

Foci

Matthew Salganik

Social Network (Soc 204)
Spring 2017
Princeton University

2/22/17

Logistics:

- ▶ no update on Blackboard yet

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- ▶ no update on Blackboard yet
- ▶ go to precept this week

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- ▶ go to precept this week
- ▶ no more posting of Watts book

Questions?

Feedback from last class:
Expectations for new materials

Causal Inference through the Method of Direct Estimation

Marc Ratkovic

Friday, February 24th, noon

Corwin 127

<http://q-aps.princeton.edu/book/QSS-seminar>

"The intersection of causal inference and machine learning is a rapidly advancing field. We propose a new approach, the method of direct estimation, that draws on both traditions in order to obtain nonparametric estimates of treatment effects. The approach focuses on estimating the effect of fluctuations in a treatment variable on an outcome. A tensor-spline implementation enables rich interactions between functional bases allowing for the capture treatment/covariate interactions. We show how new innovations in Bayesian sparse modeling readily handle the proposed framework, and then document its performance in simulation and applied examples. Furthermore we show how the method of direct estimation can easily extend to structural estimators commonly used in a variety of disciplines, like instrumental variables and

Vote:

1. Gladwell, M. (1999). Six degrees of Lois Weisberg. The New Yorker.
2. Watts, Chapter 4, 114-129.
3. Feld, S.L. (1981) The focused organization of social ties. American Journal of Sociology, 86(5):1015-1035.

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- ▶ diseases spread more easily on networks with power law degree distribution than on other types of networks
- ▶ networks with power law degree distribution are robust to random failure but fragile to targeted attack
- ▶ “hubs” seem important



Source: www.wbez.org

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- ▶ the flea-market aficionados

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The No. 1 Predictor Of Ca... x

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ENTREPRENEURS 1/15/2015 @ 1:54PM | 238,828 views

The No. 1 Predictor Of Career Success According To Network Science

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It has been over three years since [Steve Jobs](#) died.


Since then, books have been written and movies have been made.

Each has celebrated his legacy and aimed to share the secrets he used to build the largest company in the world; things like attention to detail, attracting world-class talent and holding them to high standards.


We think we understand what caused his success.

We don't.

We dismiss usable principles of success by labeling them as personality quirks.



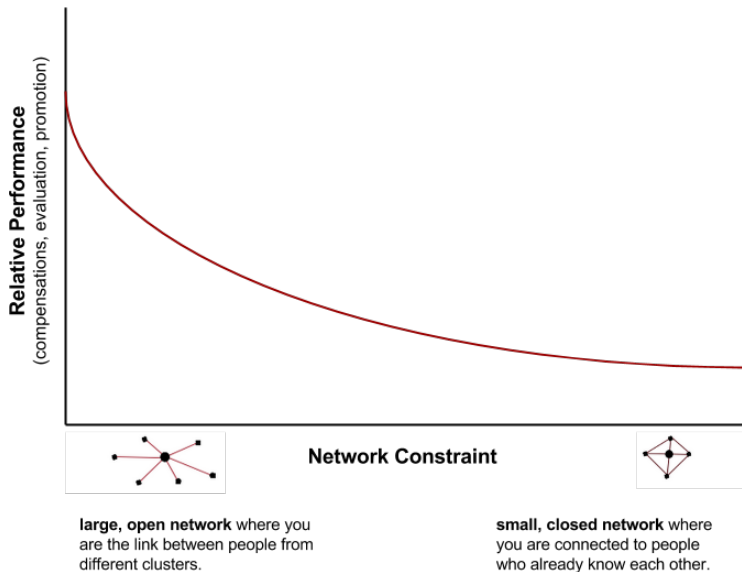
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CONFERENCES AND MORE 7

Source: <http://www.forbes.com/sites/michaelsimmons/2015/01/15/this-is-the-1-predictor-of-career-success-according-to-network-science/>



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Do Open Networks Boost ...

blog.dilbert.com/post/108916425231/do-open-networks-boost-your-odds-of-success

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Do Open Networks Boost Your Odds of Success?

Posted January 23rd, 2015 @ 8:46am in [#success](#)

Every time I hear of a study suggesting that doing (whatever) is important for success, I ask myself if the authors interpreted the correlations correctly.

And I rarely think they did.

Take for example this [recent article](#) describing how people with "open networks" are far more successful than those with "closed networks." In this context, it means that the more new ideas you are exposed to, the more likely you are a success.

That interpretation makes perfect sense to me. Seeing lots of new ideas is probably a good thing in most situations.

But another interpretation is that the folks with the personalities and resources to succeed are more likely to also have open networks. It doesn't necessarily mean one causes the other.

The good people manufacturing mature products, such as concrete,

Source: <http://blog.dilbert.com/post/108916425231/do-open-networks-boost-your-odds-of-success>

STRUCTURAL HOLES

The Social Structure of Competition

RONALD S. BURT

How does Lois Weisberg's story and the readings more generally change how we should think about networks?

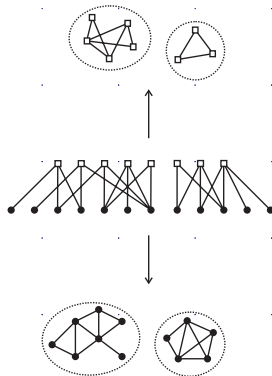
How does Lois Weisberg's story and the readings more generally change how we should think about networks?

Combines

- ▶ network structure
- ▶ social structure

Affiliation network

4.6



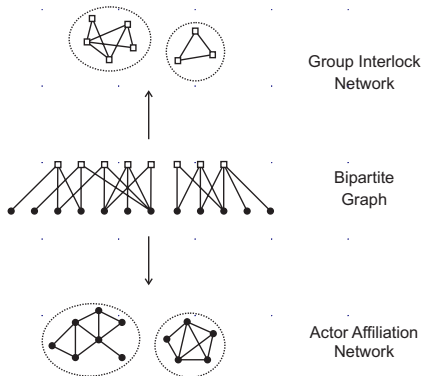
Group Interlock
Network

Bipartite
Graph

Actor Affiliation
Network

Affiliation network

4.6



- ▶ actors and movies
- ▶ scientists and papers
- ▶ board members and boards of directors

The Focused Organization of Social Ties¹

Scott L. Feld

State University of New York at Stony Brook

The Focused Organization of Social Ties¹

Scott L. Feld

State University of New York at Stony Brook

- ▶ you are stepping in a conversation

The Focused Organization of Social Ties¹

Scott L. Feld

State University of New York at Stony Brook

- ▶ you are stepping in a conversation
- ▶ a very dense—but interesting—conversation

Foci: a social, psychological, or physical entity around which joint activities are organized.

Let's map out foci at Princeton along two dimensions:

- ▶ size: number of people involved
- ▶ constraint: the amount the focus leads individual to develop time and energy to joint activities

Explaining triadic closure:

- ▶ balance theory vs foci (psychology vs sociology)

Balance theorists offer a cognitive explanation of the tendency for indirect ties to lead to the development of direct ones. They suggest that psychological tendencies toward consistency lead individuals to bring members of their network together. Balance theory thus implies that the factors determining whether direct ties will develop are psychological characteristics of the individuals. The focus theory suggests that the factors determining whether direct ties will develop are characteristics of the social situation and the compatibility of the foci underlying the indirect connections.

The focused organization of social ties implies that a researcher should understand and measure relations to foci in order to understand the structure of a network. The patterns of relations to foci are likely to be crucial for explaining clusters and interrelations among clusters in a network, and ignoring these extra-network structural bases of ties may lead one to misinterpret (e.g., in terms of cognitive pressures toward consistency) patterns that are found among ties.

What do foci and groups have to do with Facebook and Google+
(and maybe Snapchat)?

- ▶ sometimes the edges that don't exist are as important as the edges that do exist

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- ▶ affiliation networks (people and groups) help us understand patterns in personal network structure
- ▶ compare and contrast psychological vs sociological explanations for network structure
- ▶ sociological principles can shape the design of technical systems

<http://bit.ly/socnet204>

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Monday:

- ▶ Watts, Chapter 5. (not available from blackboard)
- ▶ Lee, N.H. (1969). The Search for an Abortionist: Preface, Chapter 1, and Chapter 5. (Available from blackboard).

