

Using social network analysis in health coalitions and 5210 implementation

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Objectives

- Describe the Olympic Peninsula Healthy Community Coalition (OPHCC) in Clallam County, Washington as a case study.
- Examine correlations between organization’s characteristics and network centrality measures.
- These network measures will then be related to perceived satisfaction or success.
- We will also examine the spread of 5210 implementation within the health coalition.

Introduction

- Collaborations within public health are important for promoting positive community-wide change.
- Community health coalitions have been created to help foster communication and collaboration.
- Coalition effectiveness is important to the communities they serve.
- Active participation, diversity, collaboration, and group cohesion may lead to greater coalition effectiveness.
- These factors can be measured and better understood using social network analysis (SNA).

Why SNA?

- SNA is a set of theories and methodologies that examines how individuals or organizations connect, interact, communicate, and influence.
- Statistical way to interpret connections to other organizations while appropriately dealing with interrelated data.
- These interactions and connections can be associated with various outcome measures like trust, success, and satisfaction.
- Leaders of organizations with more central positions in coalition networks have reported greater feeling of coalition success.
- Changes in number of ties within a network and an increase in centralization has increase adoption of programs and practices.
- SNA show members that provide valuable bridging roles between organizations as well as display those who play a central or peripheral role in coalition activities.

Methods

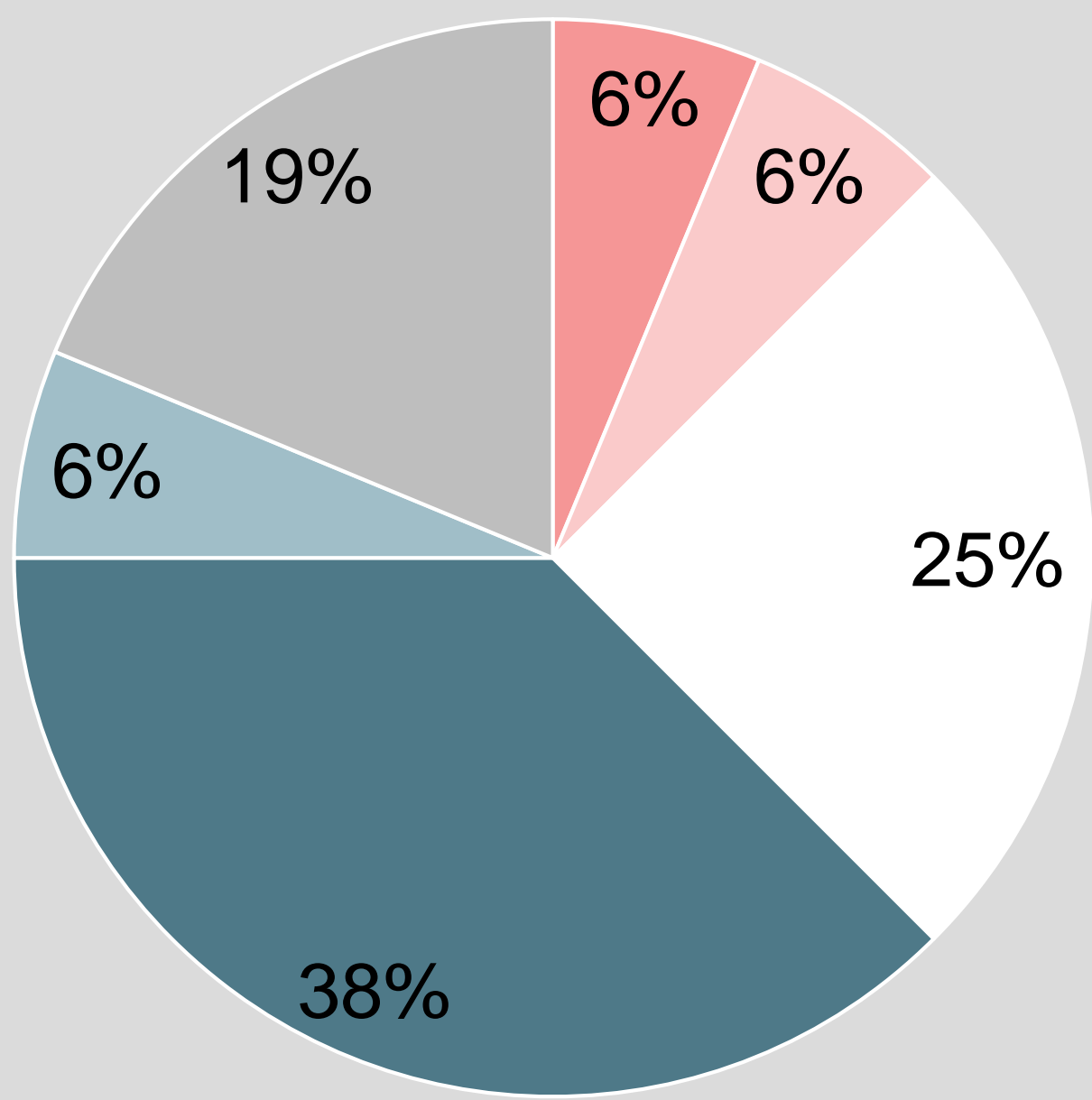
- OPHCC organization representatives were surveyed in September 2018.
- Organization type, size, roles, and collaboration experiences were reported.
- 6 networks were analyzed in which each organization representative listed organizations with which they: collaborated, competed, made formal agreements, received funds, donated funds, and wished to have more interactions.
- Correlates of participation in 5210 and perceived satisfaction are investigated.

Results

- Of the 69-member coalition we received information on 18 organizations (26%).
- The organizations in this sample reported to be in existence for an average of 33 years (sd=19.6), had been involved in OPHCC for an average of 2 years (sd=1.2), and involved with chronic disease prevention for 15.4 years on average (sd=16.9).
- Most of the organizations (77.8%) classified themselves as not-for-profit.
- Organization representatives reported that just 27.7% of their budgets went to projects related to the goals of OPHCC on average (sd=30.7%).
- On average, coalition members perceived that the problem of chronic disease was about the same (2.9 out of 5) as compared to one year ago.
- Coalition members perceived that the problem of chronic disease will be about the same (3.4 out of 5) one year from now.
- Coalition members agreed that their organization was satisfied with the current level of collaboration on average (4.3 out of 5).
- Organizations had been promoting 5210 for an average of 1.31 years (sd=1.43) and committed only 4.75% of operating budgets on 5210 related projects.

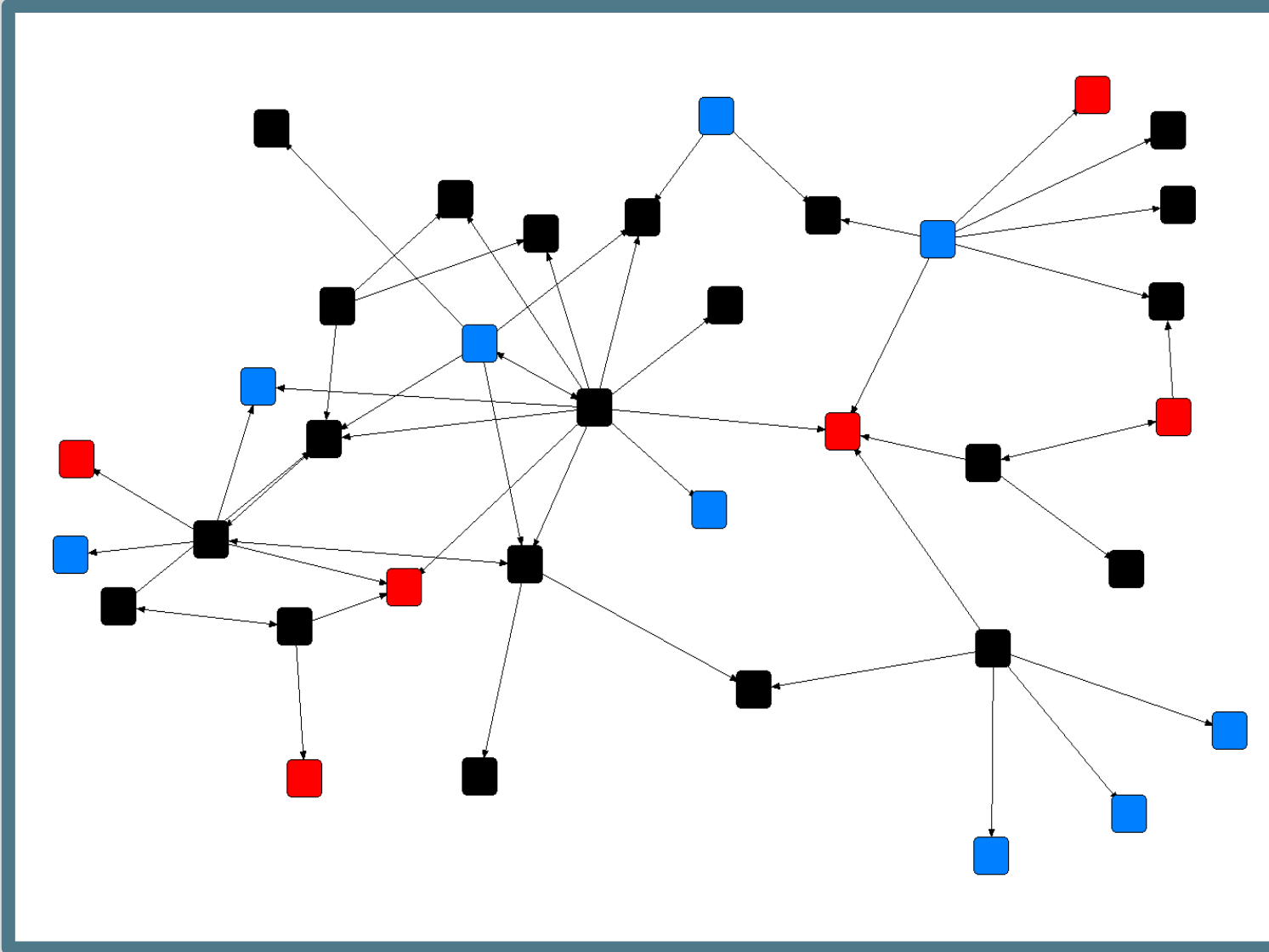
Participant Organizations

- School District
- Health Plan
- Community Organization
- Health Care provider
- Philanthropist
- Welfare Agency

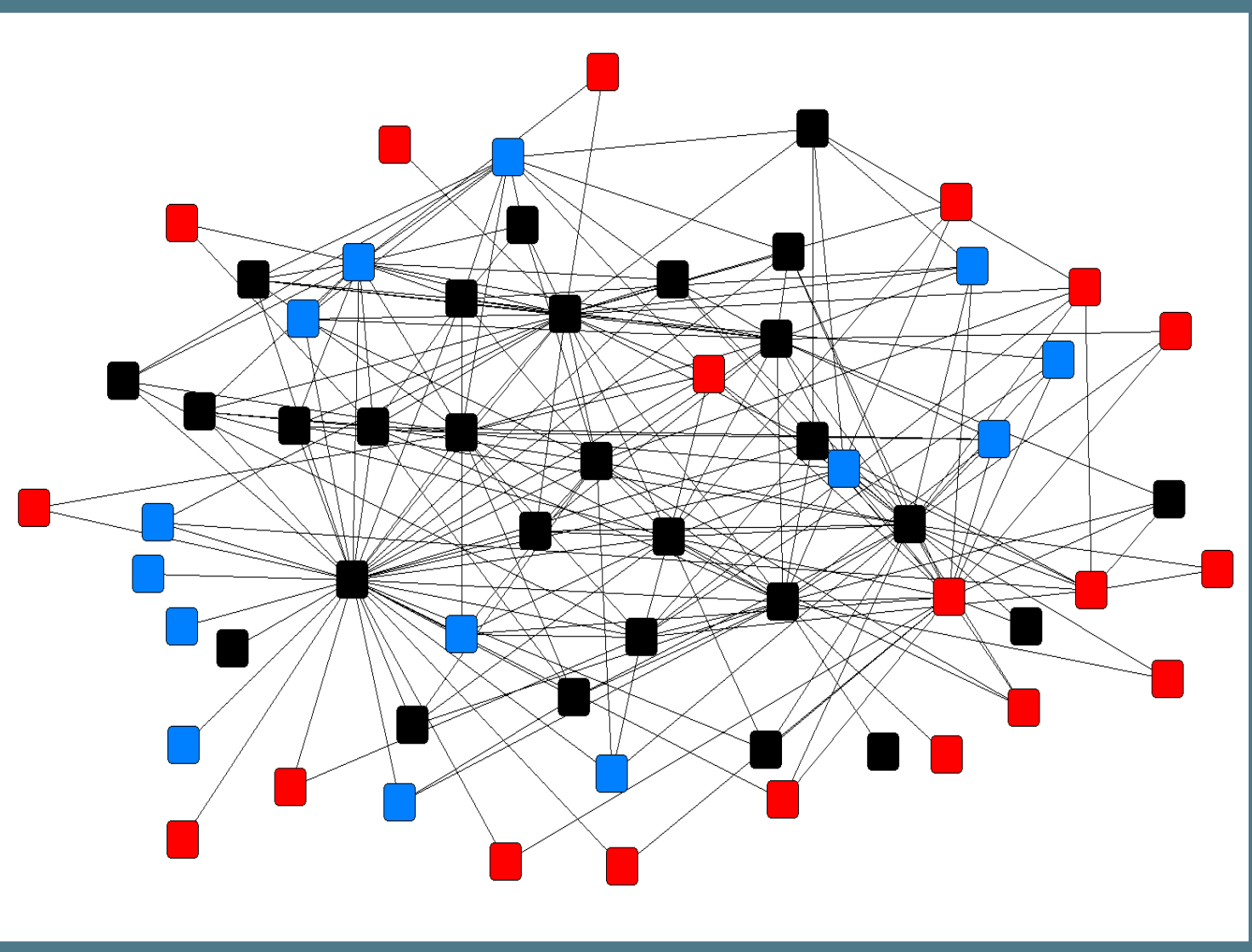


Correlations						Comparison of Networks						
	Years in OPHCC	Years 5210	Perceived Satisfaction	Collaboration	More Collaboration	Network	Ties	Density	Degree Centralization	Average Degree	Max Degree	Core-Periphery
Years	0.18	0.19	0.17	0.31	-0.12	Collaboration	247	0.06	52%	3.8	36	0.55
Years in OPHCC		0.81**	0.56*	0.16	0.30	Competition	32	0.008	44%	0.5	28	0.55
Years 5210			0.53*	0.02	0.14	Non-Financial Agreement	44	0.01	23%	0.7	15	0.37
Perceived Satisfaction				0.03	-0.11	Funds-From	34	0.008	17%	0.5	11	0.28
Collaboration					0.38	Funds-To	18	0.004	9%	0.3	6	0.53
** Significant at the 0.01 level * Significant at the 0.05 level						More Collaboration	211	0.05	43%	3.2	30	0.38

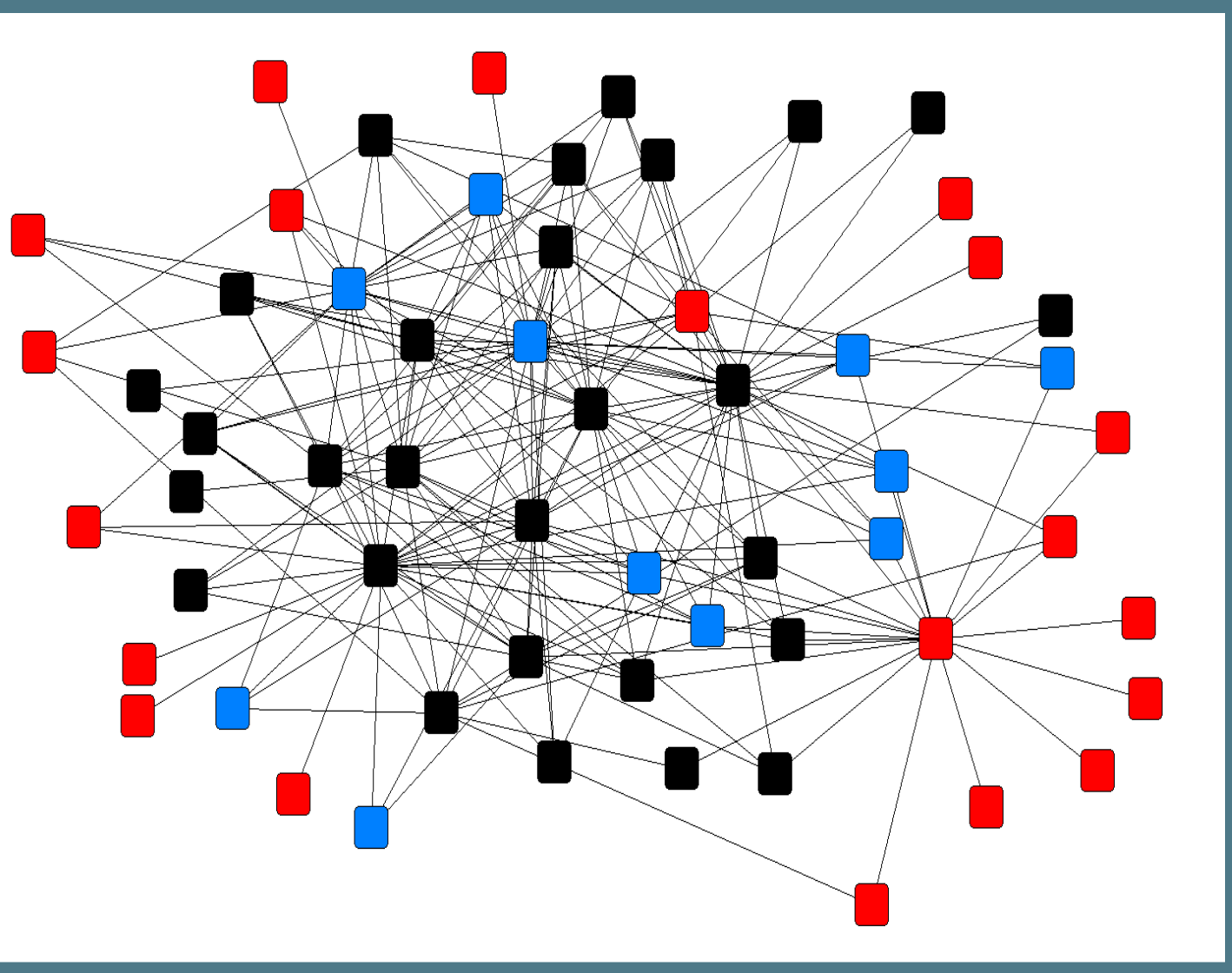
Donating Funds



Current Collaboration



Desire for More Communication



■ Active Organizations (6 or more meetings) ■ Occasional Participation (3-5 meetings) ■ Inactive Organizations (2 or fewer meetings)

Using SNA in Coalitions

- Participation is key. One limitation of this study is the missing organizations. Network science is interrelated and suffers dramatically from missing data.
- Not all members may be active members. This may effect participation rates and typically can be reduced to a core-periphery structure.
- Multiplexity of ties is important to capture. An organization can interact with another organization in many ways. Some ties might be more important for the diffusion of ideas or resources than others.
- Degree is not always most important or beneficial. Other centrality measures may be more telling and have implications for coalition functioning.
- Network studies are specific to the network studied. Generalizability can be difficult due to the sampling techniques and interrelated nature of data (coalition).

Conclusions

- Perceived satisfaction in coalition is not significantly related to degree centrality in this network.
- More work should be done on the perceived value of each connection as well as using Exponential Random Graph Modeling to further explain formation.
- SNA can help coalitions better understand the underlying collaboration and competition networks that influence their work.

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