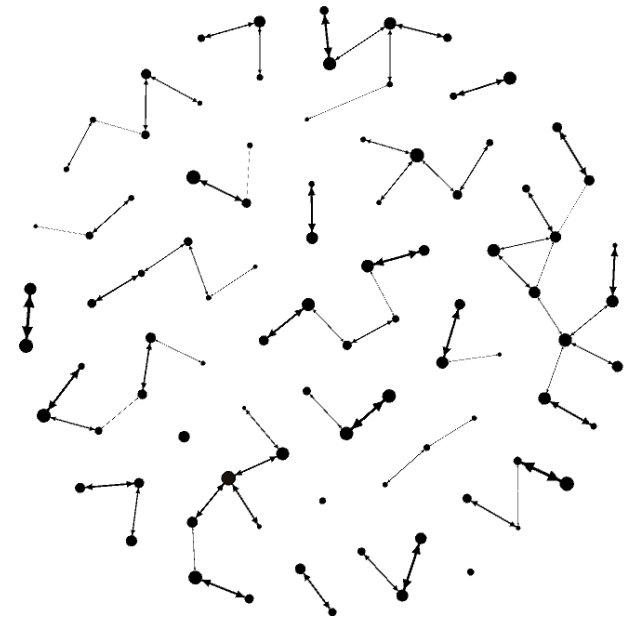
Assumptions for simulating extraversion

- Individuals each have some characteristic, called "extraversion," defined as the amount of time they'd like to spend with other people.
- All social activity is modeled as a part of a "relationship", a recurring social commitment which continues until one of the participants decides to break or strengthen their relationship.
- An individual is more likely to make a change to their relationships with others if they have high "stress," which increases when the amount of social time they're getting is too much or too little.
- We can also define for each situation who "gets along with" whom. This is based on the criticism that people don't get much out of relationships with certain people, while needing interaction from others. It also allows us to model one sided relationships and homophily.
- An individual cannot decrease a relationship slightly, they may only break it completely

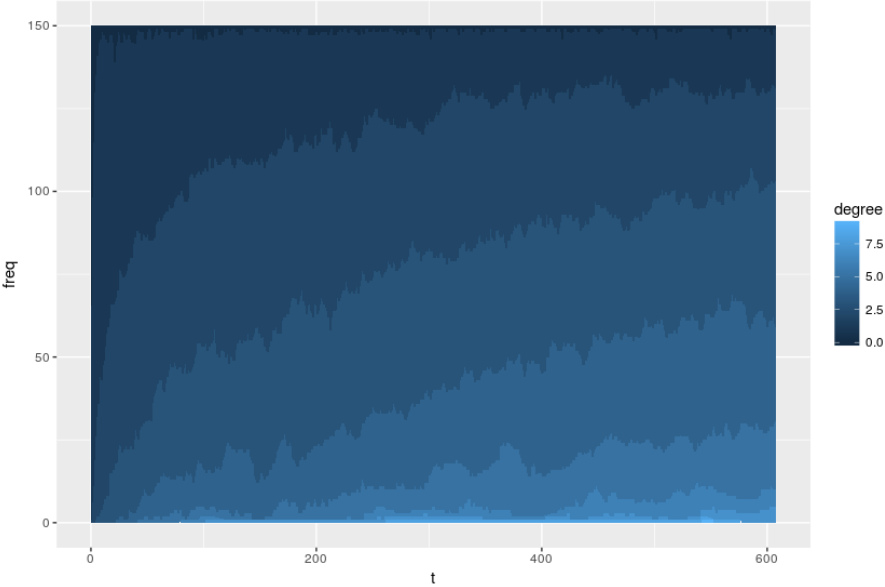
Assumptions for simulating extraversion

- Individuals are more likely to create relationships with others who are socially close to them
- Individuals are more likely to create relationships with others who also have a high amount of stress
- The model is stochastic.
- The amount of time a person waits until changing their network is exponential, with an argument increasing in decreasing stress.
- New relationships, when added, are formed between a random selection of individuals, following the assumptions stated above.

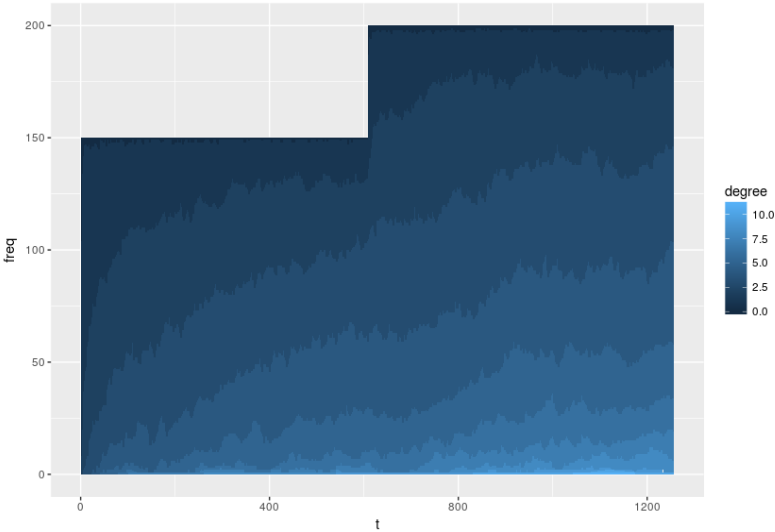
An initial observation: balance



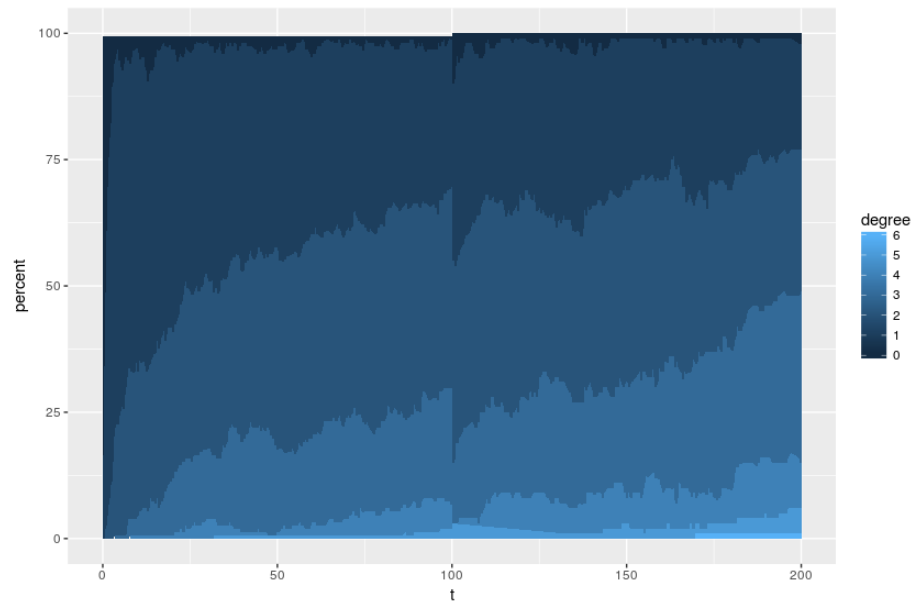
How many friends do people have? Over time



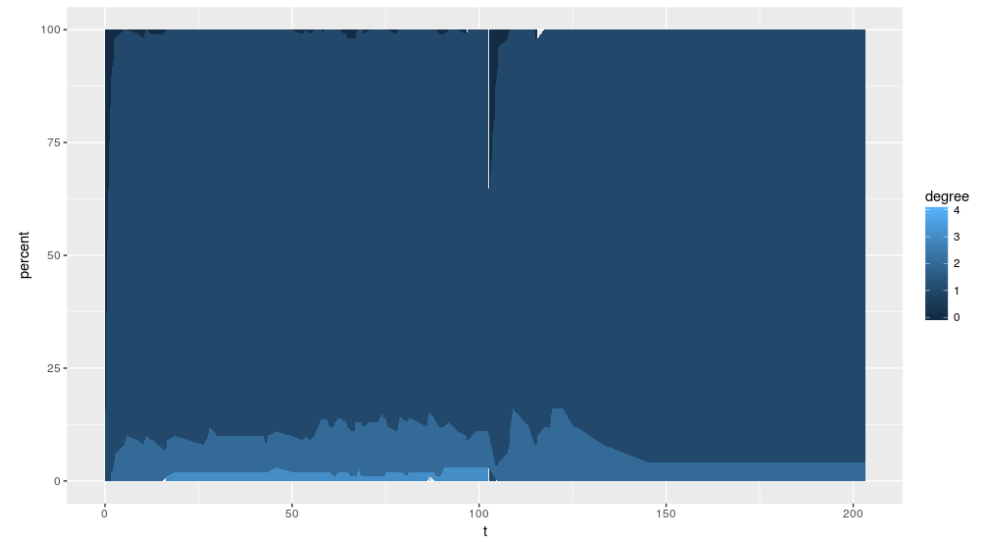
Newcomers

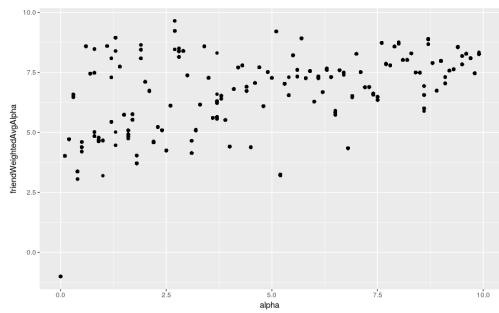


Disaster

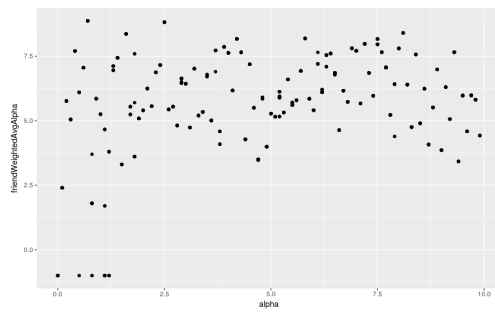


The silver lining





Extroversion Anti-Homophily

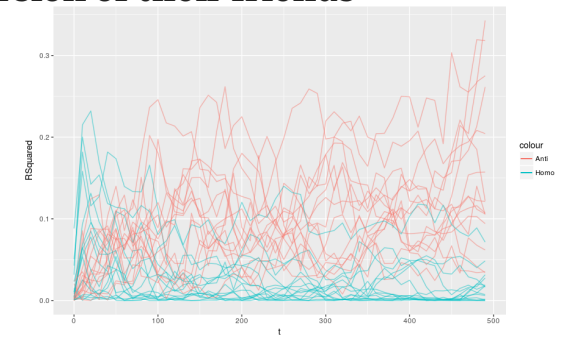


Extroversion Homophily

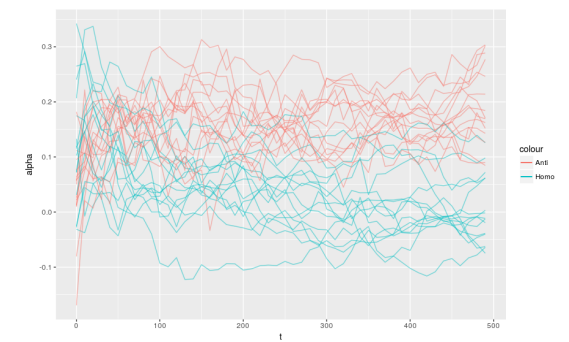
Individual-level extroversion anti-homophily appears, FALSELY, as homophilous to the lay observer

Relation between an individual's extroversion and the extroversion of their friends

R-Squared



Coef



time