PSEUDO-CODE by Diego F. Leal

www.diegoleal.info

Initial conditions/setup
Set n (network size)
Set k (no of nodes per cave)
Set number-of-caves = n/(k+1)
Set ϕ (proportion rewired)
Set number-static-traits (S) = *static attributes (randomly create 5 numbers - binary 0 or 1)*
Set number-dynamic-traits (O) = *dynamic attributes (randomly create 20 numbers - binary 0 or 1)*
Set urn = *an empty list that will contain all the selected opinions of a given agent's neighbors related to a given trait*
Calculate (expected) social distance

Calculate social distance

Agent i and *j* at time *t*:

$d_{ij,t} = \sqrt{\sum_{m \epsilon s}(s_{mi} - s_{mj})^2 + \sum_{m \epsilon o}(o_{mi,t} - o_{mj,t})^2}$

if t = 0, distance is given by the randomly distributed traits. This is the expected distance (E(d))

Calculate weight

Agent i and *j* at time *t*:

$w_{ij,t} = E(d) - d_{ij,t}$

Run the model/go:
Randomly choose an agent (asynchronous update)
- Update dij
- Update wij
- Fill the urn and select an opinion

Fill the urn and select an opinion:
If expected distances and current distances are different:
- Set probability of adoption $P_{j,t} = |w_{ij,t}| / (\sum A(I,k)=1 * |w_{ik,t}|)$, where Pj,t is probability that agent i adopt agent j's opinion; A(*i*,*k*) = 1 when agents i and k are connected and A(*i*,*k*) = 0 when agents i and k are not connected
  - If probability is large (when compared to a random number between 0 and 1) and *neighbor's* weight is negative, *randomly put either a 0 or a 1 in the urn with probability of* 10%
  - If probability is large (when compared to a random number between 0 and 1) and *neighbor's* weight is poisitve, *put the neighbor's opinion in the urn*
    - Randomly select an opinion from the urn
    - Go to the next neighbor
      - Repeat process until all urns/dynamic traits of the focal agent are compared

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Original Article: Why Do Liberals Drink Lattes?
Daniel Dellaposta, Yongren Shi and Michael Macy
American Journal of Sociology (2015) 120: 1473-1511