



NATIONAL RESEARCH
UNIVERSITY

Network Science Project 1

Kostyakova Nadezhda

Network Summary

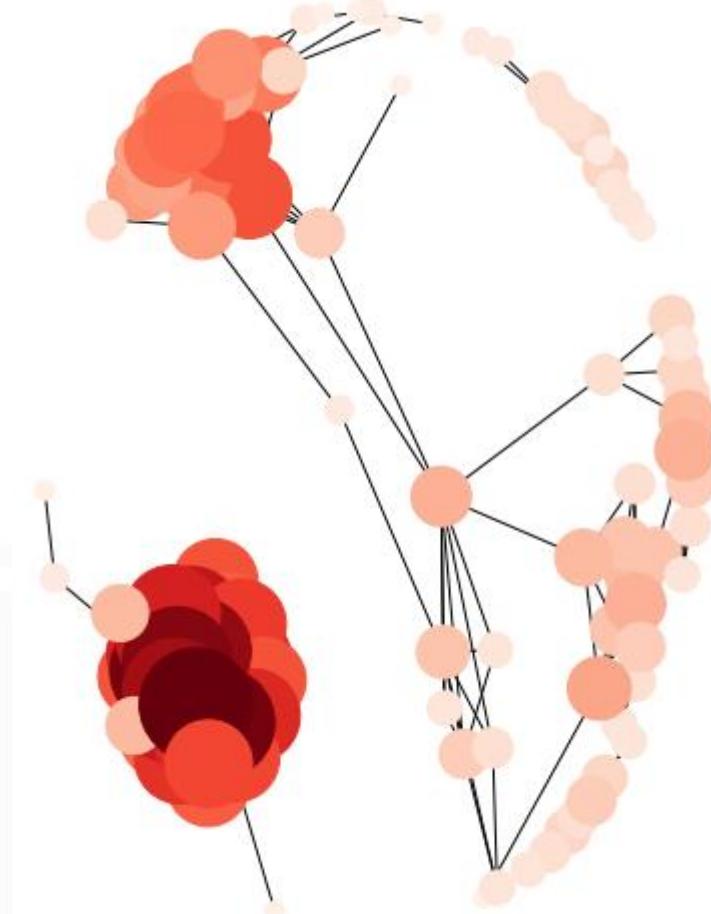
Source:
vk.com

Node attributes:

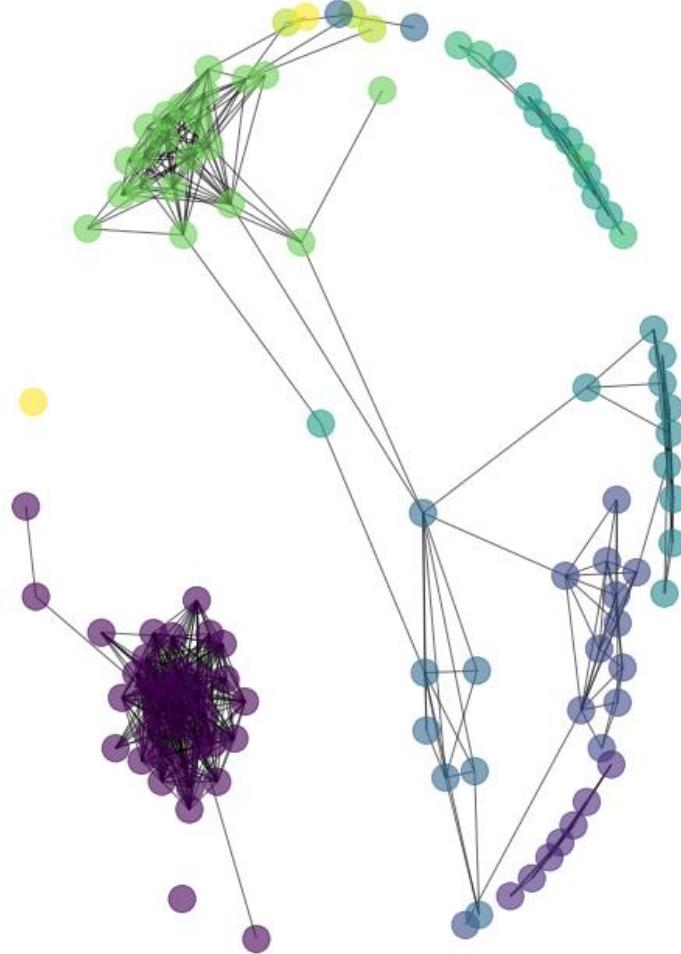
- Name (Last Name and First Name)
- City
- Sex

Number of nodes:
114

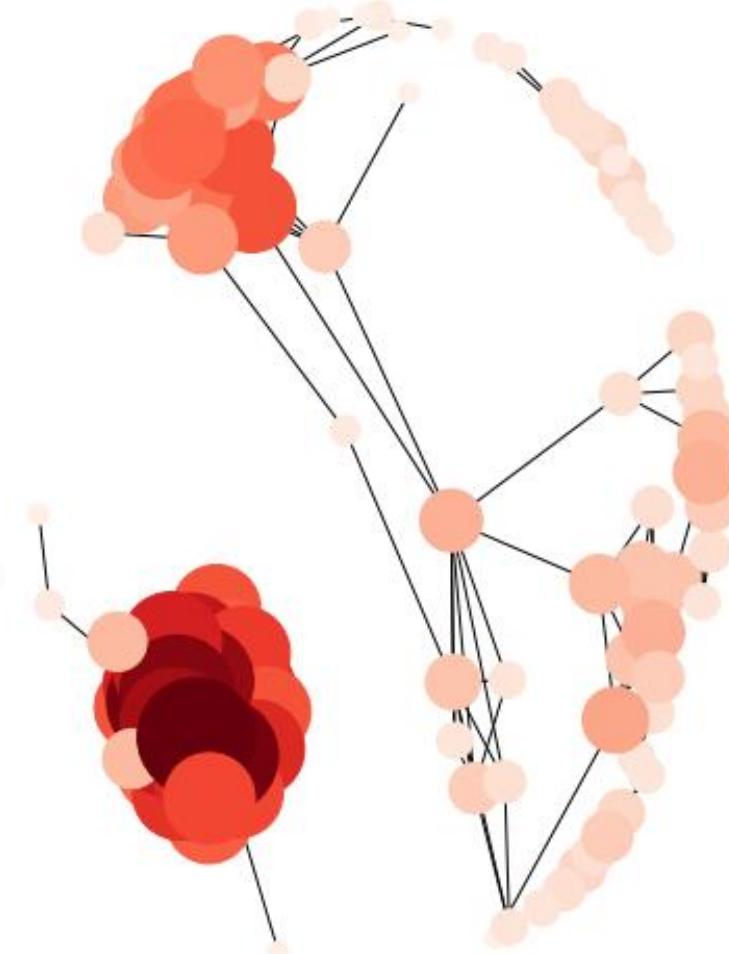
Number of edges:
621



Network Summary

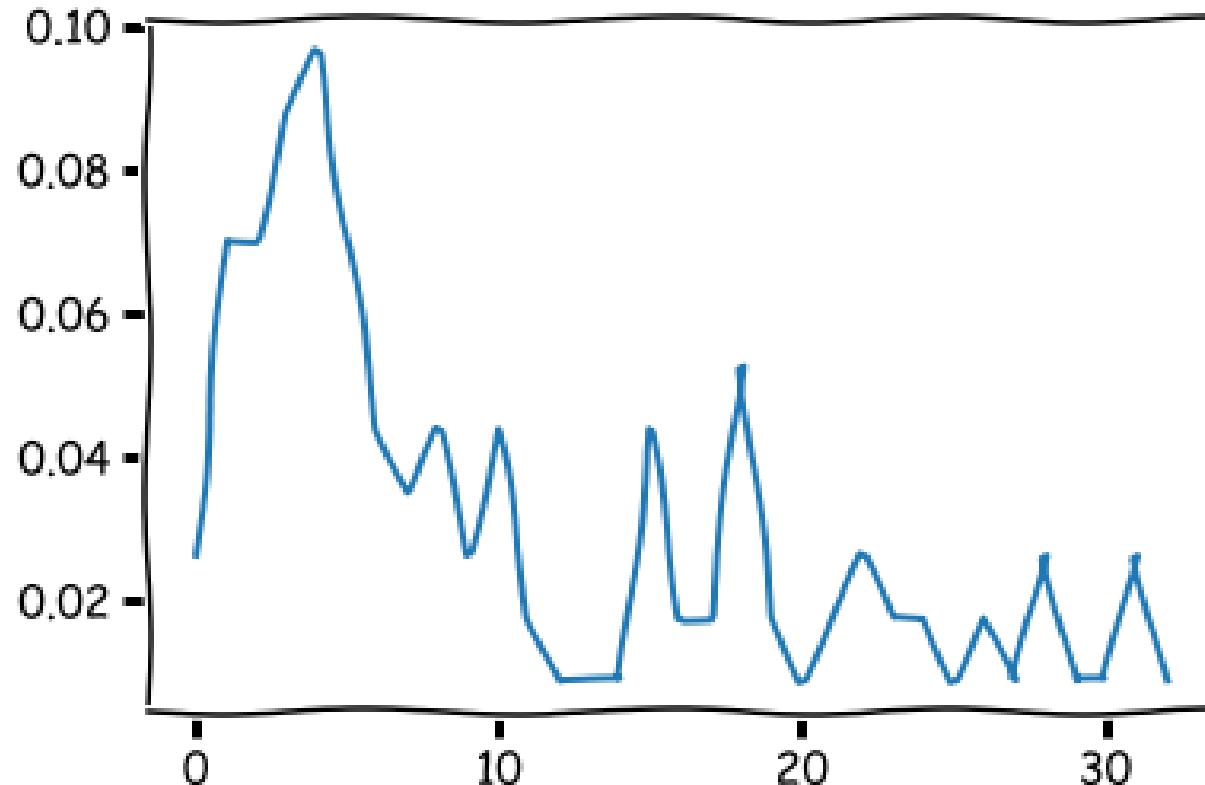


Communities



Graph layout

Network Properties

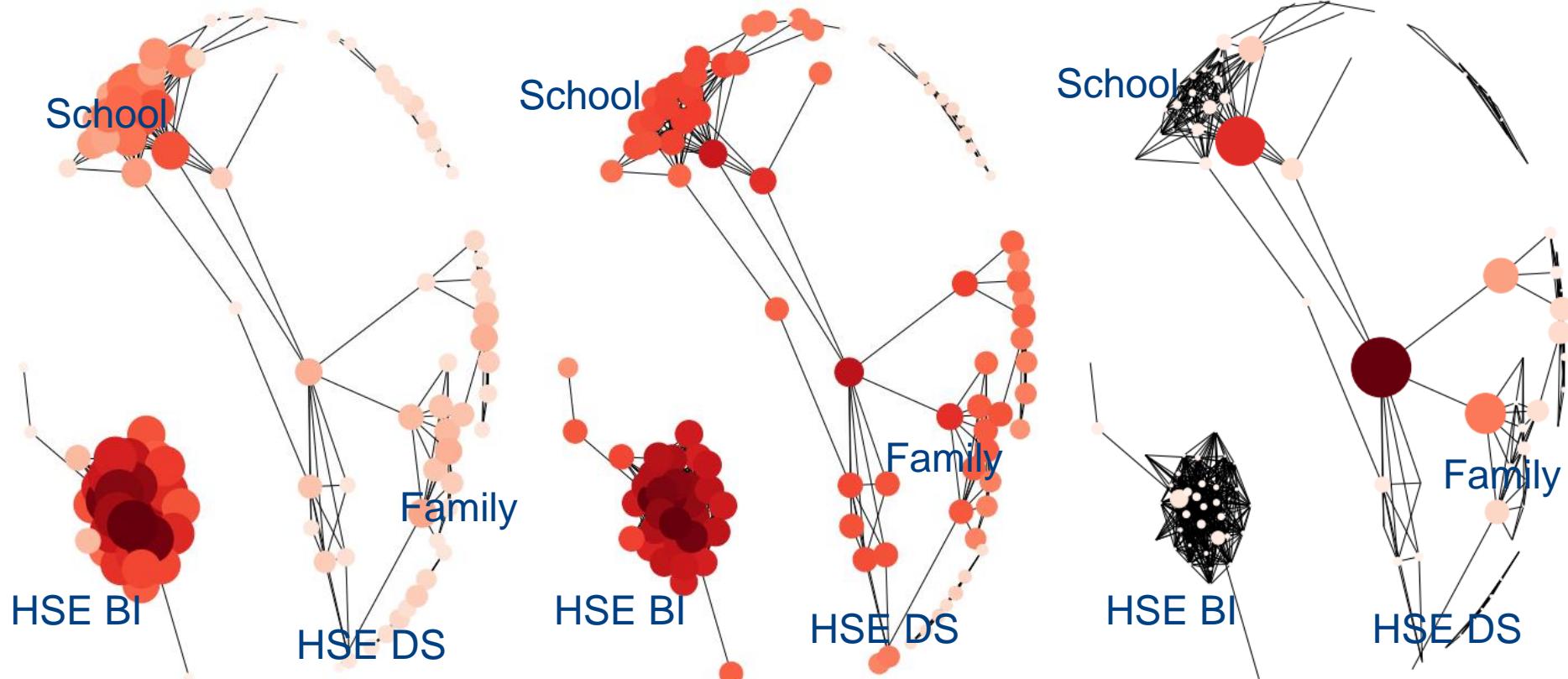


Degree distribution:
It is not quite close to power-law

Diameter:
7

Clustering Coefficient:
0.69

Centrality Measures

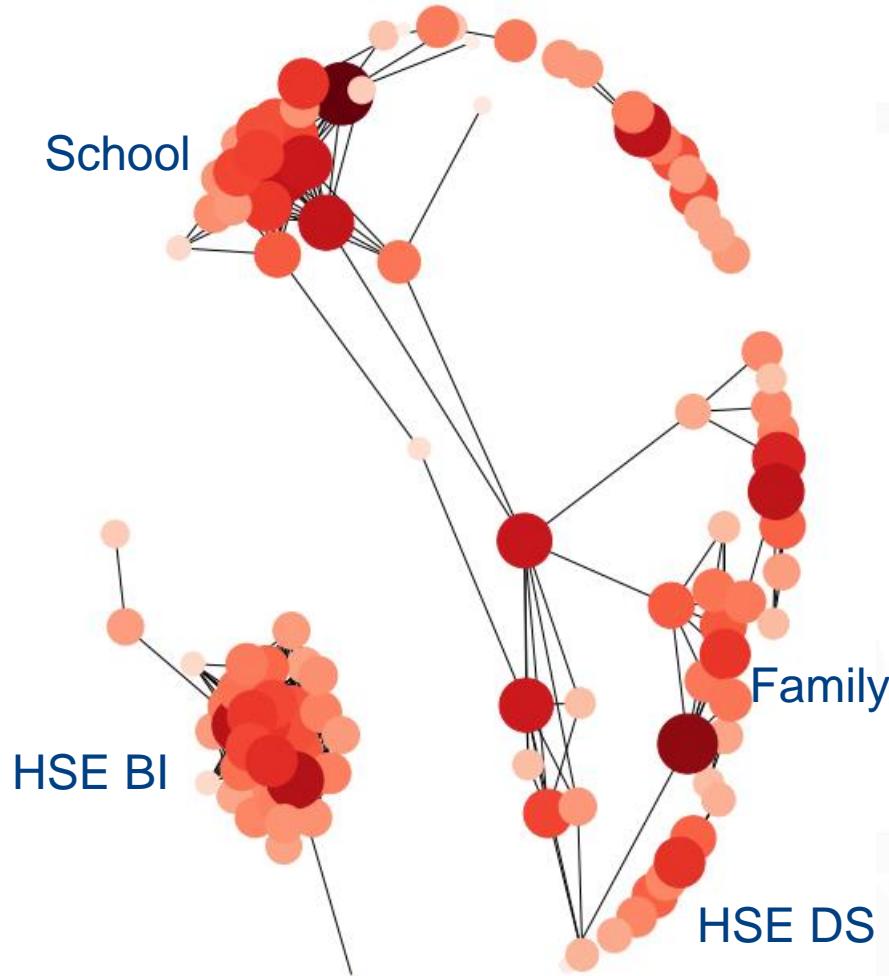


Degree centrality

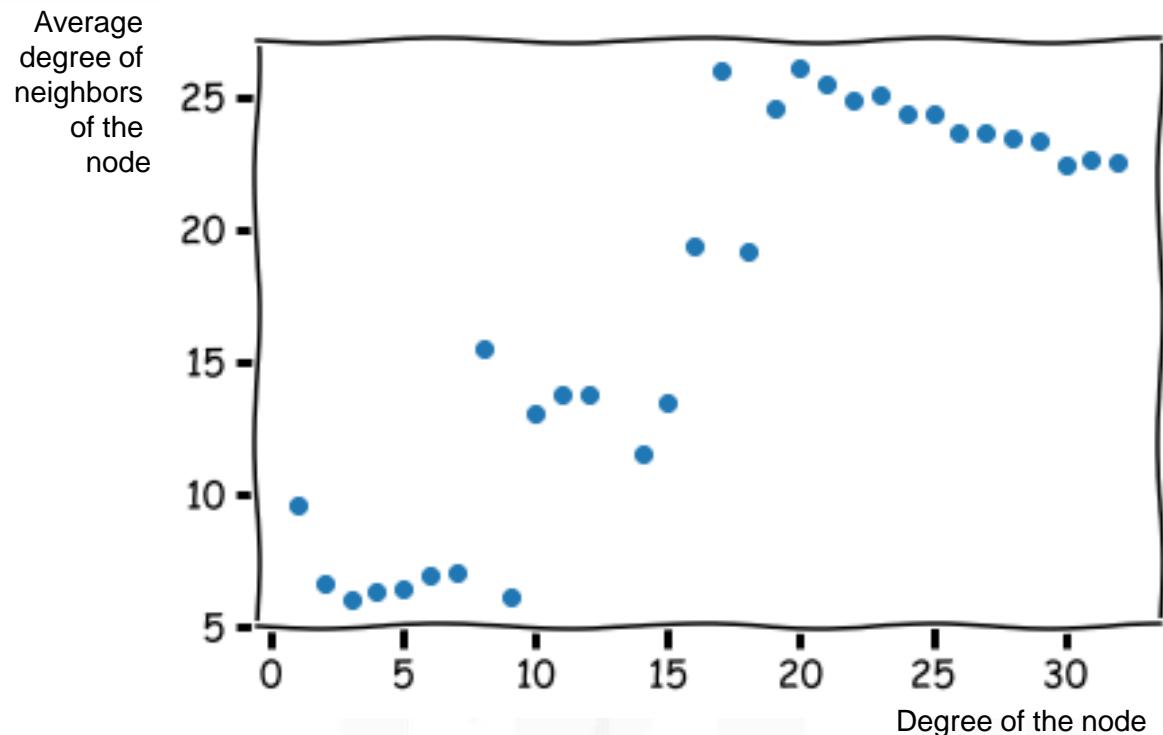
**Closeness
centrality**

**Betweenness
centrality**

Page Rank



Assortative Mixing



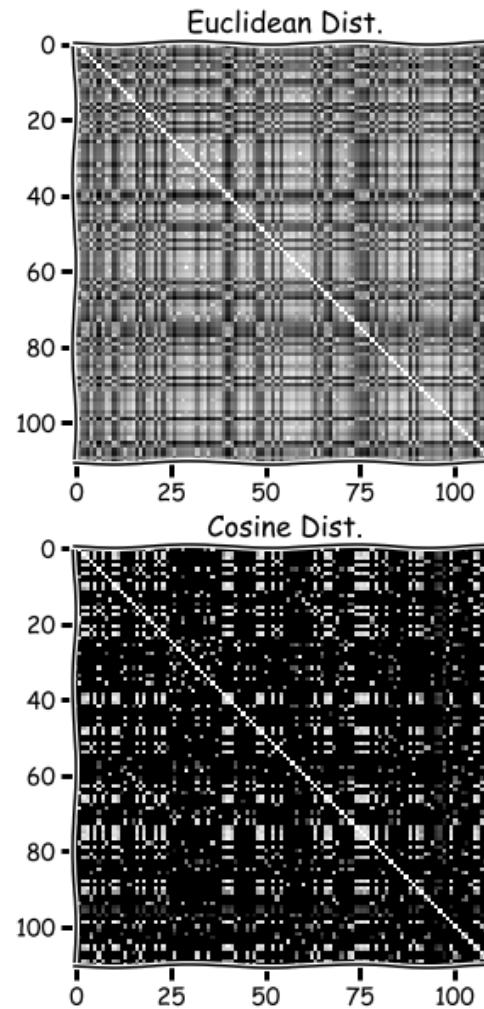
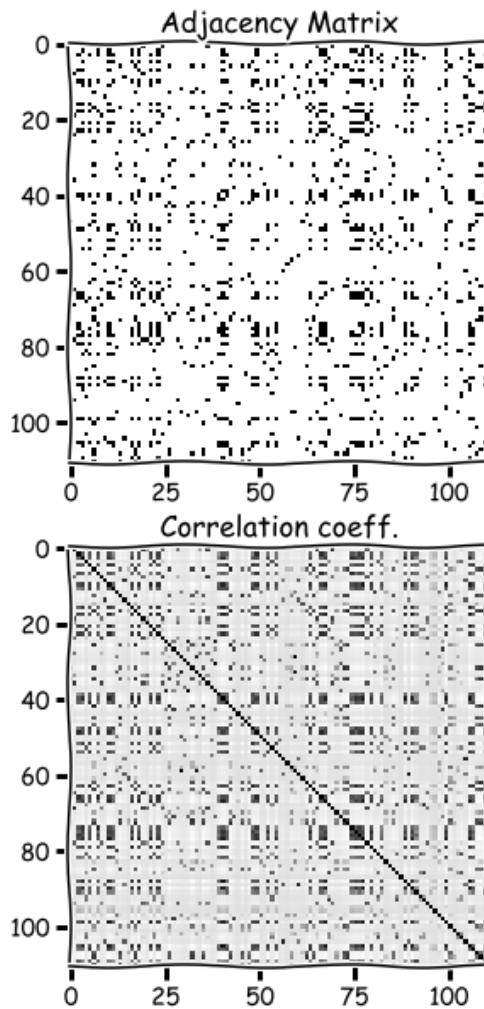
Degree assortativity coefficient:

0.664

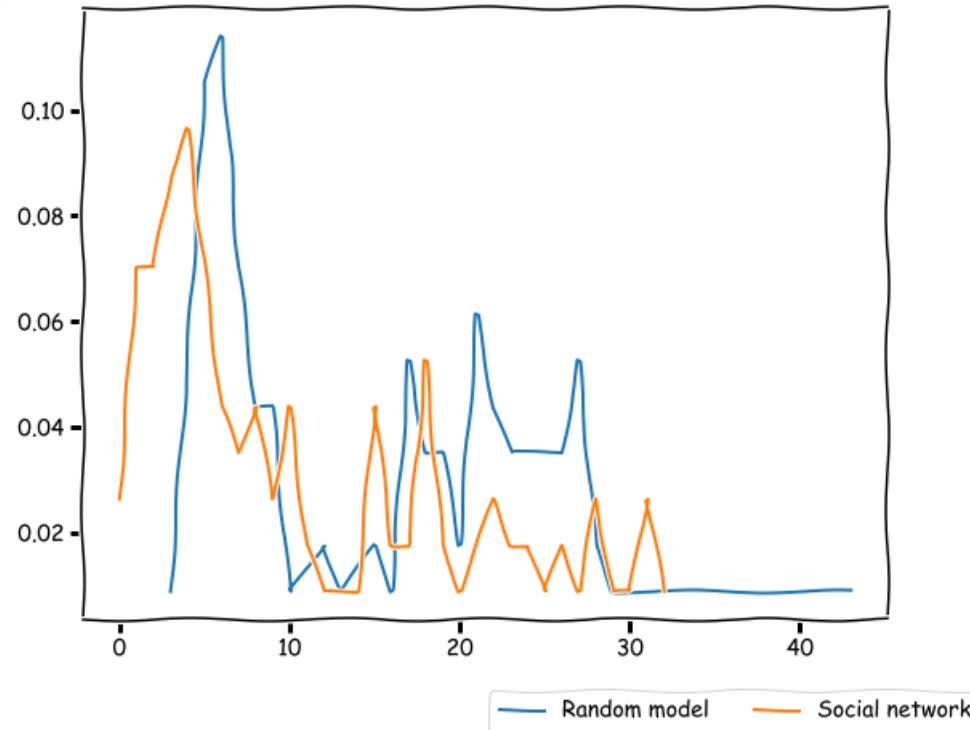
Attribute assortativity coefficient :

- City: 0.144
- Sex: 0.091

Node Structural Similarity

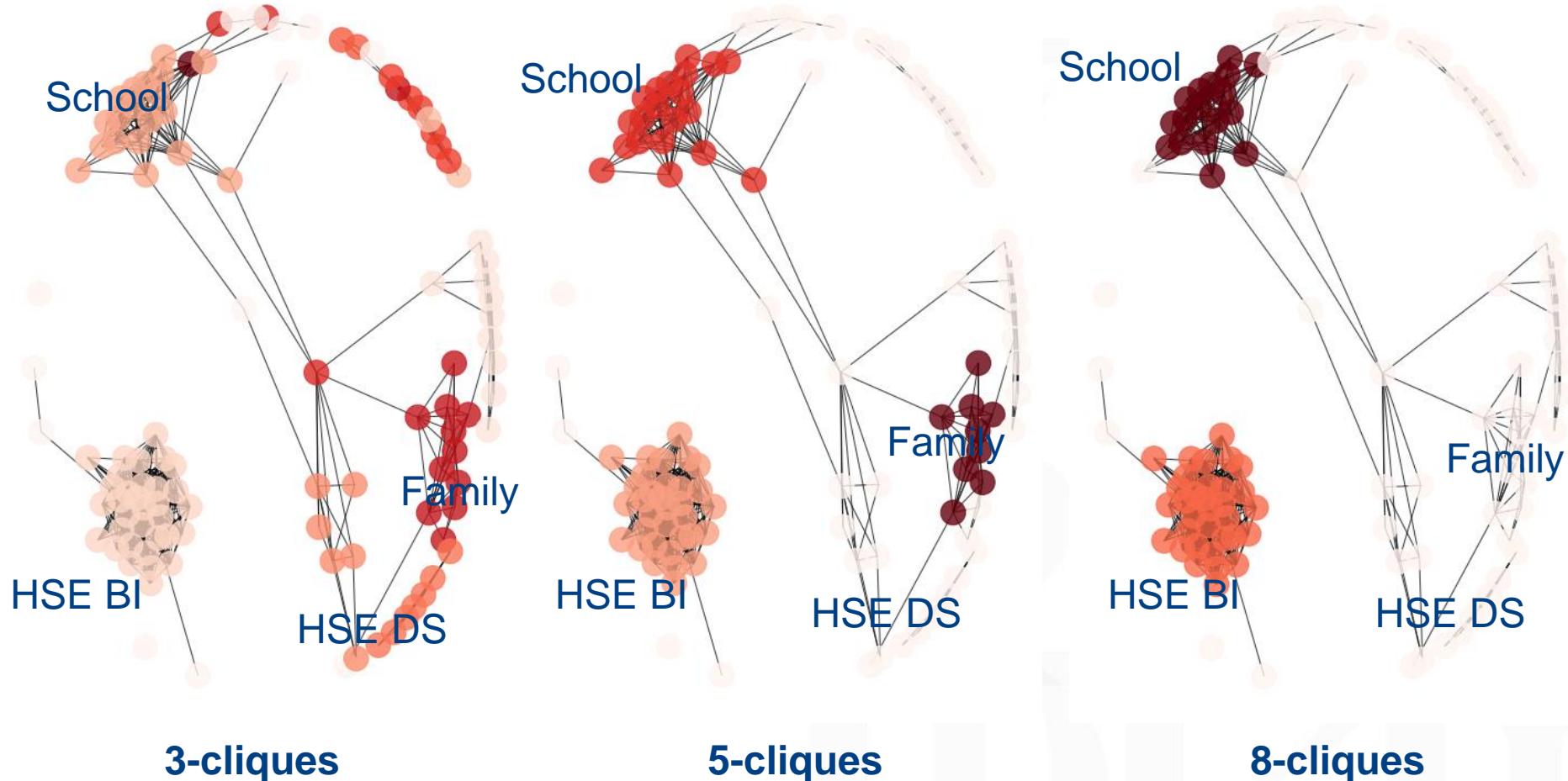


Random Graph Model



	Degree distribution	Diameter	Clustering coefficient
Network of friends	It is not quite close to power-law	7	0.66
Random model	It is not quite close to power-law	4	0.33

Clique Search

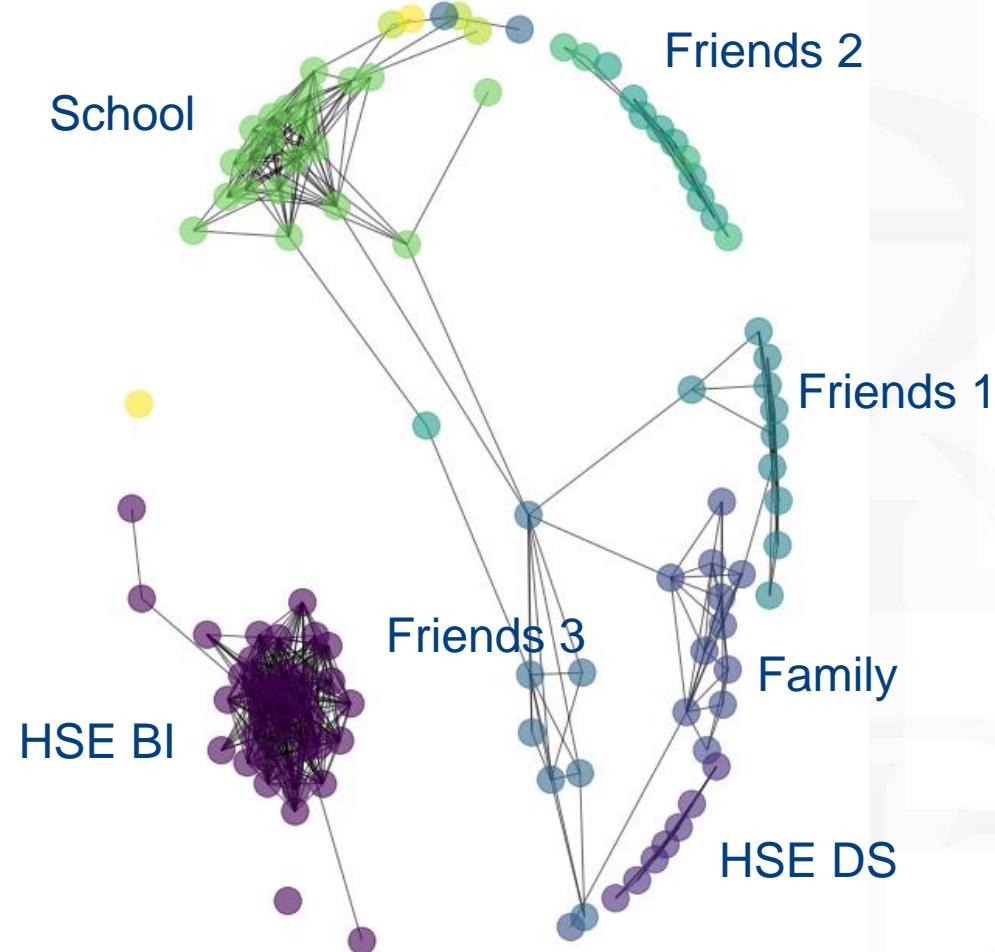


3-cliques

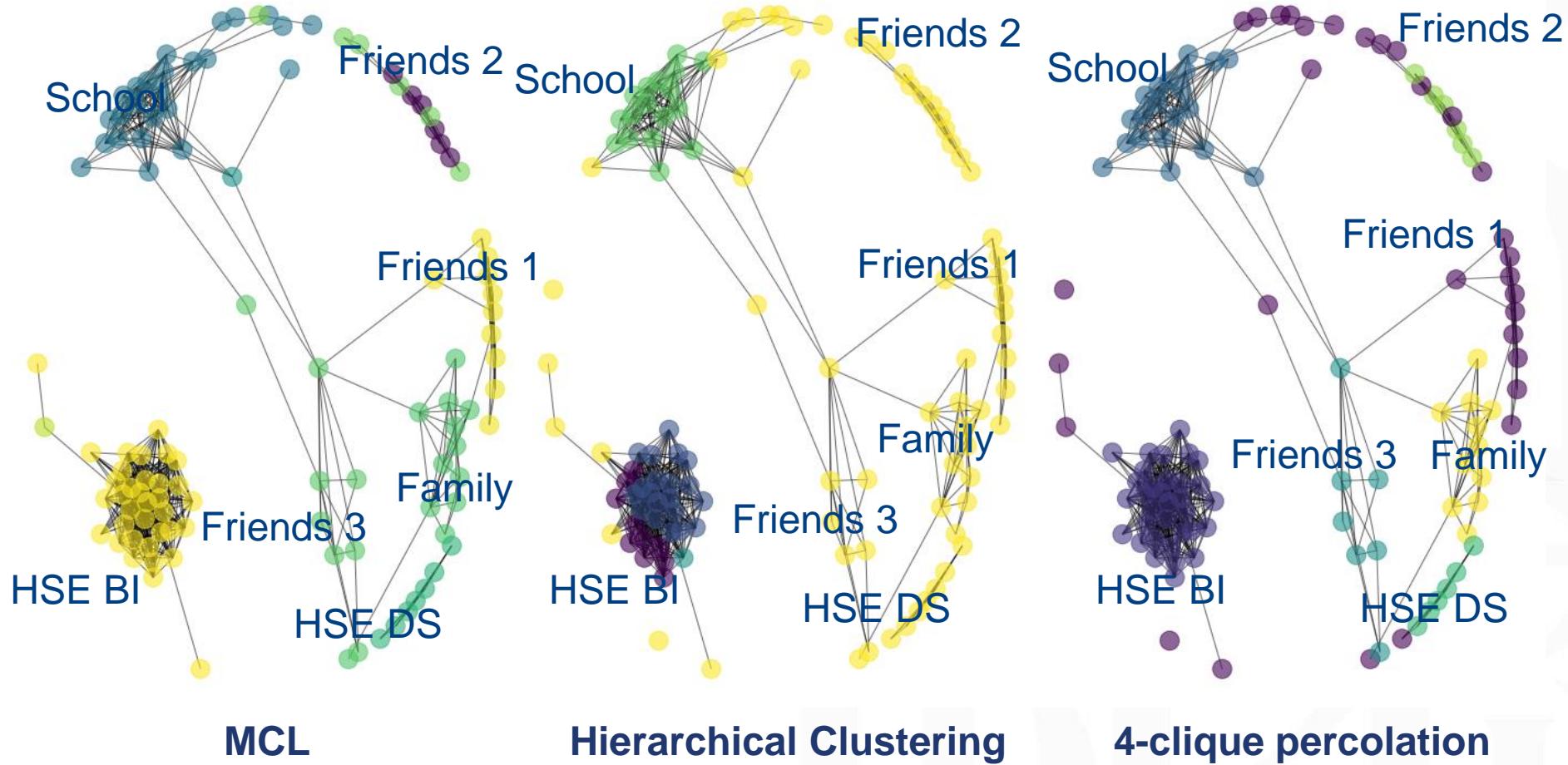
5-cliques

8-cliques

Communities



Community Detection





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Thank you
for your attention!