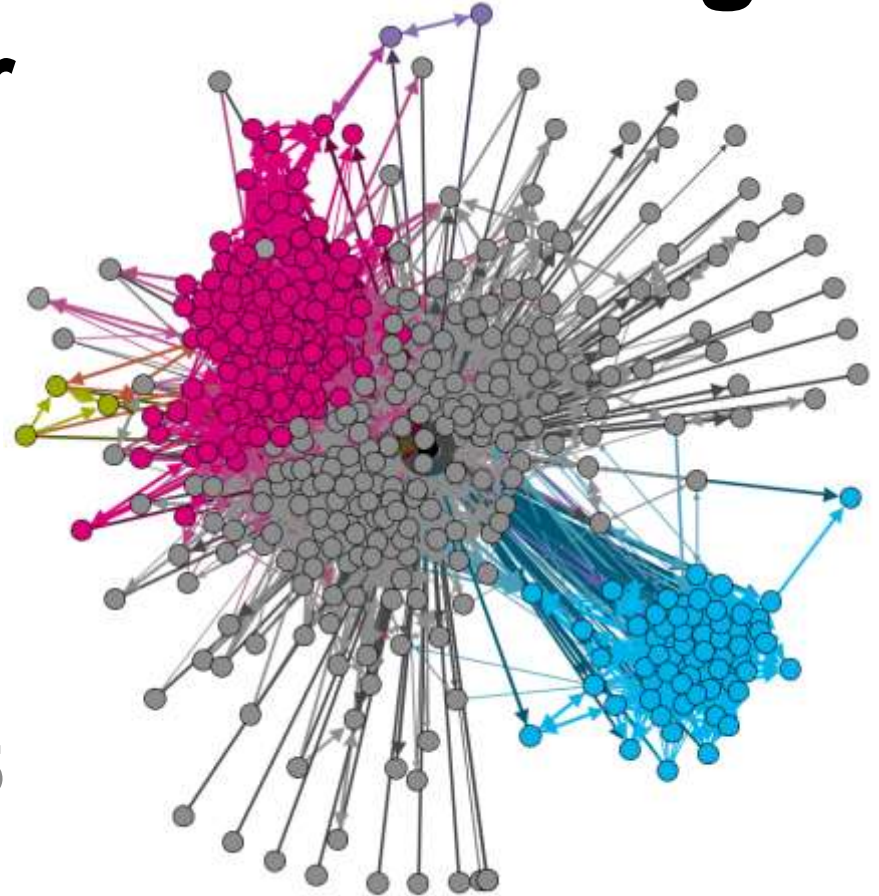# Characterising the structure of academics' personal networks on academic social networking sites and Twitter

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CALRG Conference 2015

Background

- Stems from my previous experience in e-learning research in Higher Education
- Research context: Digital scholarship and how the internet is changing Higher Education (Weller, 2011)
- Social networking sites (SNS) are so popular that they are synonymous with internet use for some (Rainie & Wellman, 2012)
- First academic SNS in 2007, 3 years after Facebook founded (Nentwich & Konig, 2012)

Why look at networks?

- Social network structure linked to social capital
- Network size affects how wide a pool ego can draw upon for advice, and how widely information can be transmitted (Prell, 2012)
- Granovetter (1973) – the strength of weak ties
- Burt (2005) – structural holes and brokerage
- Link between online social networking and bridging and bonding social capital (Ellison et al. 2014)
- Network structure of academic social networking sites has not been examined

- -> What can we learn about the role that online social networks are playing in (re)defining academic roles and relationships?

Pilot study

- Pilot study sampled networks of OU academics on Academia.edu, Mendeley and Zotero
- Found trends in network structure which stood across platforms; influence of job position on positions of individuals, and subject areas influential on community structure (Jordan, 2014)
- But: Academic SNS are only one of many types of social media and online platforms
- Differences according to discipline and position suggest a role in academic identity development -> ego-networks
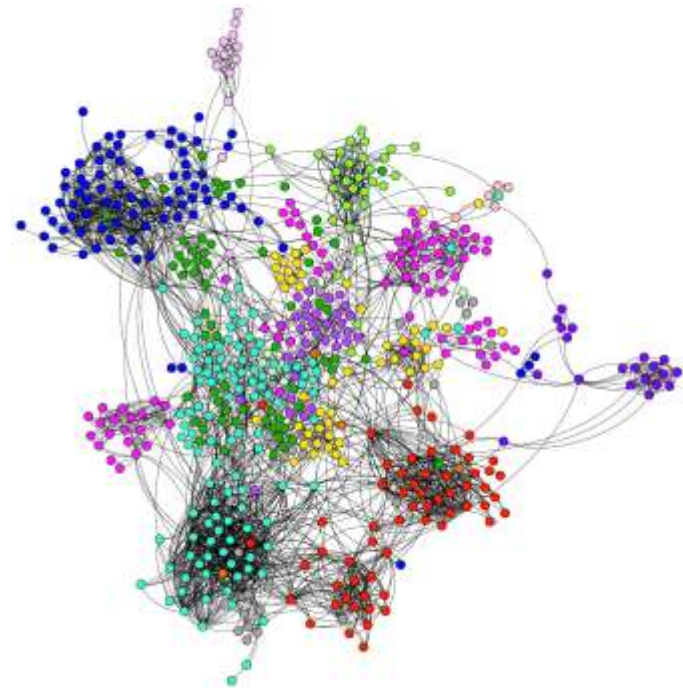
Scope of main study

- 54 academics
- Sampled to reflect a range of positions and perspectives
- 2 ego-networks collected per participant: an academic SNS, and Twitter
- Exploratory analysis considered a range of metrics in terms of network size and network structure
- Differences according to job position and discipline
- -> 54 academic SNS collected, 38 full Twitter networks
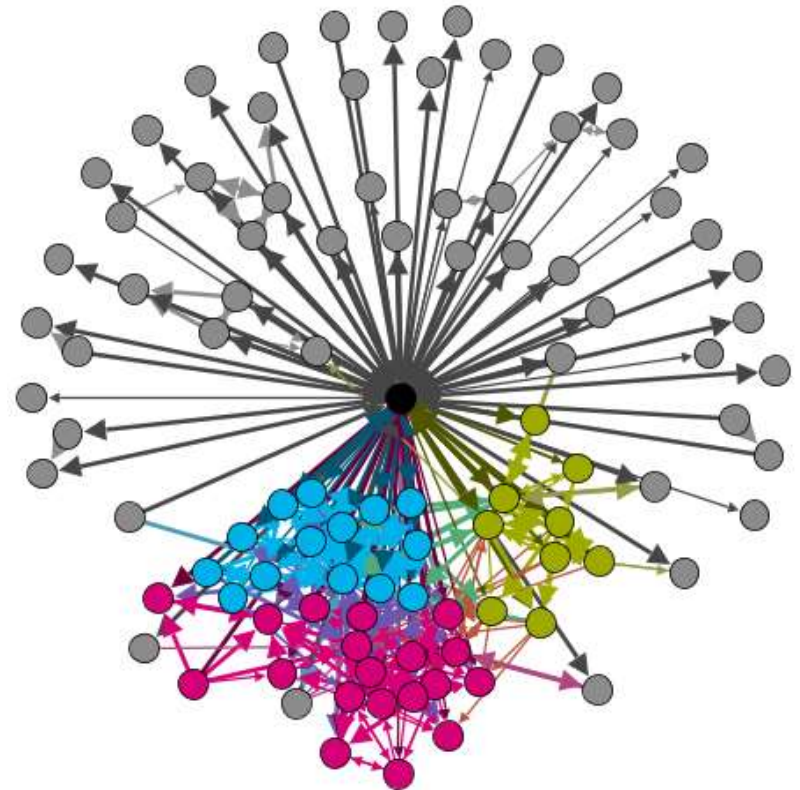
Key terms: What is an ego-network?

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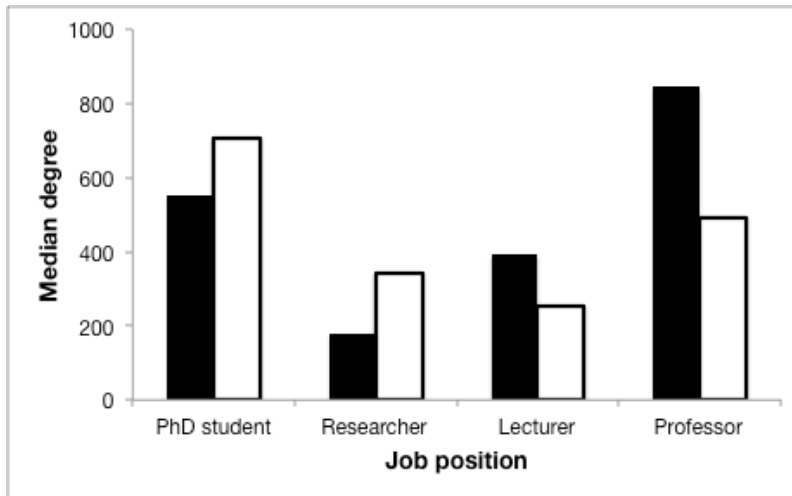
42 FOLLOWING   View all
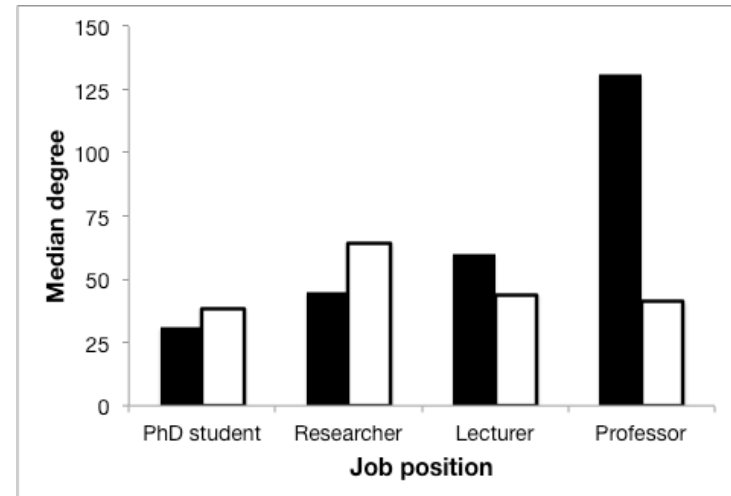
68 FOLLOWERS   View all
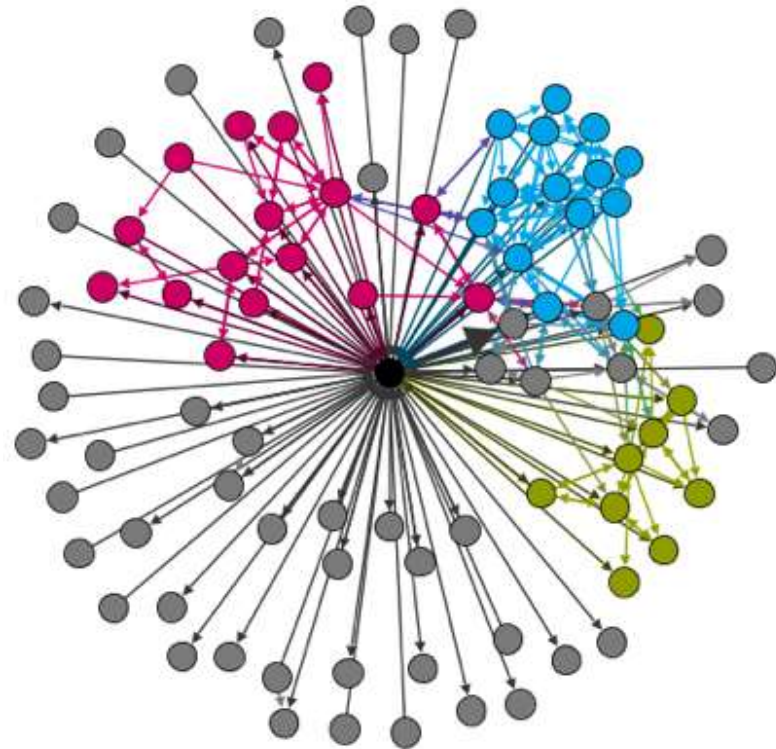
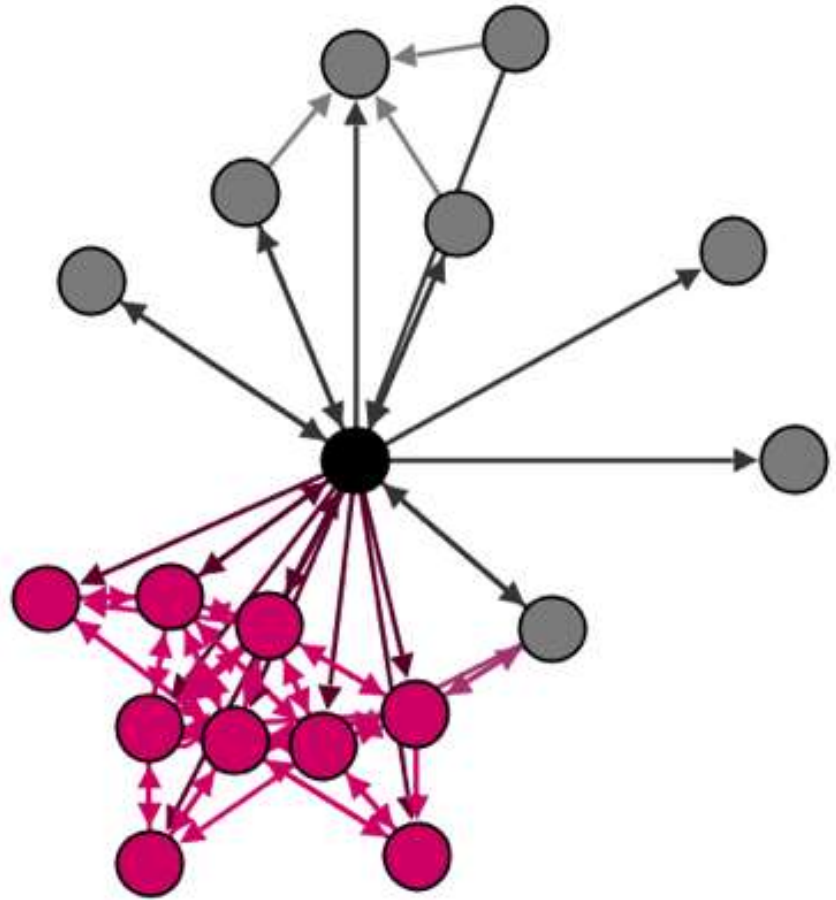# Network size: Number of nodes, in-degree, out-degree

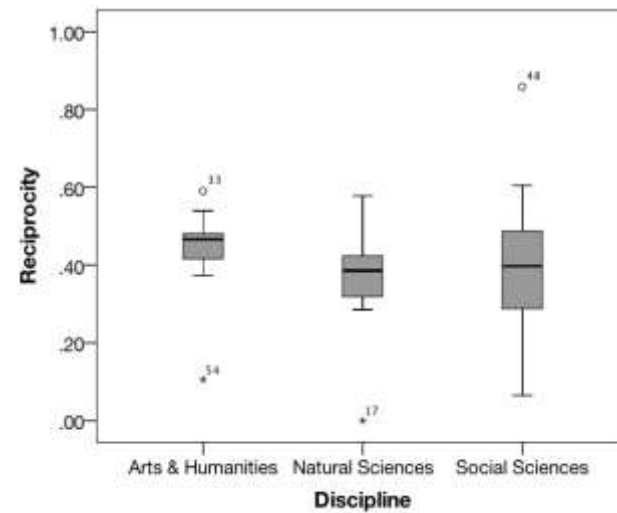**Twitter**

Academic SNS
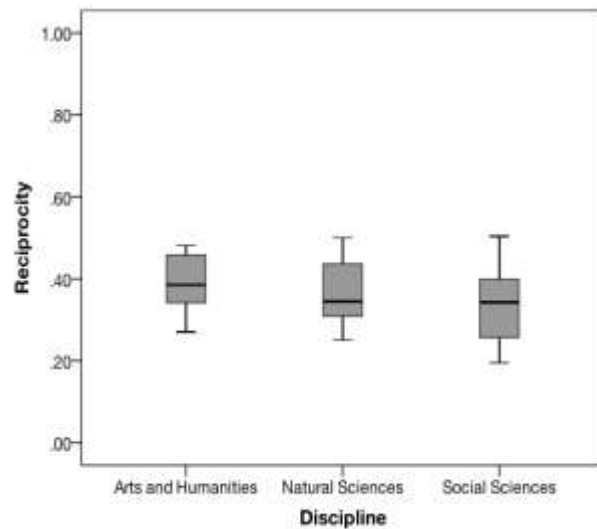
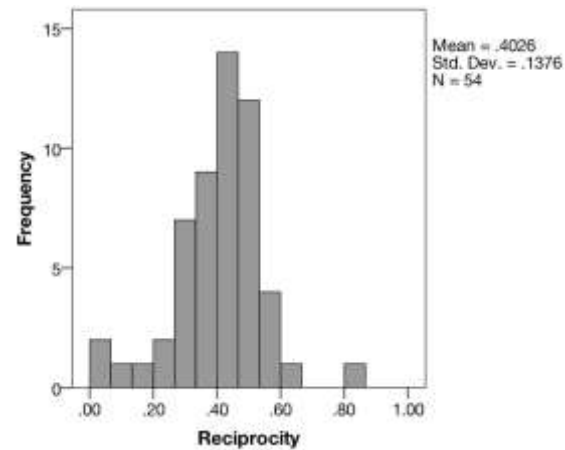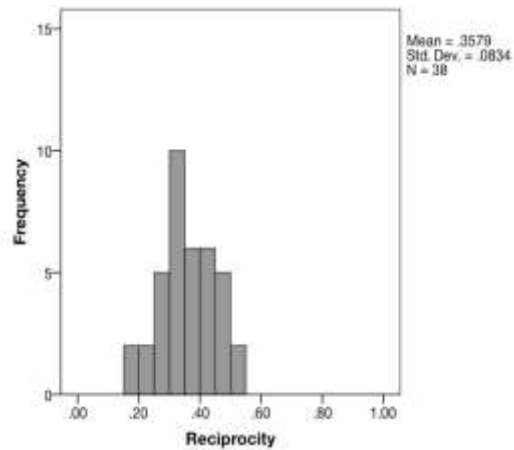# **Network size**: Number of communities
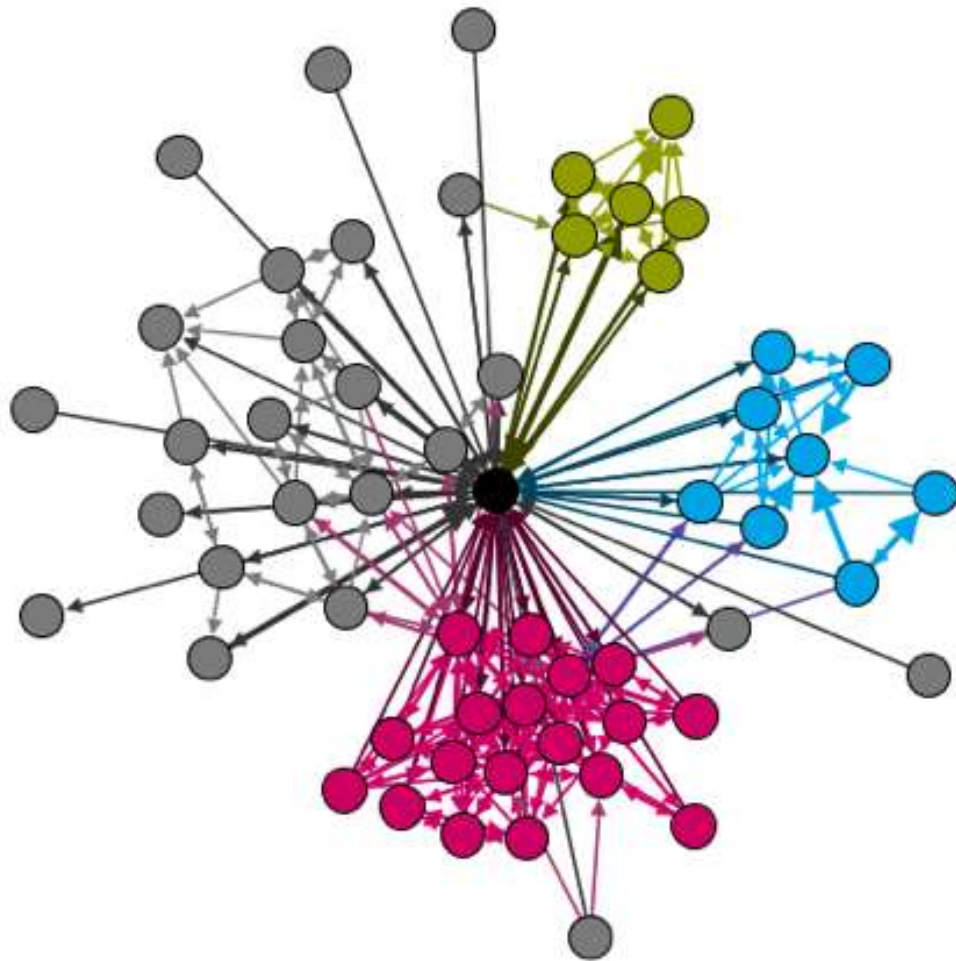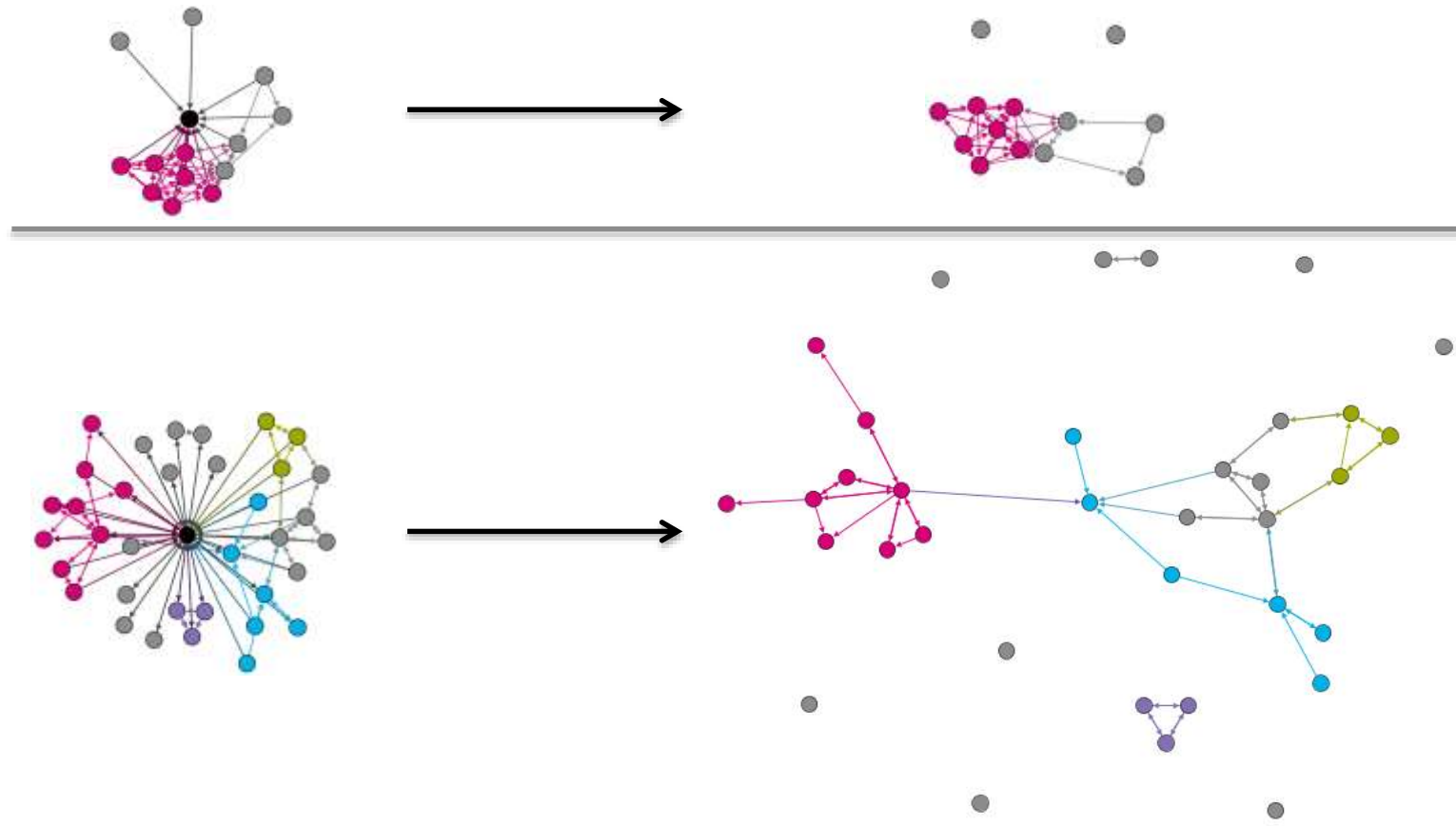
Network structure: Density

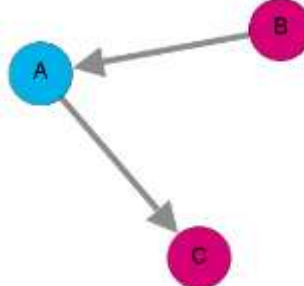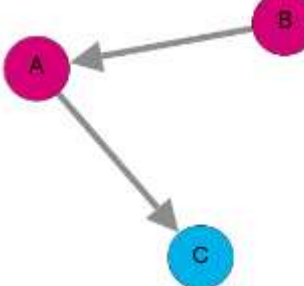# **Network structure**: **Reciprocity**

Network structure: Reciprocity
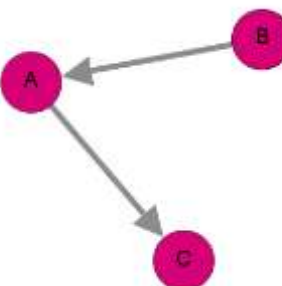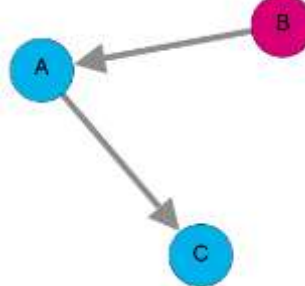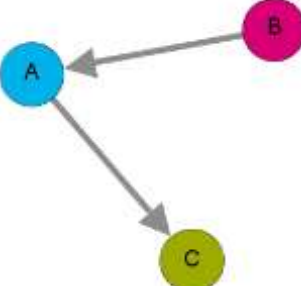
Network structure:
Betweenness centrality

Betweenness centrality approximates structural holes in the context of ego-networks

Network structure: Brokerage roles

Coordinator	Itinerant broker	Representative	Gatekeeper	Liaison
Broker is part of a community and mediates between other members of the same community	Broker mediates between members of the same community without being a member herself.	Broker mediates flow of information out of a community.	Broker mediates flow of information into a community.	Broker mediates between two different groups, neither of which she belongs to.

Network structure: Brokerage roles
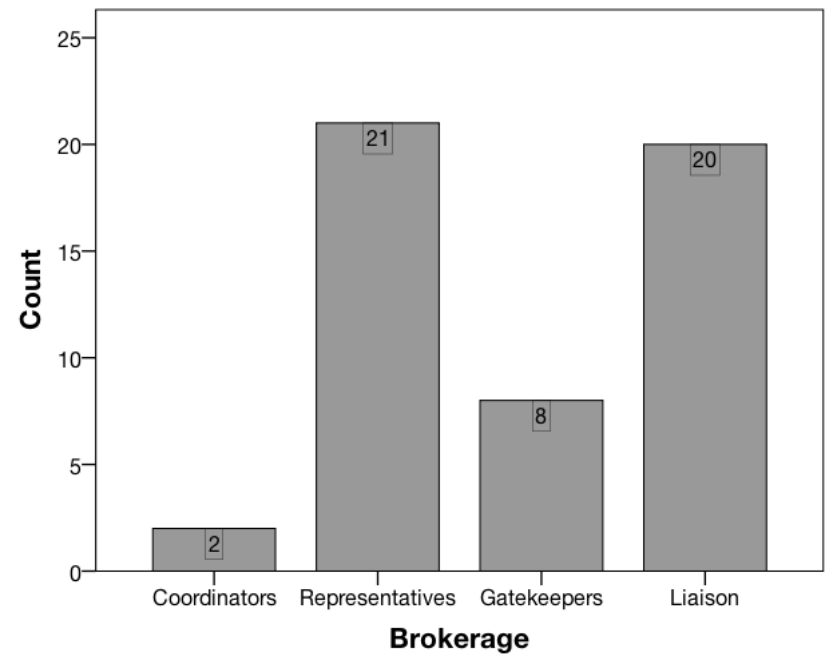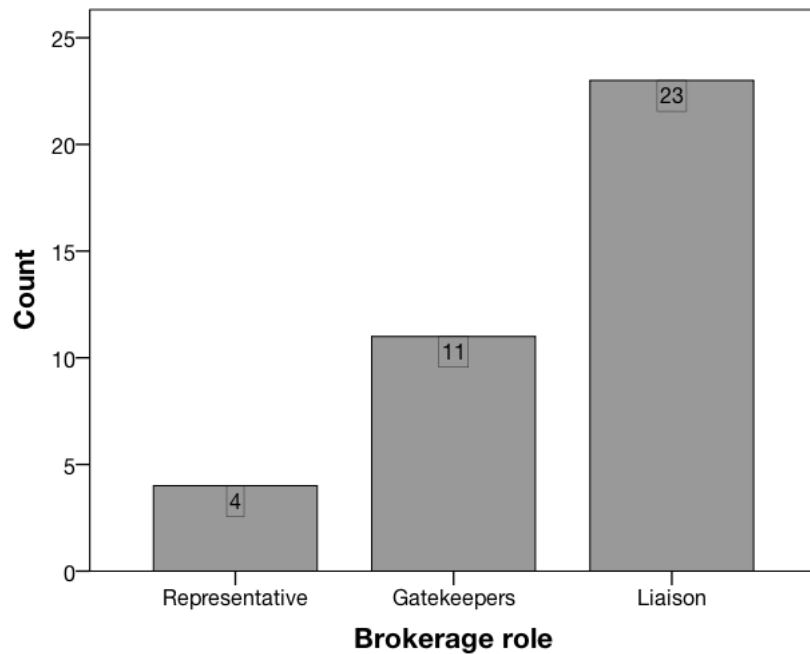
Conclusions

- Gain insights into network structure
- Academic SNS ego-networks smaller and more dense than Twitter
- Average number of communities slightly higher on Twitter than academic SNS
- Greater variation in betweenness centrality (structural holes) on academic SNS
- Brokerage types differ by site: 'liaisons' prevalent on Twitter, 'representatives' on academic SNS
- Reciprocity may exhibit different disciplinary characters
- Network size and direction of relationships differs according to seniority – but contrasting trends on Twitter and academic SNS

Future work

- Pairwise comparisons of academic SNS and Twitter networks
- Para-academics
- How accurately do these networks reflect academics' offline networks?
- What defines communities within the networks?
- -> Plan to conduct online cointerpretive interviews

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