NETWORK SUMMARY

- 61 nodes and 420 edges,
  - Every node is an artist on Spotify
  - The edges connect related artists
- Undirected network
- Egocentric network
  - starting actor: Bad bunny
- Color: Degree
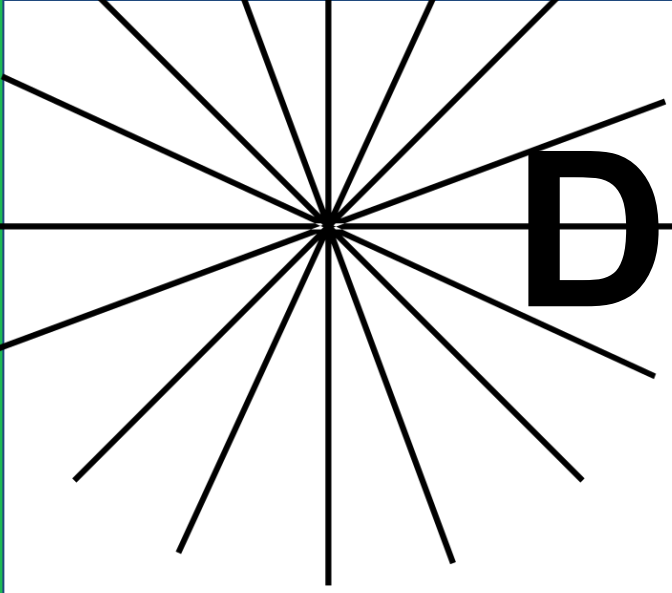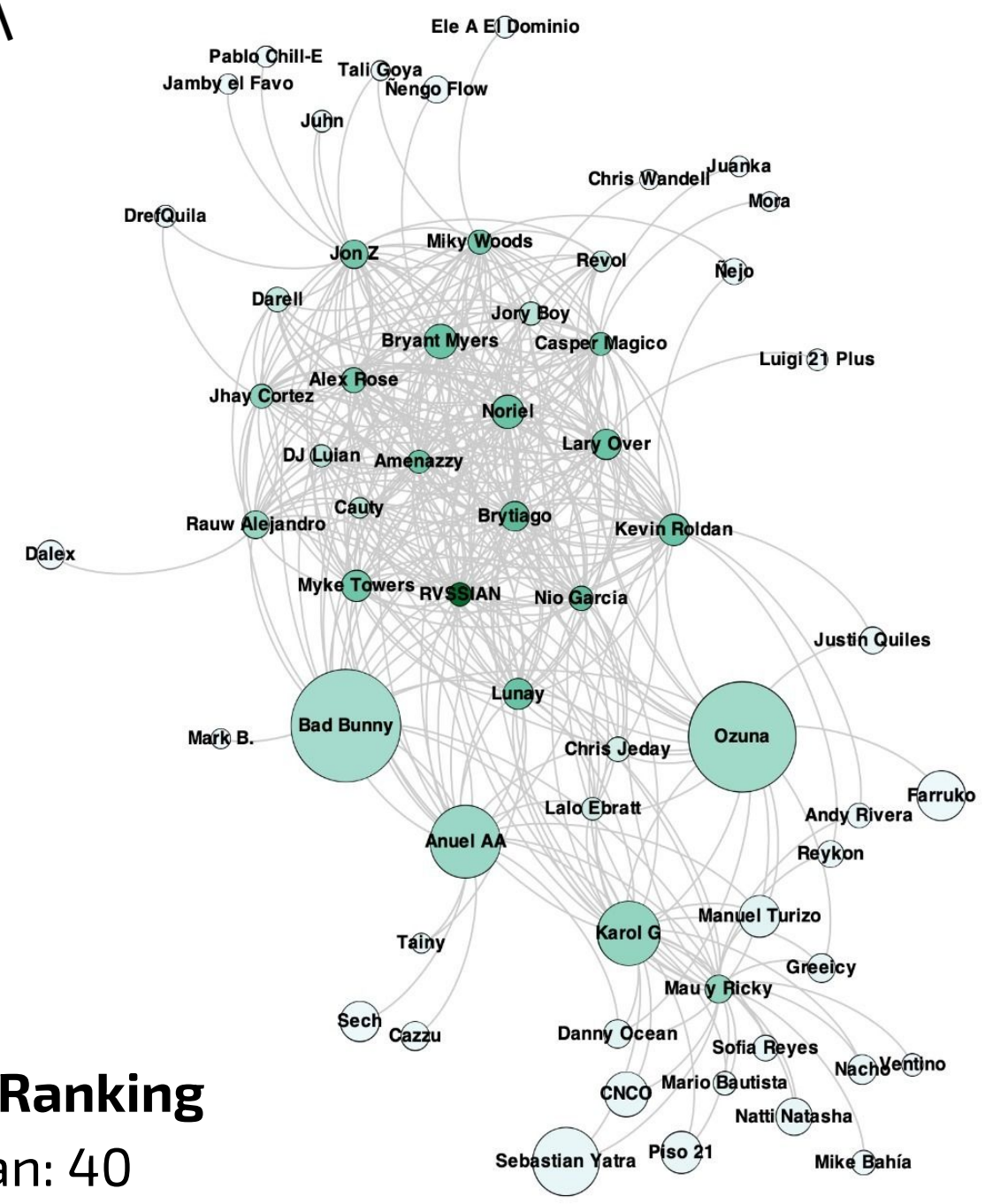- Size: Number of followers
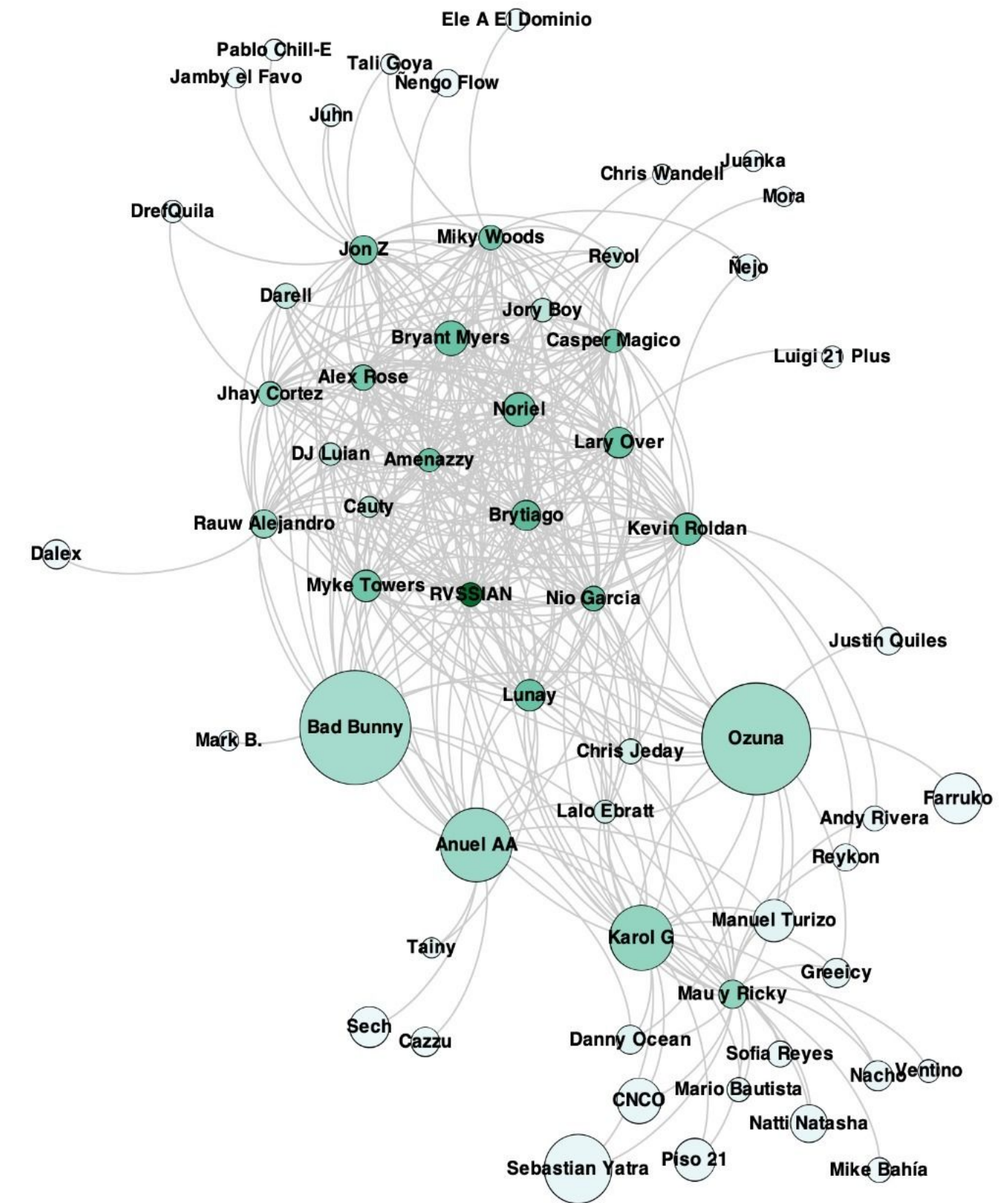
CENTRALITY MEASURES

- Degree
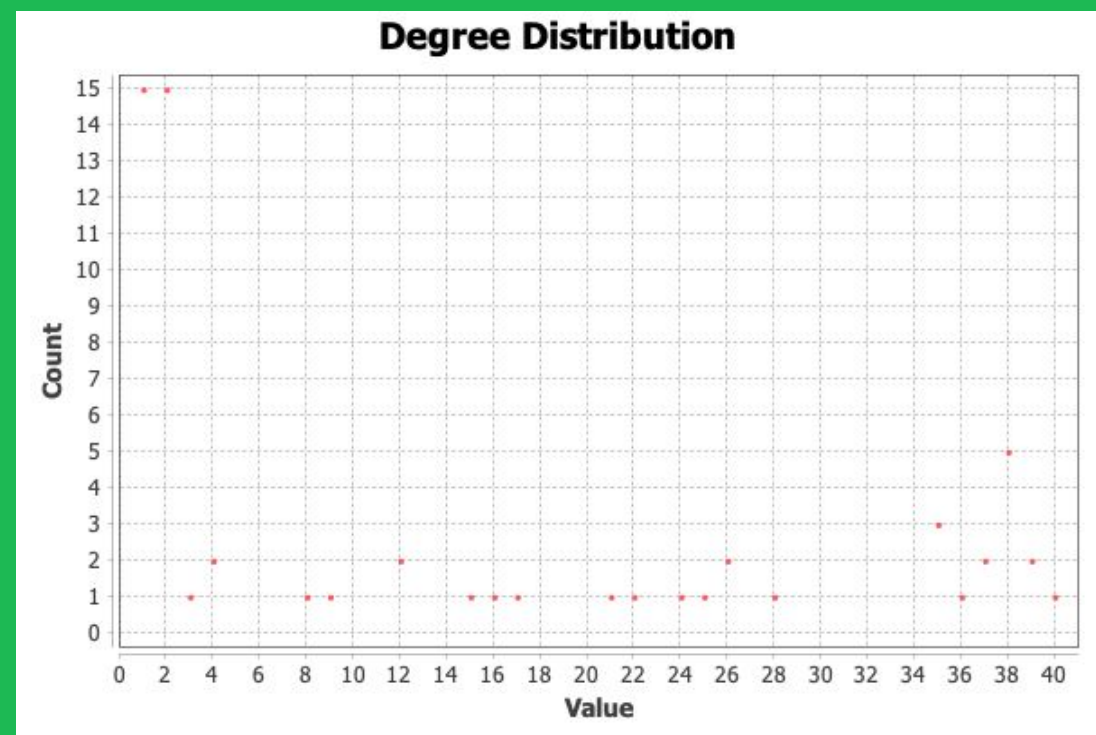- Betweenness
- Closeness
- Eigenvector

DEGREE

Id	Degree
RVSSIAN	40
Brytiago	39
Nio Garcia	39
Noriel	38
Lary Over	38
Bryant Myers	38
Kevin Roldan	38
Lunay	38
Amenazzy	37
Casper Magico	37
Myke Towers	36
Alex Rose	35
Miky Woods	35
Jon Z	35
Jhay Cortez	28
Karol G	26
Mau y Ricky	26
Rauw Alejandro	25
Anuel AA	24
Ozuna	22
Bad Bunny	21
Cauty	17
DJ Luian	16
Jory Boy	15
Revol	12
Darell	12
Lalo Ebratt	9
Chris Jeday	8
Danny Ocean	4
Manuel Turizo	4
Greeicy	3
Ñejo	2
Juhn	2
Tali Goya	2
DrefQuila	2
Tainy	2
Justin Quiles	2
Andy Rivera	2
Reykon	2
CNCO	2
Mario Bautista	2
Nacho	2
Natti Natasha	2
Piso 21	2
Sebastian Yatra	2
Sofia Reyes	2
Mark B.	1
Chris Wandell	1
Luigi 21 Plus	1
Ñengo Flow	1
Juanka	1
Mora	1
Ele A El Dominio	1
Jamby el Favo	1
Pablo Chill-E	1
Dalex	1
Cazzu	1
Sech	1
Farruko	1
Mike Bahía	1
Ventino	1

Degree centrality measures the number of connections an actor has, meaning the ability to communicate without intermediates with other nodes.


Degree Distribution

- All these actors have very close scores and are inside the main cluster. The next measures will help us determine the central actor as the proximity between scores can be misleading.

- We can also see that many actors have only one connection and those are in the outer edges.

- It is observed that the actor with which we started (Bad Bunny) has 21 connections, we expected to have more, but this is due to Spotify's algorithm.

Degree Top Ranking
1. Rvssian: 40
2. Brytiago: 39
3. Nio Garcia: 39

BETWEENNESS

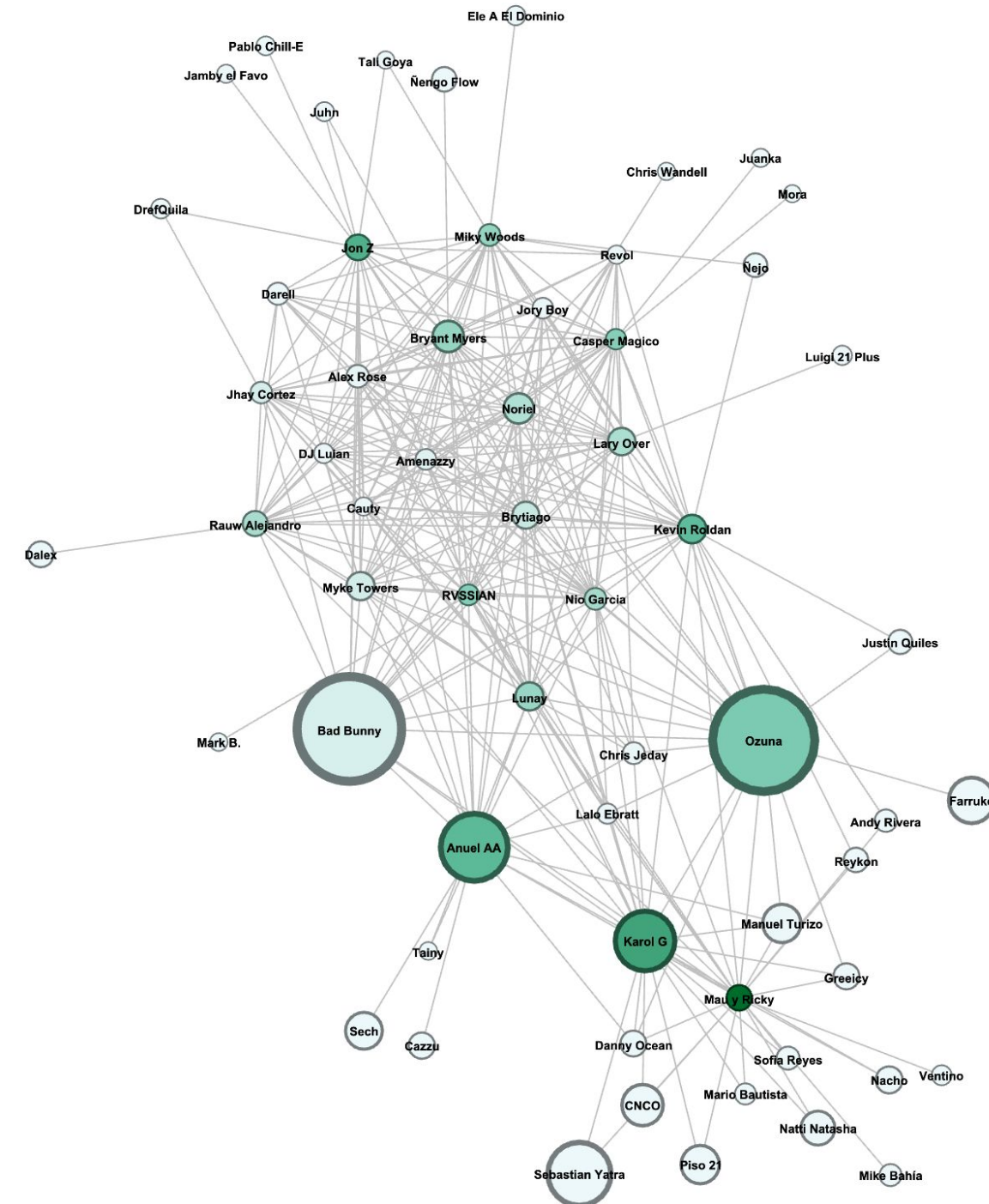**Betweenness Centrality Distribution**
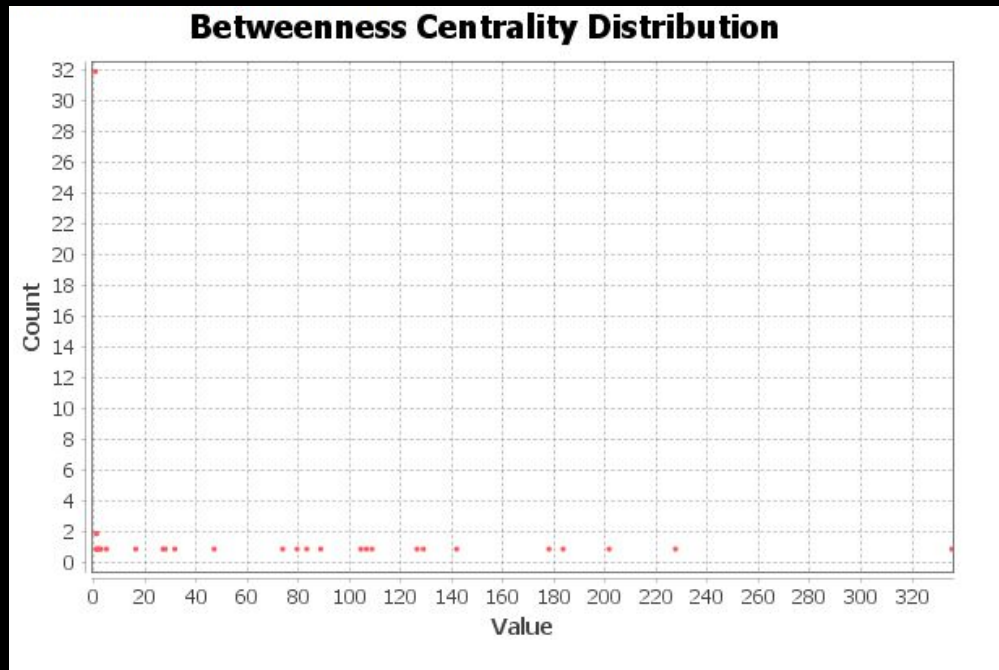
Level at which other actors must pass through an actor to communicate with others.

- Mau Y Ricky act like a bridge to connect a really high number of other actors among themselves.
  - Inside of reggaeton there are different subgenres and Mau y Ricky are the perfect intermediary to connect many artists.
- There are many actors with a betweenness of 0, meaning that they don't help for other actors to be related to each other.

Betweenness Top Ranking
1. Mau y Ricky: 334.839
2. Karol G: 226.788
3. Jon Z: 200.839

Id	Betweenness Centrality
Mau y Ricky	334.839505
Karol G	226.788335
Jon Z	200.839808
Anuel AA	182.915488
Kevin Roldan	177.318468
Ozuna	141.225929
RVSSIAN	128.267937
Casper Magico	125.77735
Miky Woods	108.146886
Bryant Myers	105.975029
Lunay	103.772937
Nio Garcia	88.038065
Rauw Alejandro	82.67754
Lary Over	78.871789
Noriel	73.223355
Brytiago	46.41551
Myke Towers	31.01873
Jhay Cortez	27.326337
Bad Bunny	26.416735
Amenazzy	15.725145
Alex Rose	4.309148
Cauty	2.209475
Lalo Ebratt	1.363026
Chris Jeday	0.859068
DJ Luian	0.368801
Jory Boy	0.368801
Danny Ocean	0.36383
Manuel Turizo	0.36383
Revol	0.213143
Andy Rivera	0.0
Cazzu	0.0
Chris Wandell	0.0
CNCO	0.0
Dalex	0.0
Darell	0.0
DrefQuila	0.0
Ele A El Dominio	0.0
Farruko	0.0
Greeicy	0.0
Jamby el Favo	0.0
Juanka	0.0
Juhn	0.0
Justin Quiles	0.0
Luigi 21 Plus	0.0
Mario Bautista	0.0
Mark B.	0.0
Mike Bahía	0.0
Mora	0.0
Nacho	0.0
Natti Natasha	0.0
Ñejo	0.0
Ñengo Flow	0.0
Pablo Chill–E	0.0
Piso 21	0.0
Reykon	0.0
Sebastian Yatra	0.0
Sech	0.0
Sofia Reyes	0.0
Tainy	0.0
Tali Goya	0.0
Ventino	0.0

CLOSENESS

Closeness represents how able an actor is to reach directly many other actors in the network without intermediaries.

- As expected, RVSSIAN takes the first place with a closeness of 0,645 and Nio Garcia and Brytiago follow him with 0,638 and 0,635 respectively.


Closeness Centrality Distribution
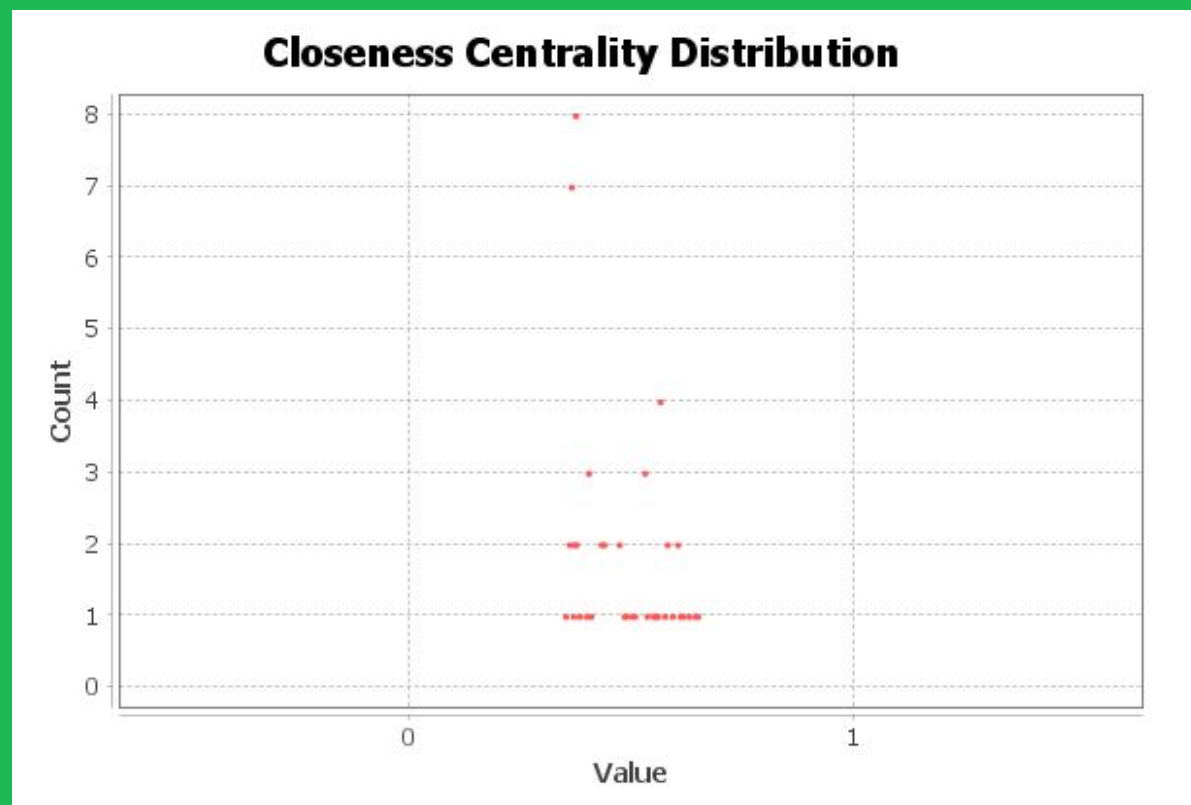
Id	Closeness Centr
RVSSIAN	0.645161
Nio Garcia	0.638298
Brytiago	0.625
Kevin Roldan	0.612245
Myke Towers	0.606061
Lunay	0.6
Bad Bunny	0.6
Rauw Alejandro	0.588235
Bryant Myers	0.576923
Lary Over	0.576923
Noriel	0.571429
Mau y Ricky	0.560748
Anuel AA	0.560748
Ozuna	0.560748
Casper Magico	0.560748
Amenazzy	0.555556
Jon Z	0.550459
Karol G	0.545455
Miky Woods	0.530973
Jhay Cortez	0.526316
Alex Rose	0.526316
Cauty	0.526316
DJ Luian	0.504202
Jory Boy	0.495868
Lalo Ebratt	0.483871
Revol	0.48
Chris Jeday	0.46875
Darell	0.46875
Danny Ocean	0.434783
Manuel Turizo	0.434783
Andy Rivera	0.428571
Reykon	0.428571
Greeicy	0.405405
Justin Quiles	0.4
Ñejo	0.4
Tainy	0.4
Mark B.	0.394737
Juhn	0.379747
Dalex	0.372671
Tali Goya	0.372671
CNCO	0.37037
DrefQuila	0.37037
Mario Bautista	0.37037
Nacho	0.37037
Natti Natasha	0.37037
Piso 21	0.37037
Sebastian Yatra	0.37037
Sofia Reyes	0.37037
Luigi 21 Plus	0.368098
Ñengo Flow	0.368098
Chris Wandell	0.365854
Cazzu	0.361446
Farruko	0.361446
Juanka	0.361446
Mike Bahía	0.361446
Mora	0.361446
Sech	0.361446
Ventino	0.361446
Jamby el Favo	0.357143
Pablo Chill–E	0.357143
Ele A El Dominio	0.348837

Closeness Top Ranking
1. RVSSIAN: 0.6451
2. Nio Garcia: 0.638
3. Brytiago: 0.625
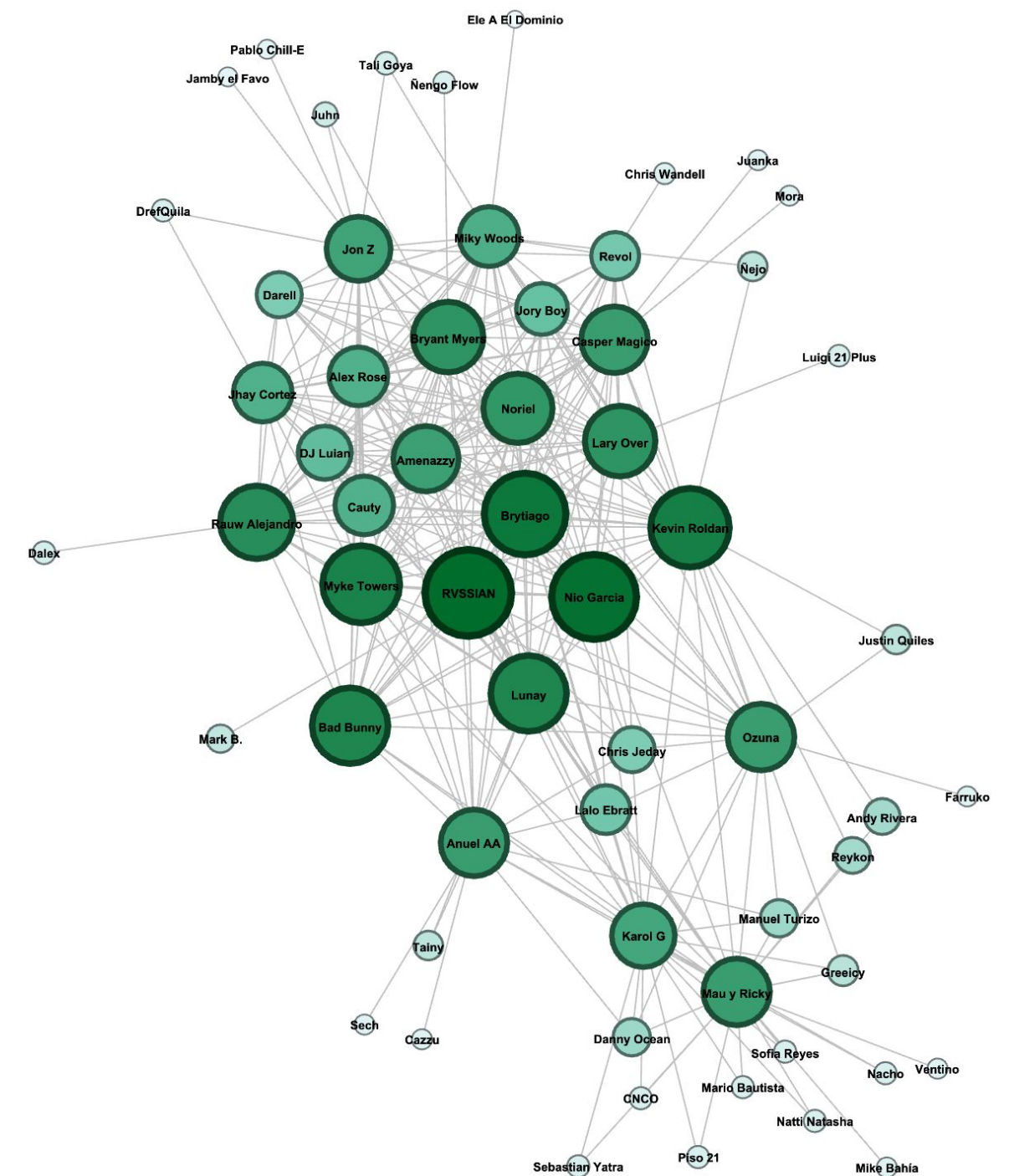
EIGENVECTOR
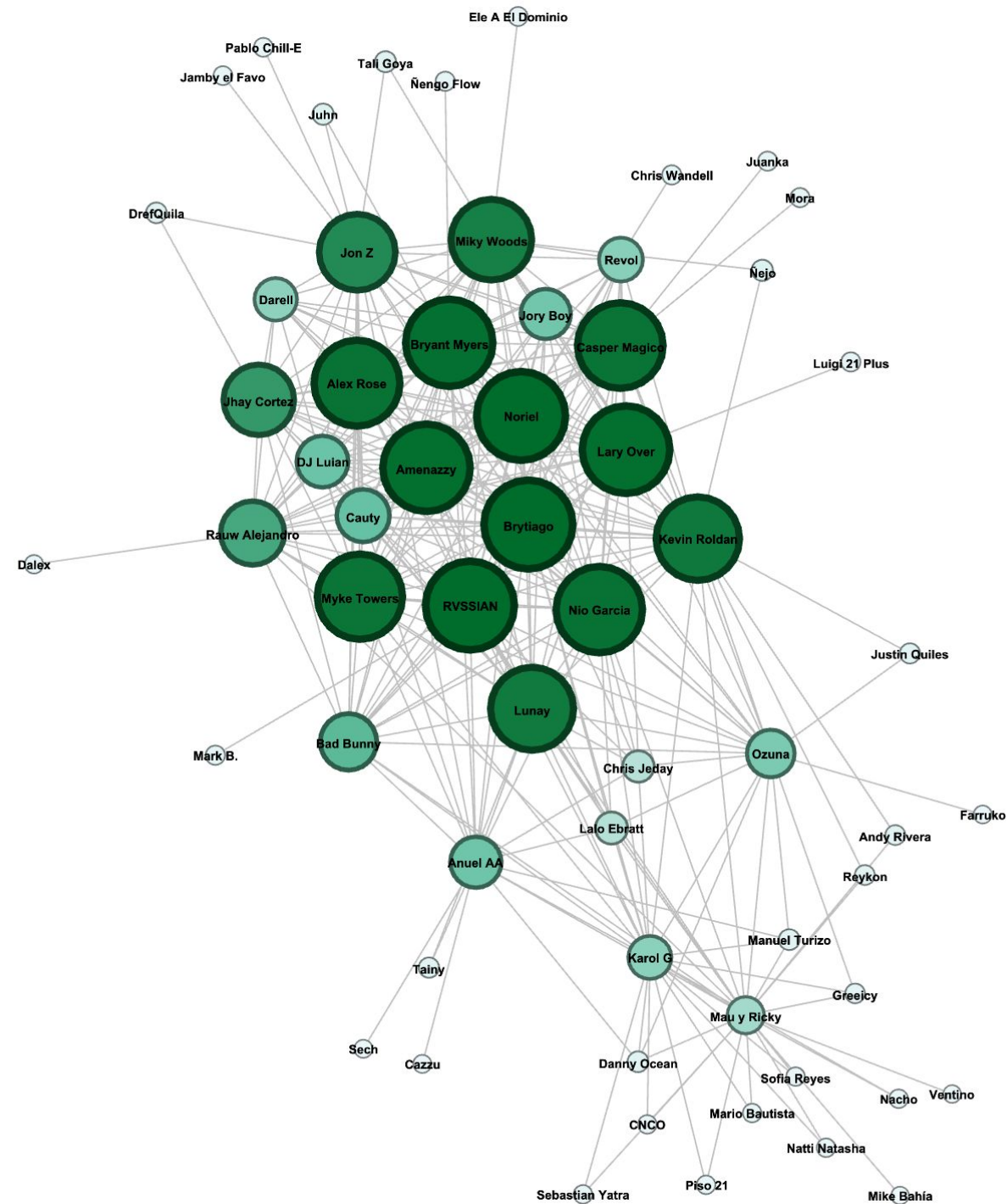
| Id	Eigenvector Centrality
Brytiago	1.0
RVSSIAN	0.999615
Noriel	0.998834
Lary Over	0.982442
Amenazzy	0.979776
Bryant Myers	0.977975
Nio Garcia	0.965877
Alex Rose	0.959396
Casper Magico	0.955789
Myke Towers	0.950987
Kevin Roldan	0.925894
Lunay	0.919348
Miky Woods	0.888084
Jon Z	0.825882
Jhay Cortez	0.745448
Rauw Alejandro	0.652541
Bad Bunny	0.551381
Cauty	0.498
DJ Luian	0.482004
Anuel AA	0.473742
Jory Boy	0.460585
Ozuna	0.425954
Revol	0.374832
Karol G	0.363349
Darell	0.356761
Mau y Ricky	0.277912
Lalo Ebratt	0.212889
Chris Jeday	0.202899
Ñejo	0.059423
Juhn	0.059065
Tali Goya	0.056129
Danny Ocean	0.053381
Manuel Turizo	0.053381
DrefQuila	0.05146
Tainy	0.046304
Justin Quiles	0.044871
Andy Rivera	0.040535
Reykon	0.040535
Greeicy	0.037385
Mark B.	0.032778
Chris Wandell	0.032597
Luigi 21 Plus	0.032097
Ñengo Flow	0.031956
Juanka	0.031217
Mora	0.031217
Ele A El Dominio	0.029021
Jamby el Favo	0.027108
Pablo Chill-E	0.027108
CNCO	0.022917
Mario Bautista	0.022917
Nacho	0.022917
Natti Natasha	0.022917
Piso 21	0.022917
Sebastian Yatra	0.022917
Sofia Reyes	0.022917
Dalex	0.021419
Cazzu	0.015996
Sech	0.015996
Farruko	0.014468
Mike Bahía	0.010132
Ventino	0.010132

Eigenvector represents how influential is a node based on the links it has to other nodes in the network. Taking into account not only the number of connections the node holds but also the quality of them (how many DIRECT connections the node has to the most connected nodes in the network).

Our top is:

- Brytiago (1,0).
- RVSSIAN (0,999615).
- Noriel (0,998834).

Eigenvector Centrality Distribution
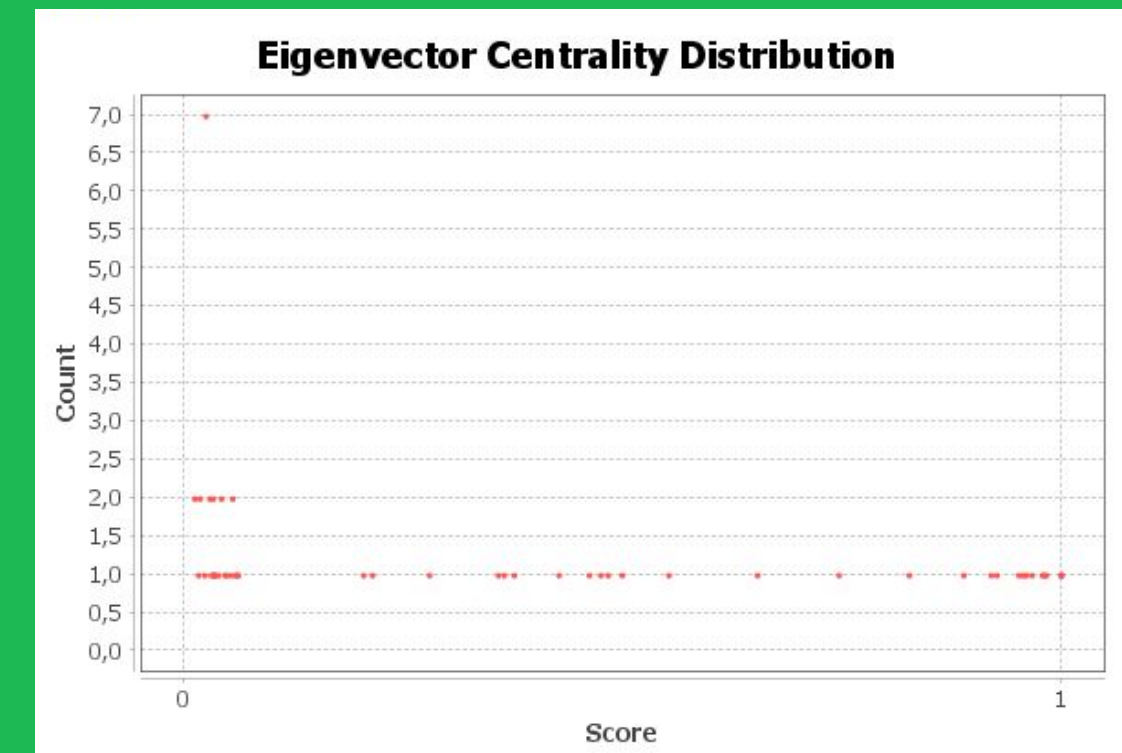
**Difference between Brytiago and RVSSIAN is negligible, so we continue thinking that RVSSIAN is the most influential node in the network (bearing in mind the rest of centrality measures).

Eigenvector Top Ranking

1. Brytiago: 1
2. Rvssian: 0,999
3. Noriel: 0998

CONCLUSIONS
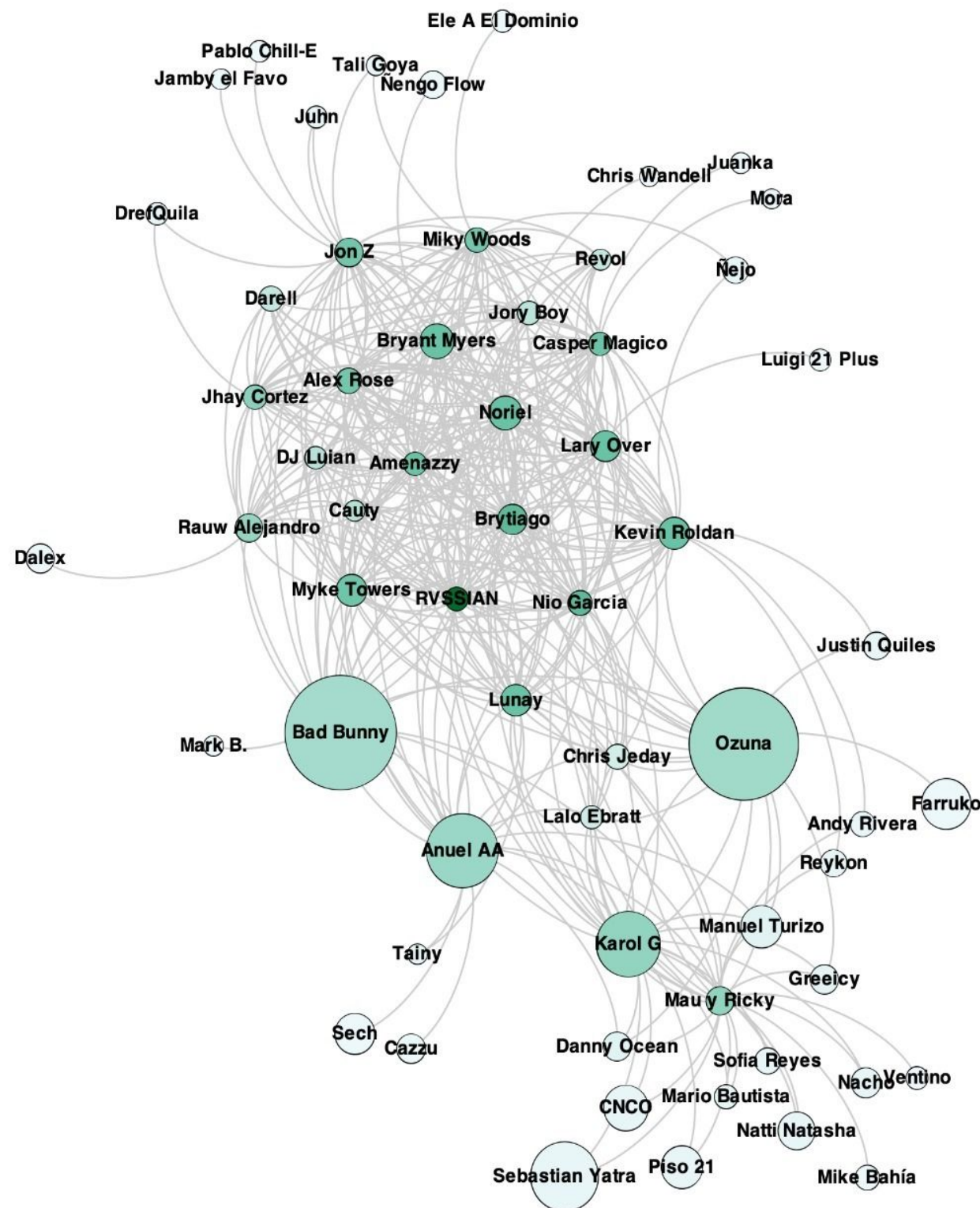
- **We started from the base that Bad Bunny was the central actor.** That was until we figured out how the algorithm worked based on our previous study.

- The central actor is **RVSSIAN** because this is the actor that Spotify suggests more to Martina based on her interests.

- A directed network would have been more insightful to the analysis of the actors' measures of centrality in this case.

- At least **half of the actors** on this network had such low values that **were nearly negligible** to the case, however, it also showed a good insight about who are the real "**stars**".