

Participatory Platforms & Social Network Analysis

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MOTIVATION

As part of my final project for Data Visualization class, that is about Barcelona's design schools, it would be helpful for me to see how the design community is and how the schools are embeded in this network of institutions.

QUESTION

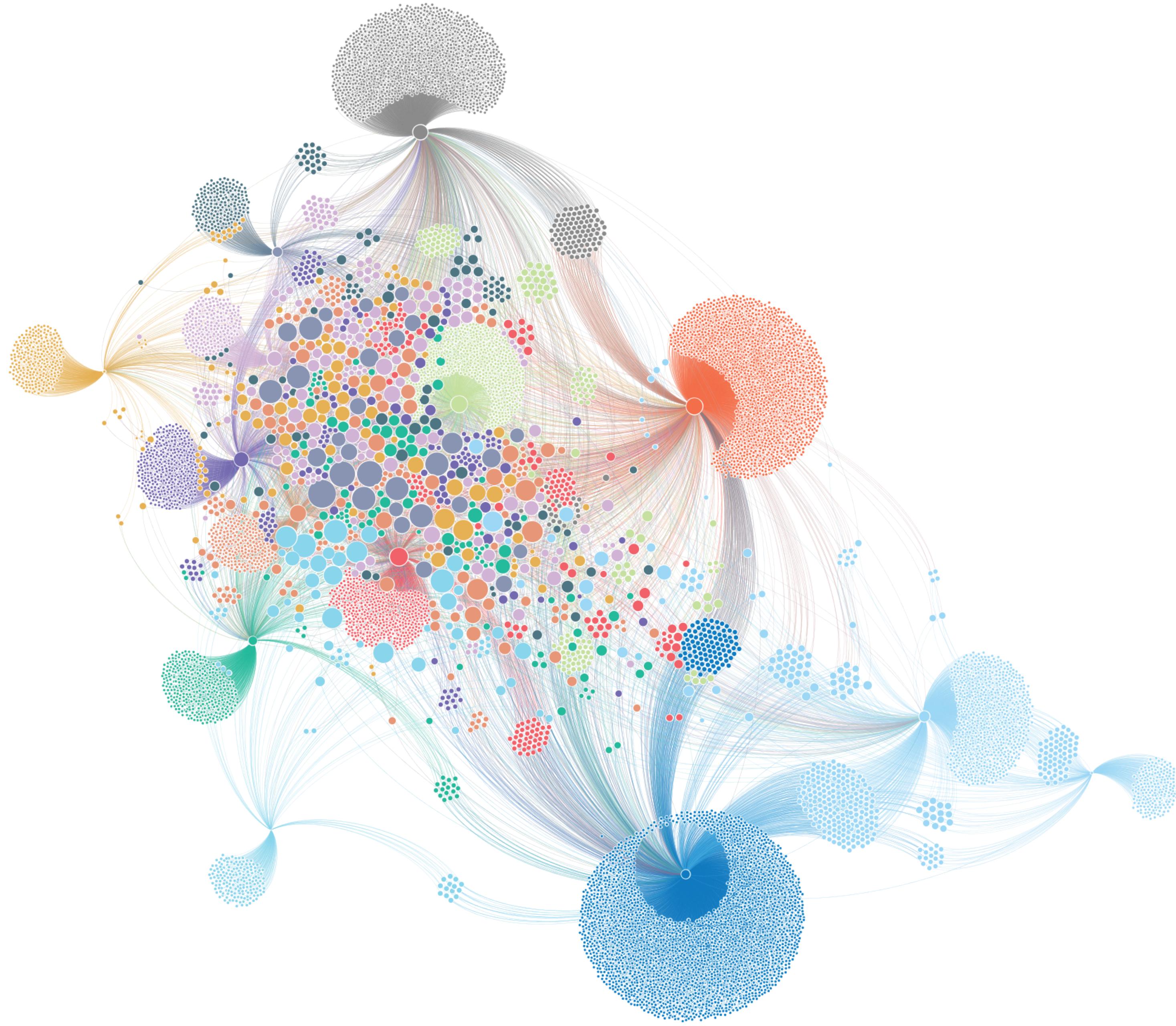
Who are the most important actors in the design field
and how the schools participate with these institutions
and with each other?

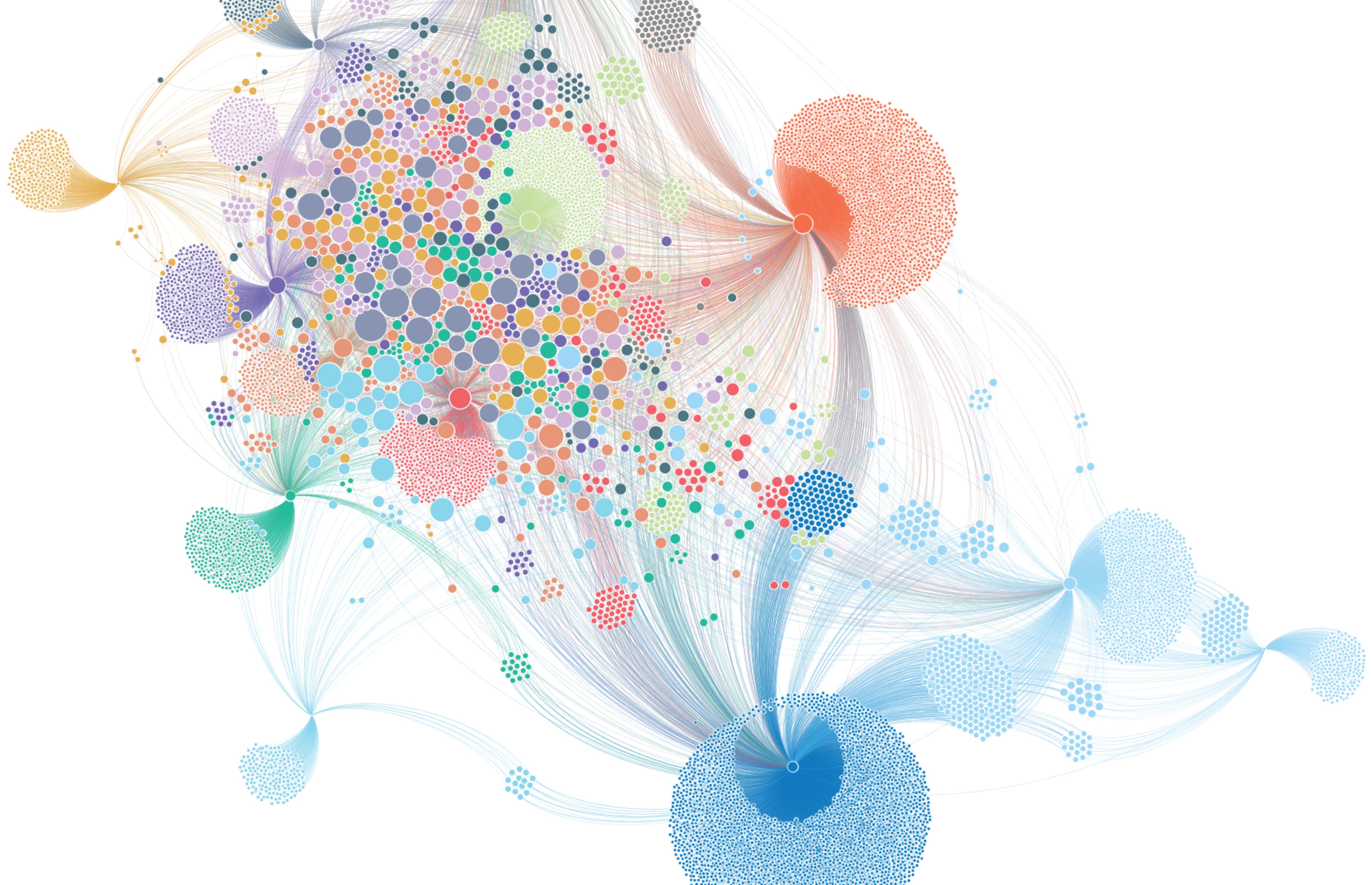
DATASET

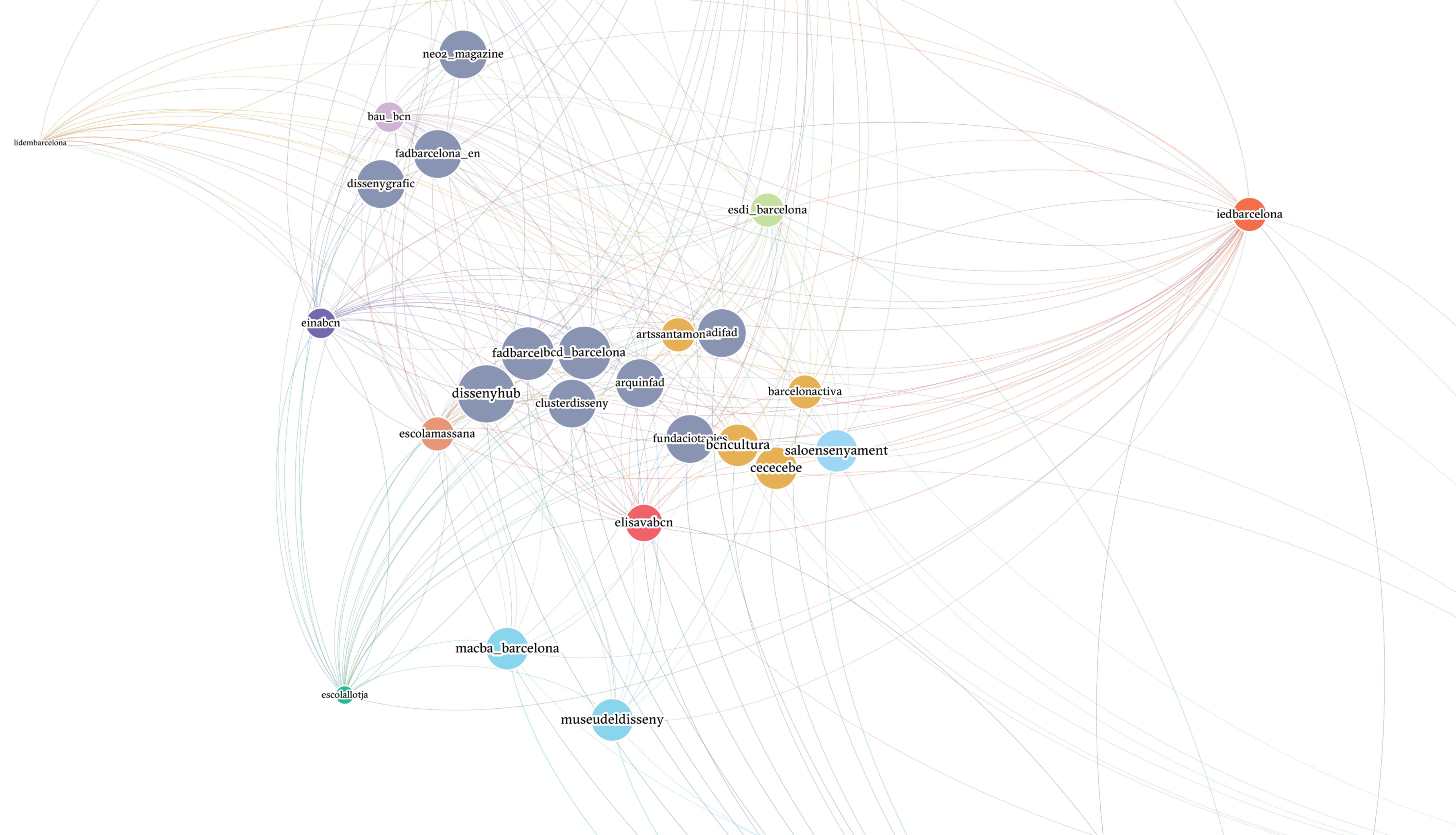
I search for the **Twitter accounts** of each school that offer a Graphic Design Degree, and with that, we take list of Twitter accounts that each school follow.

Schools	Accounts that schools follow
iedbarcelona	iguzzini
iedbarcelona	circuitcat_cat
iedbarcelona	coopr_interamb
iedbarcelona	sentitsbcn
iedbarcelona	reimaginestextil
iedbarcelona	martinlorenz
iedbarcelona	victoriau_u
iedbarcelona	paloaltobcn
iedbarcelona	designvlc
iedbarcelona	rectorups

Results





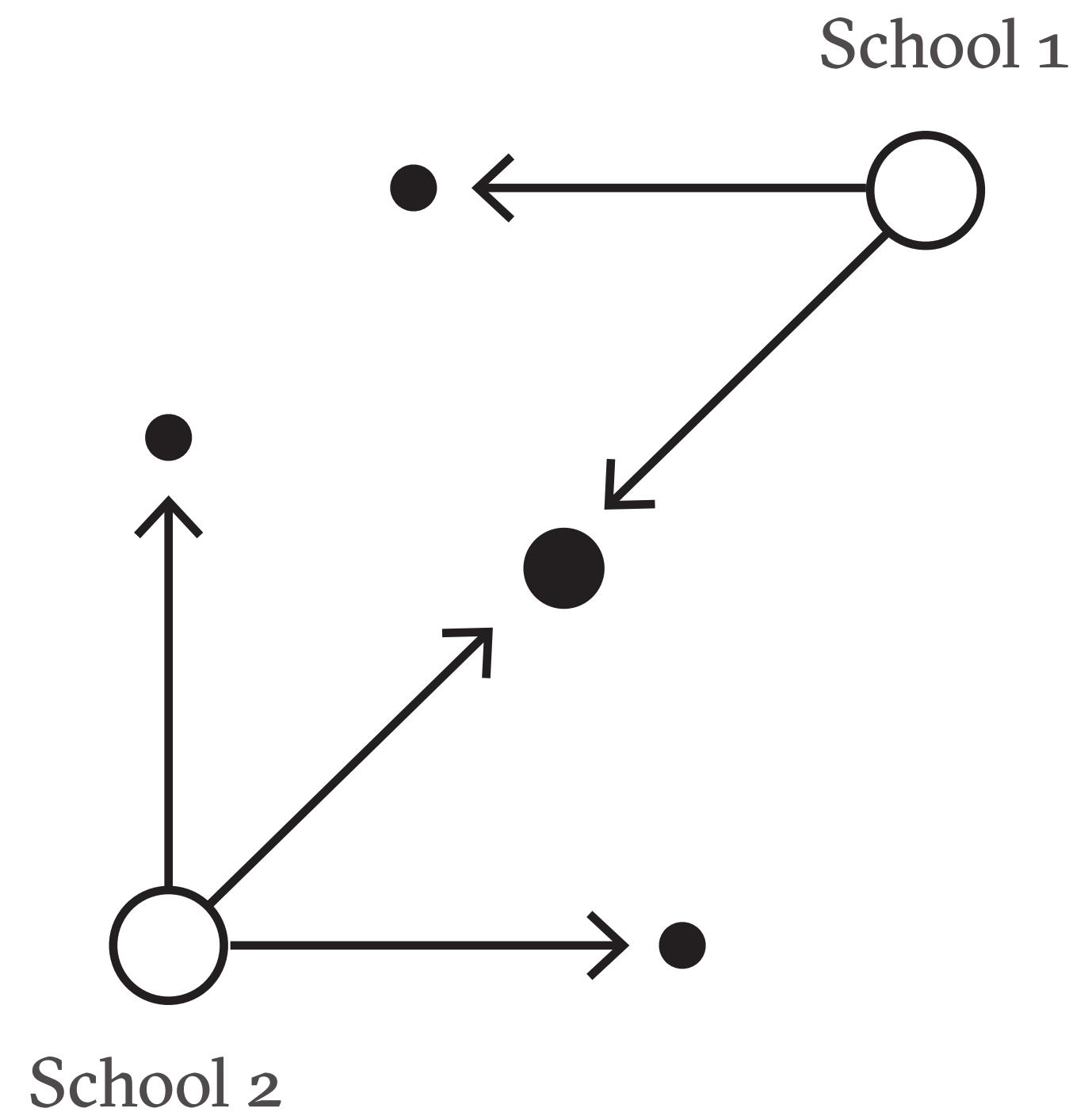


TYPE OF NETWORK

This is a **directed network**, the school nodes are related to other nodes (the schools follow the other accounts) but the nodes are not directed to the schools.

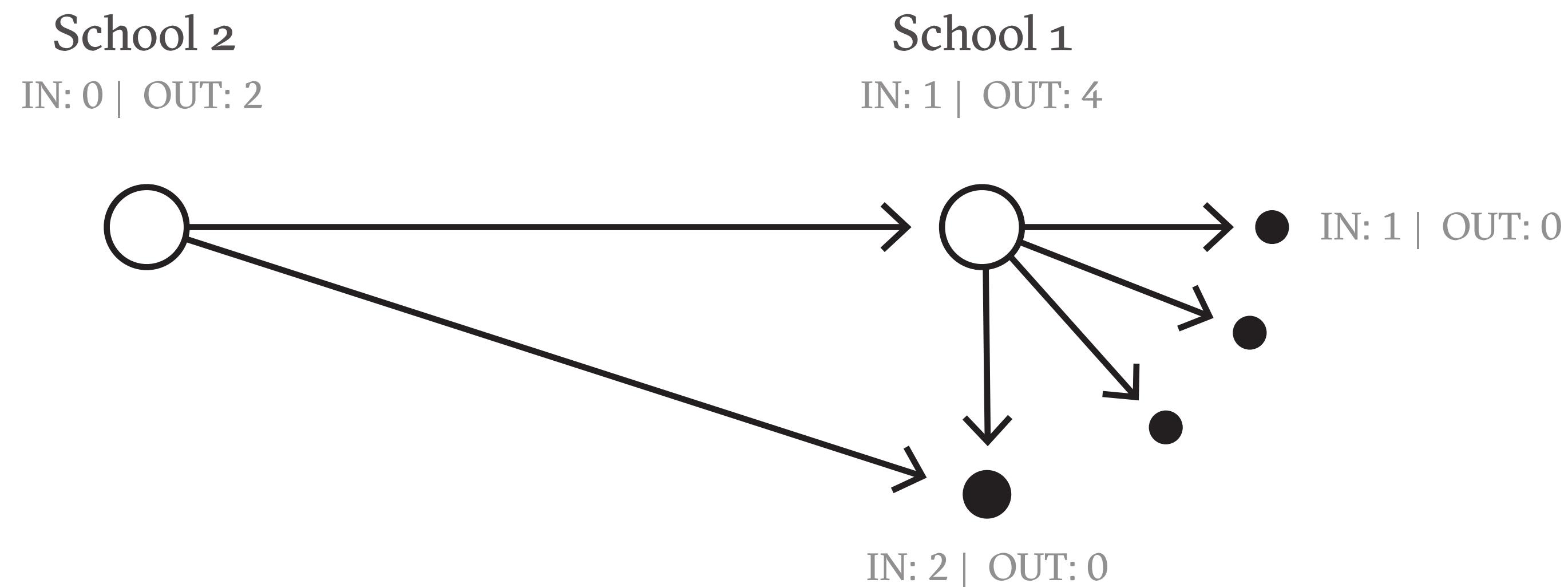
The edges are not weighted or signed since there are not attribute to assign to the edges.

The result is not a multigraph since the type of edges (relationships) is always the same (Twitter followers).



CENTRALITY MEASURES

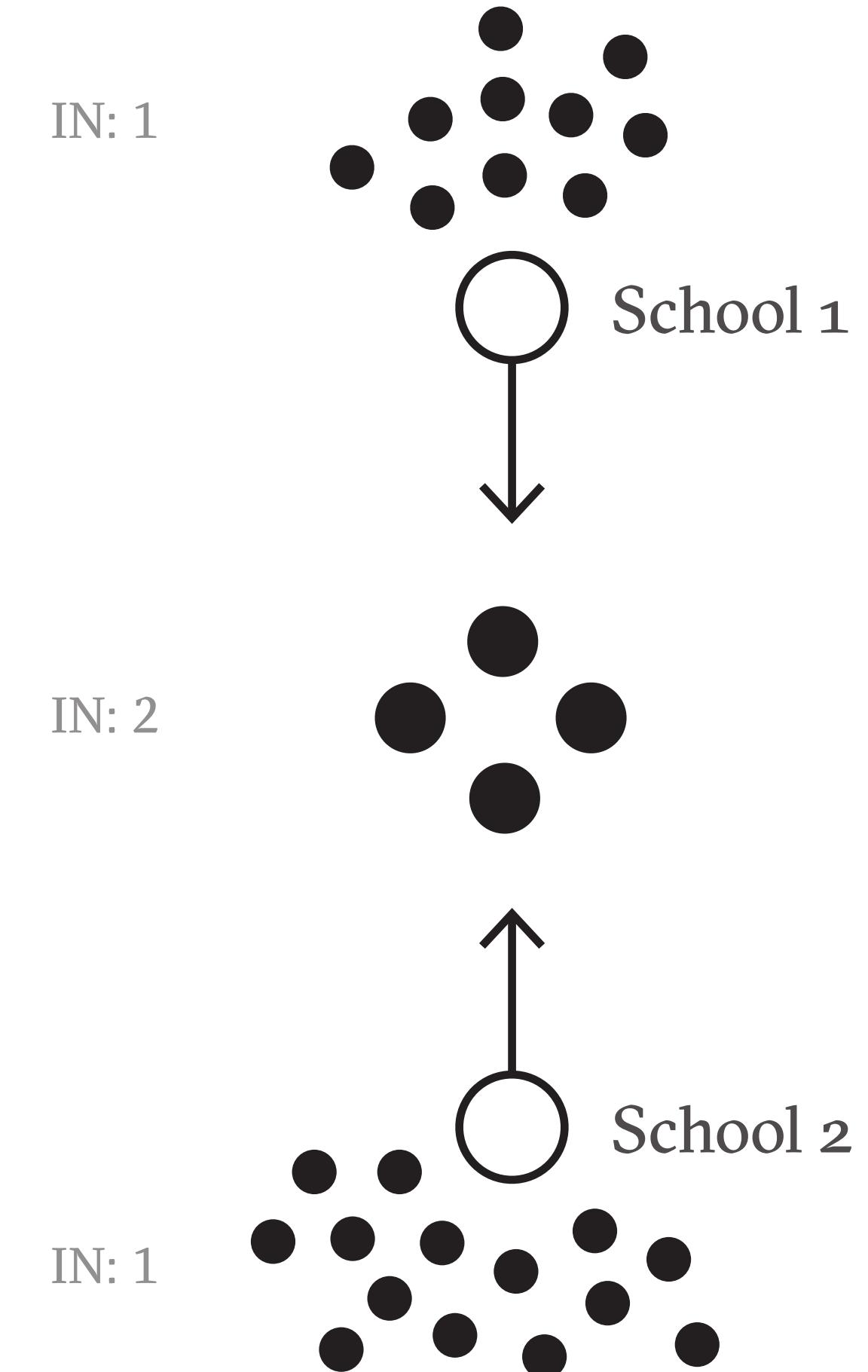
In this case, the only nodes with in-degree and out-degree are the School nodes, therefore we can't analyze the centrality of the other nodes.

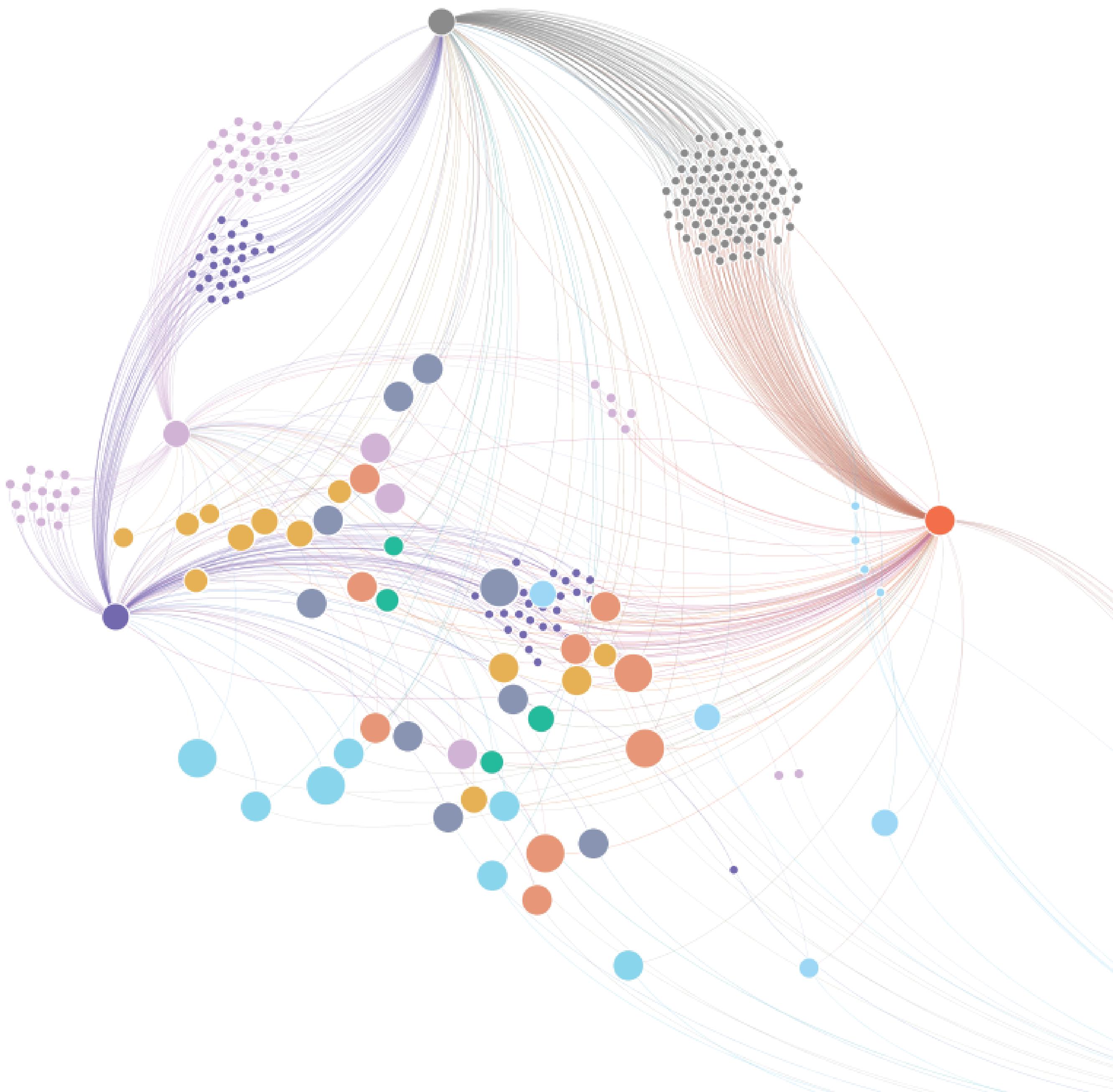
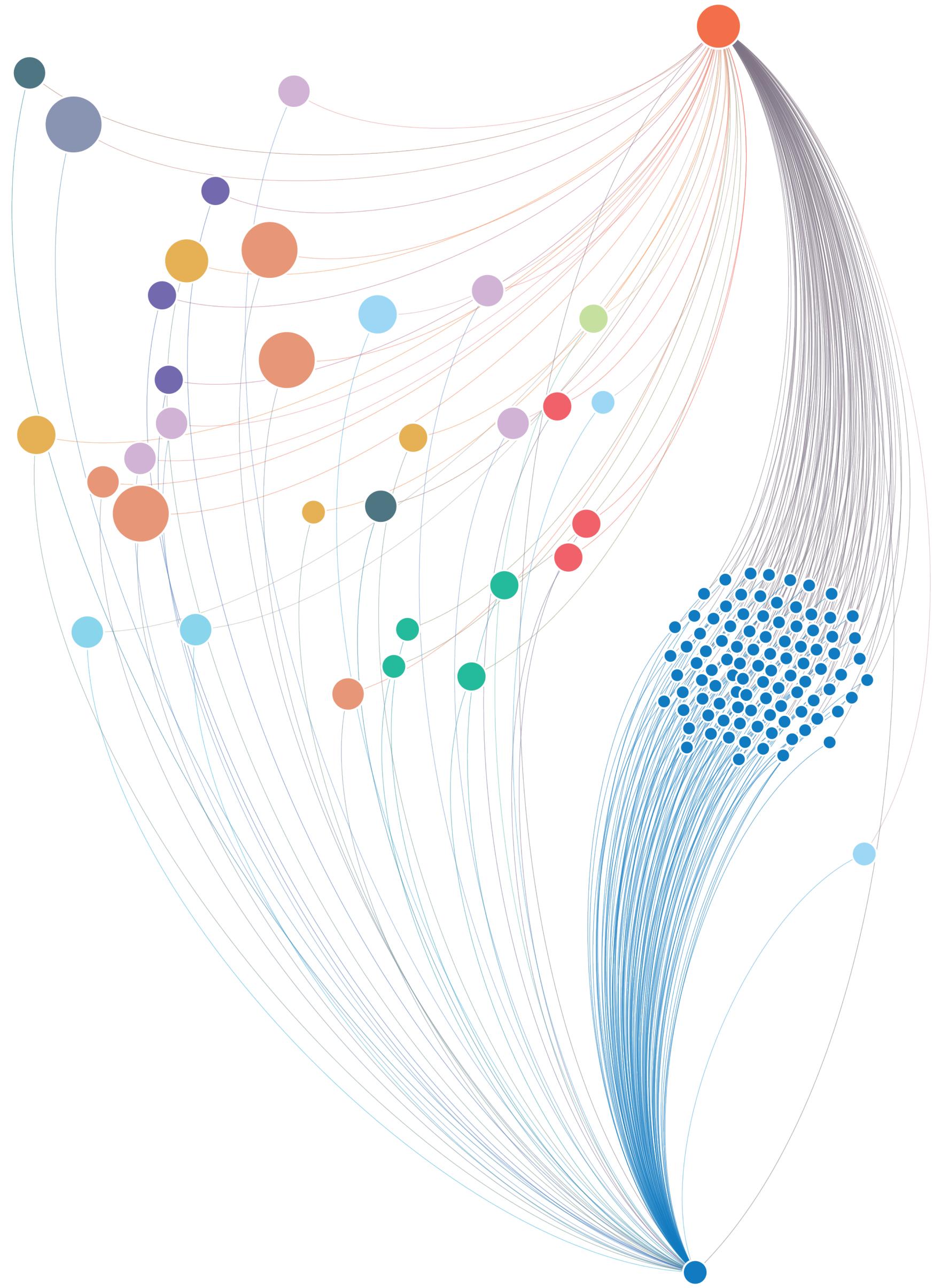


COMMUNITY DETECTION

The school's nodes have high out-degrees values but low or null in-degrees, and the other nodes have no out-degree (since there are no further relationships) and an in-degree value that shows us how many schools are connected to that node.

For each school you can see very clear communities of node with only 1 in-degree, meaning that those nodes are only followed by 1 school. Also you could see how some nodes are between 2 or more schools creating a cluster by itself.

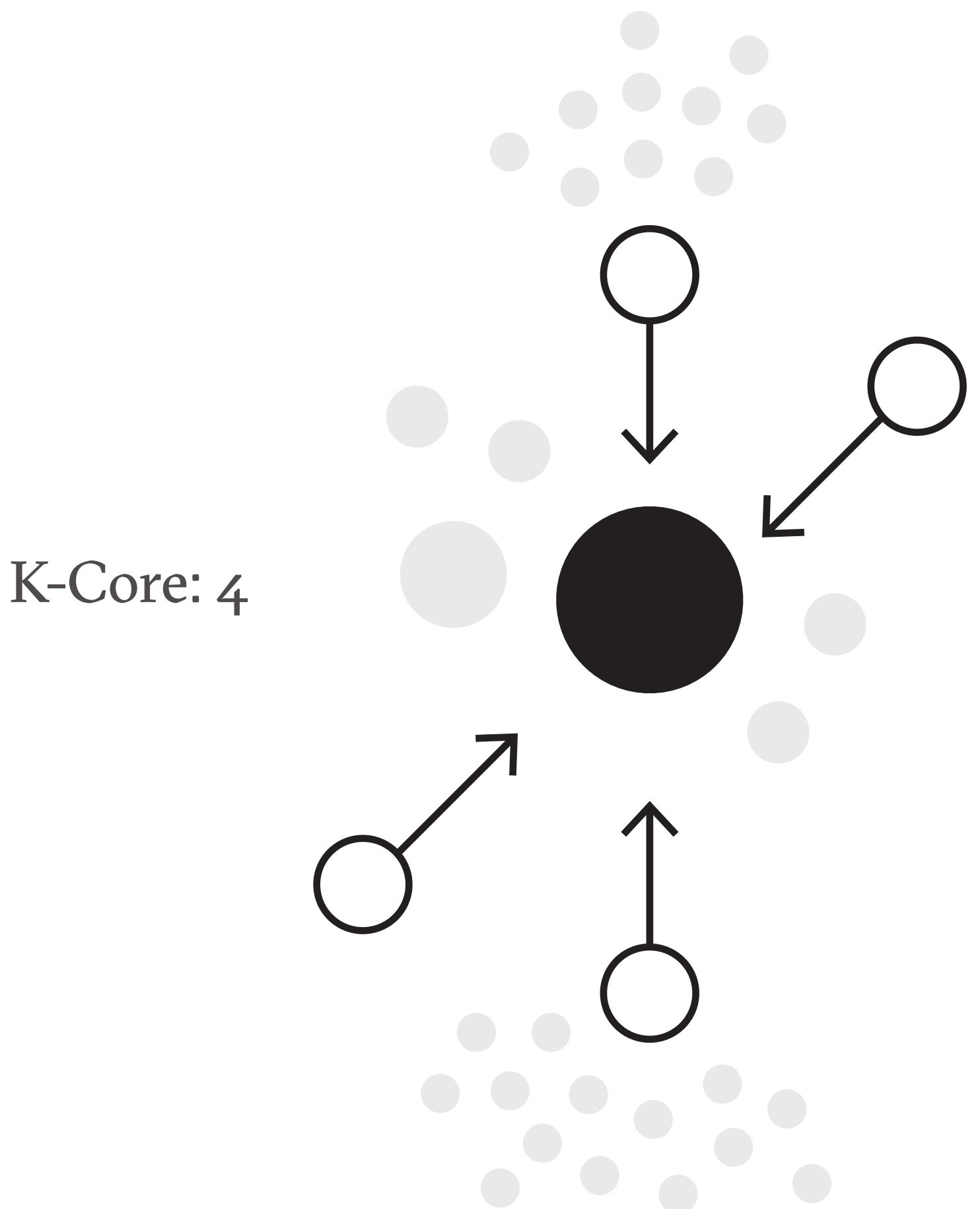




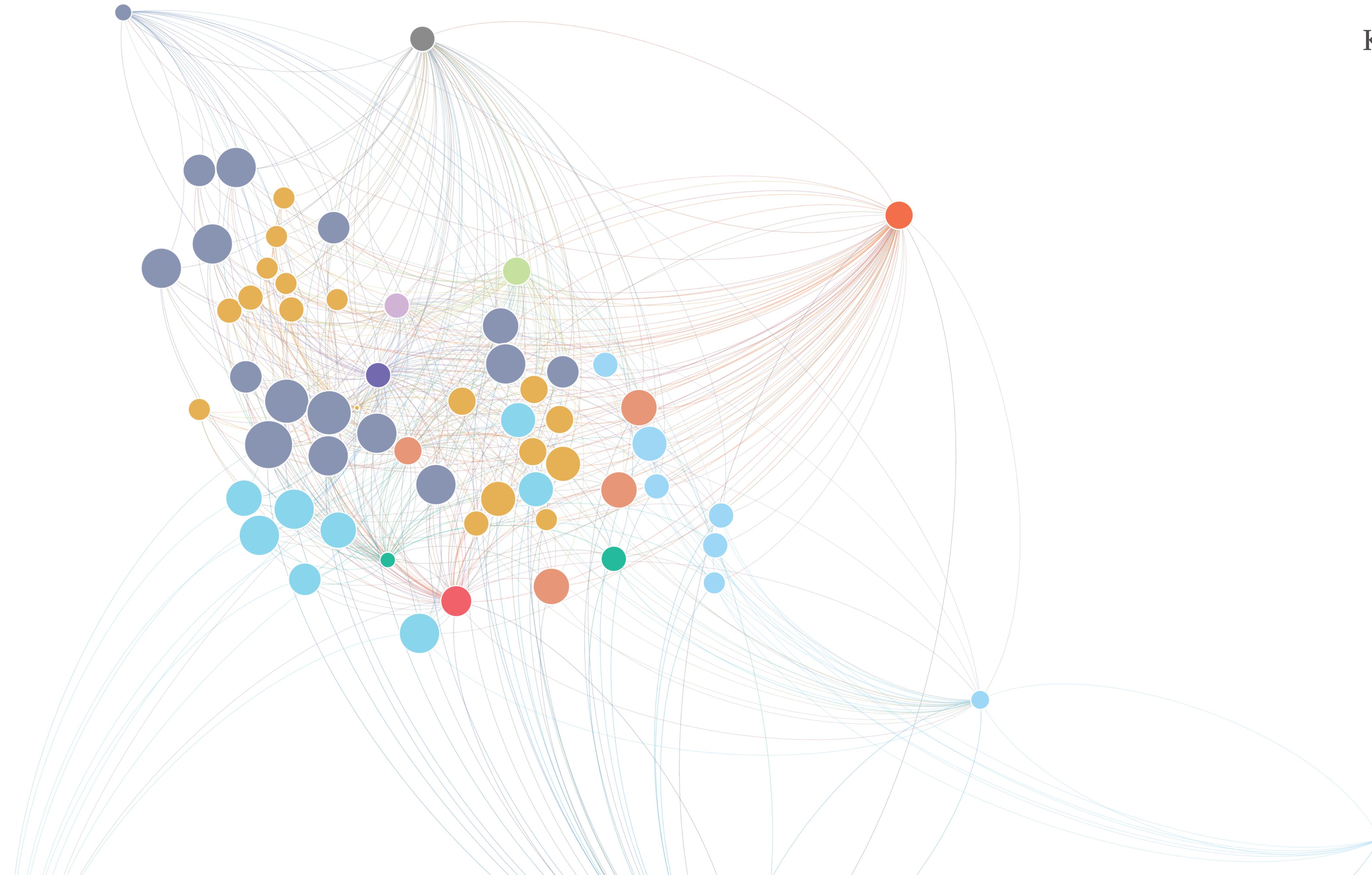
FILTERS

To better answer my initial questions I filter by **k-core**, that allows me to see which node are the ones that are followed by more schools. This could mean that those nodes are more relevant to the whole design community instead to only be associated to one school.

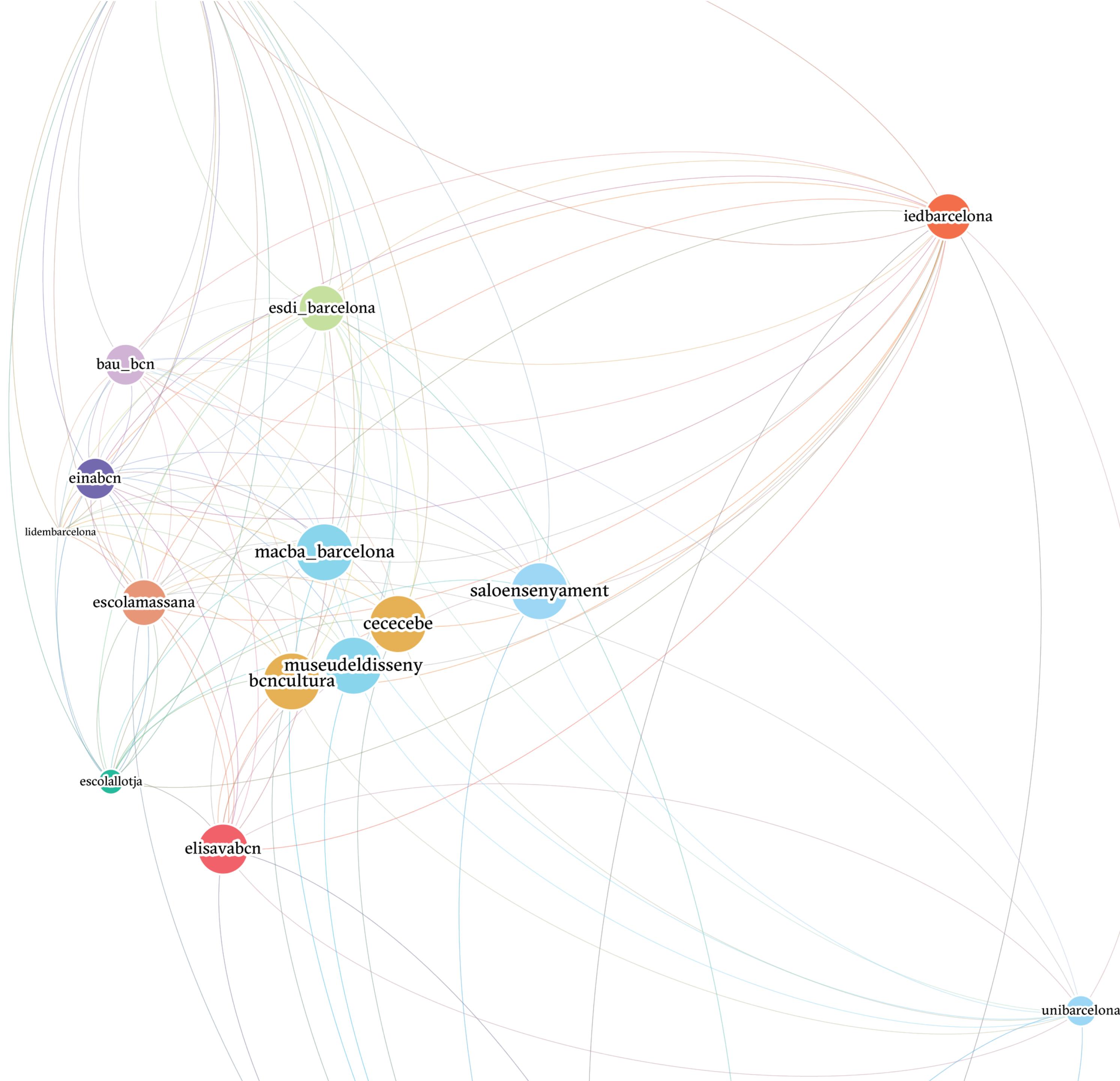
Also I use the **Partition (Modularity Class)** to analyze the communities separately or between each other.



K-Core: 8



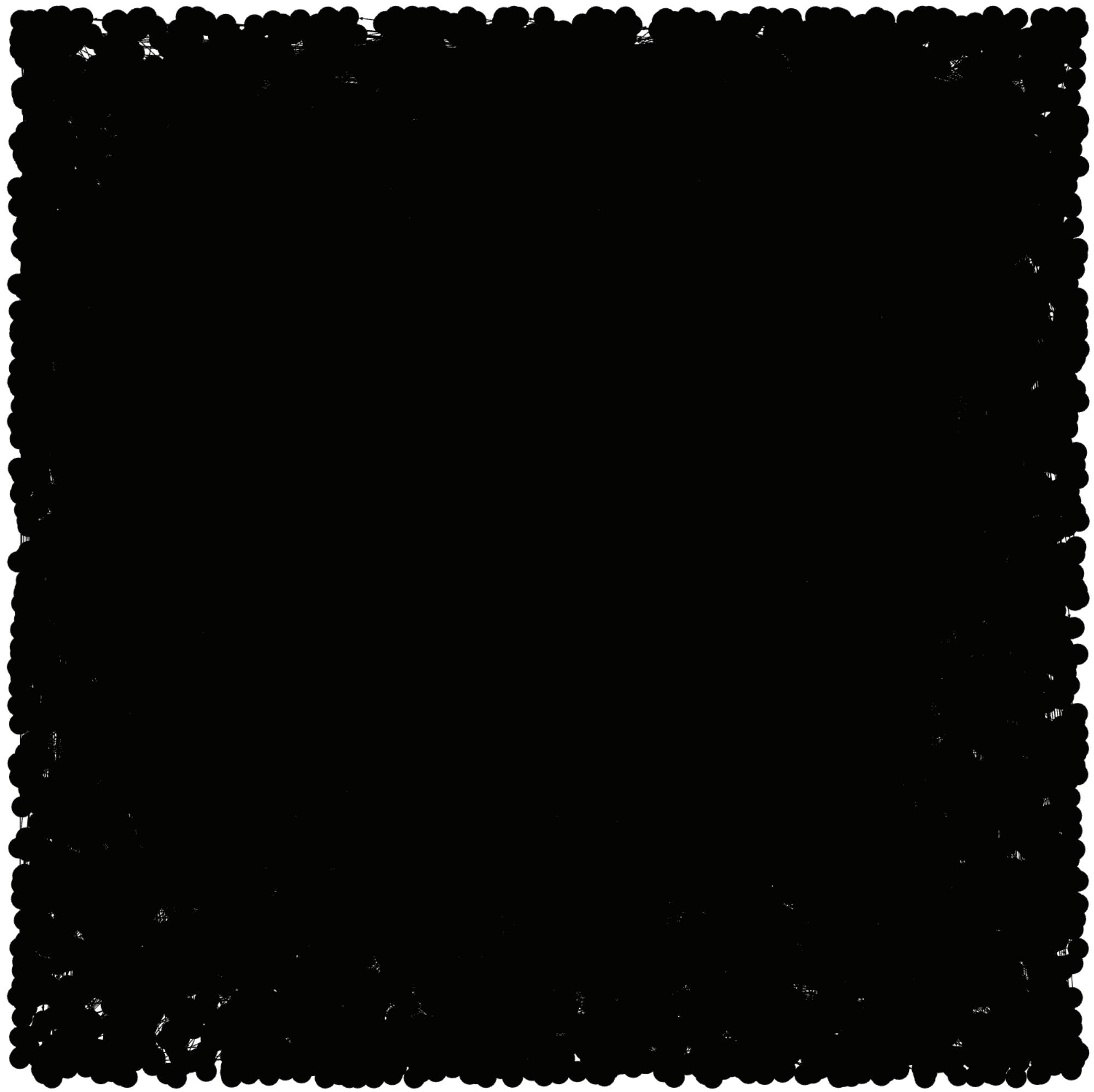
K-Core: 11



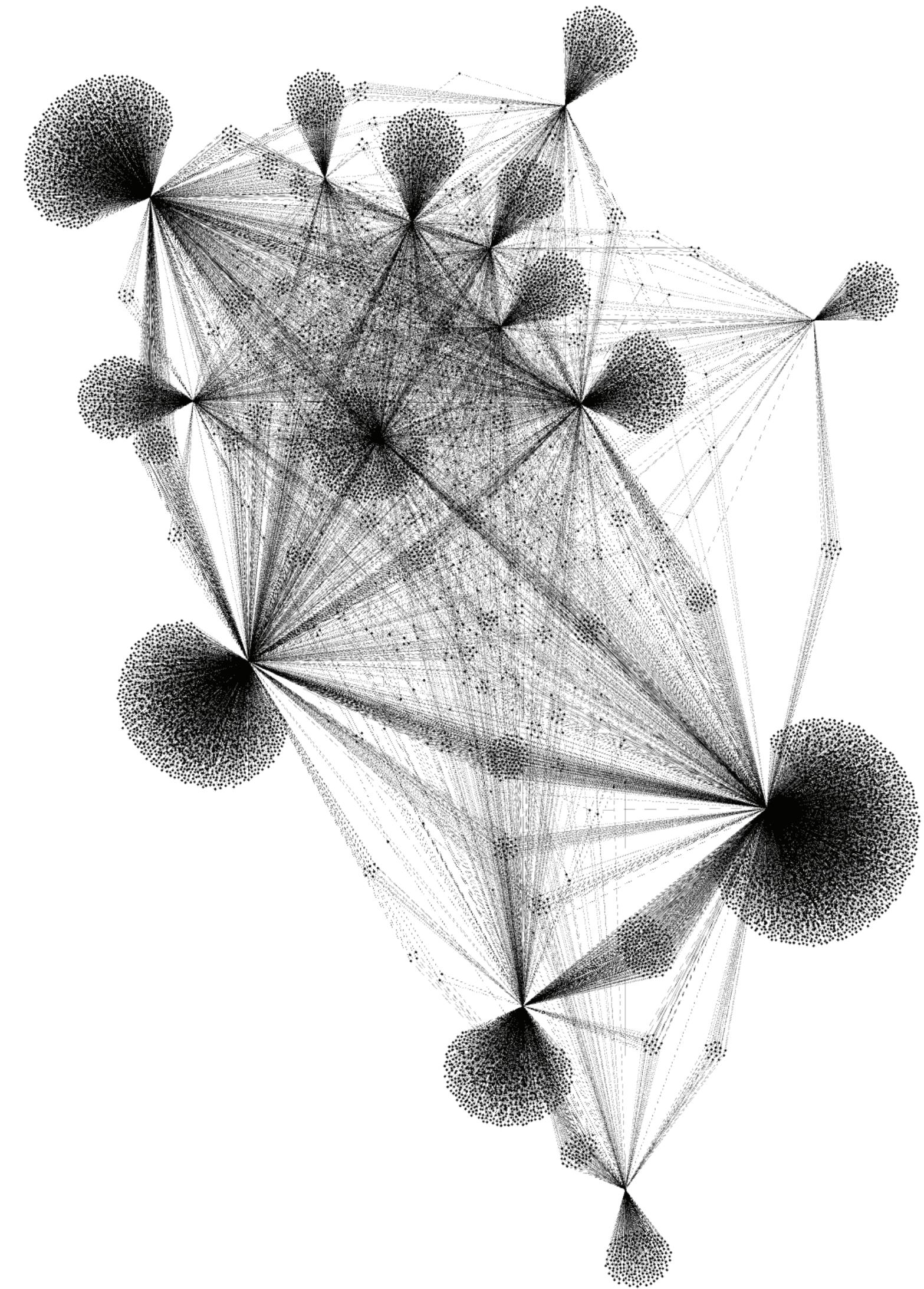
LAYOUT AND COLORS

I try to configure the layout to split the graphics in clear communities and have the most connected nodes in the center. I use color to identify each community and use colors that are related to the schools.

The size of each node represents the in-degree value. That way I can read the graphic by communities and how isolated they are, but also see which are the nodes that are connected to more schools.



Import the dataset
as directed network



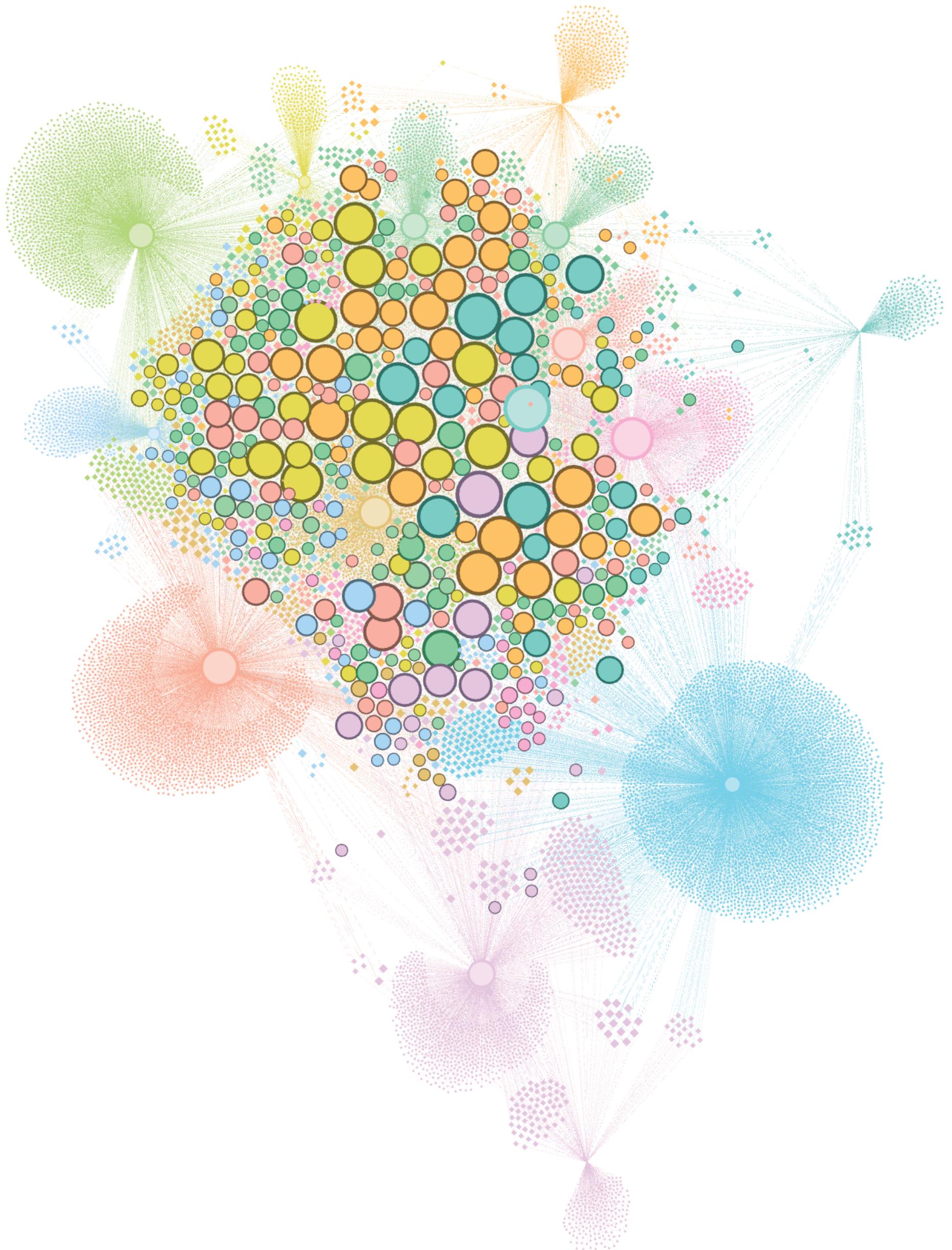
Apply the Layout:

- Force Atlas 2
- Scaling 25
- Prevent Overlap



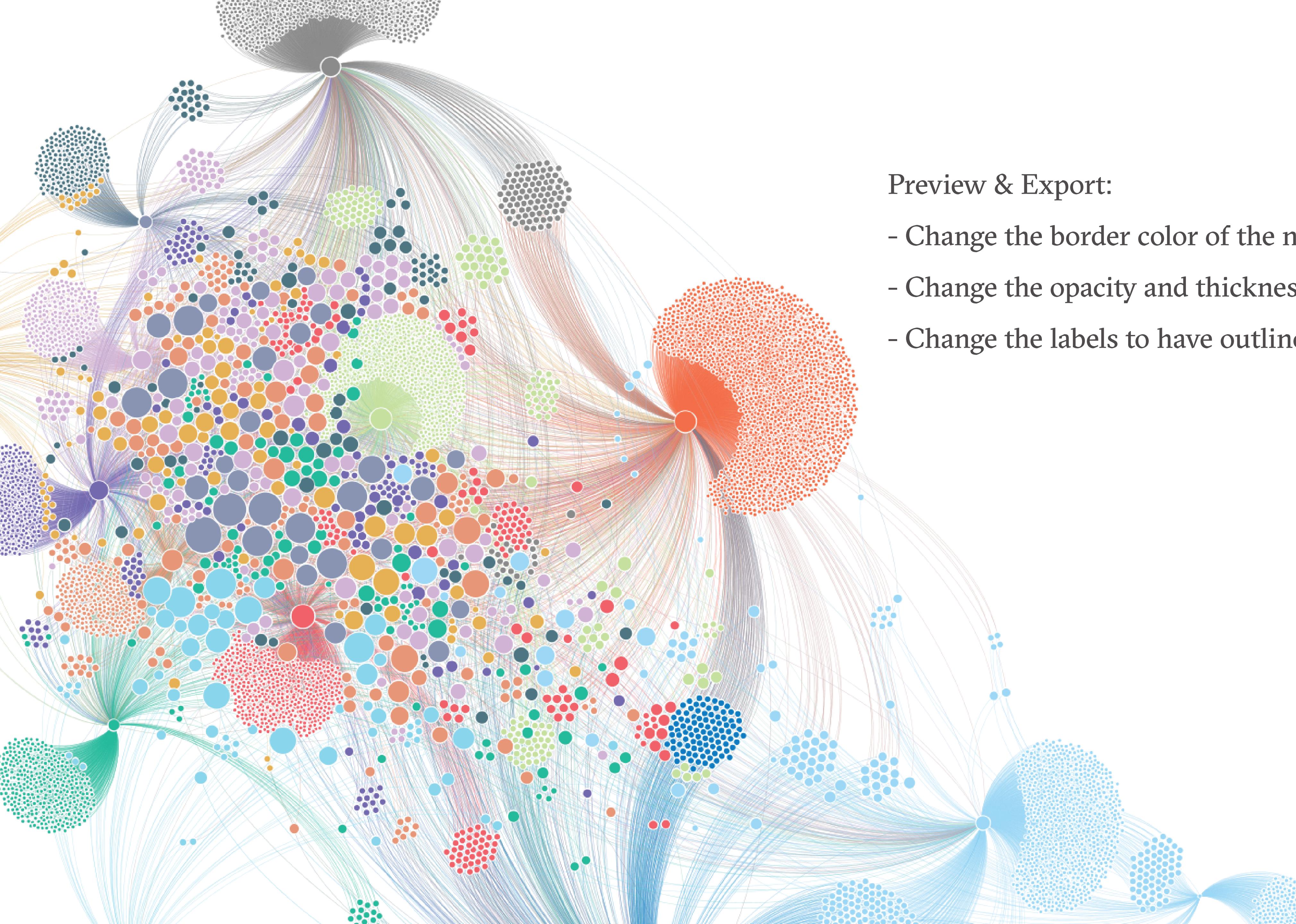
Size of the nodes

- Ranking by In-Degree
- Min Size: 1, Max Size: 200
- Spline curve to emphasize the most connected nodes



Color of the nodes

- Partition by Modularity Class
- Generated palette with no limit of colors
- Later I manually change the colors
to have colors more related to each school



Preview & Export:

- Change the border color of the nodes
- Change the opacity and thickness of the edges
- Change the labels to have outline color

LIMITATION AND BIASES

Not all schools use the social networks with the same objectives and strategy, therefore in Twitter there are more active schools than other, and that not represent the school size or importance.

There are Twitter accounts that are not specifically of the design school, but are more associated to an area or the whole university.

FUTURE WORK

After collecting the Twitter accounts of the institutions that seem to be relevant for the design schools of Barcelona I could continue researching that institutions and see which schools participate the most.

Also, I could do the same but with Twitter accounts of the most important design studios to compare both datasets.

Thanks