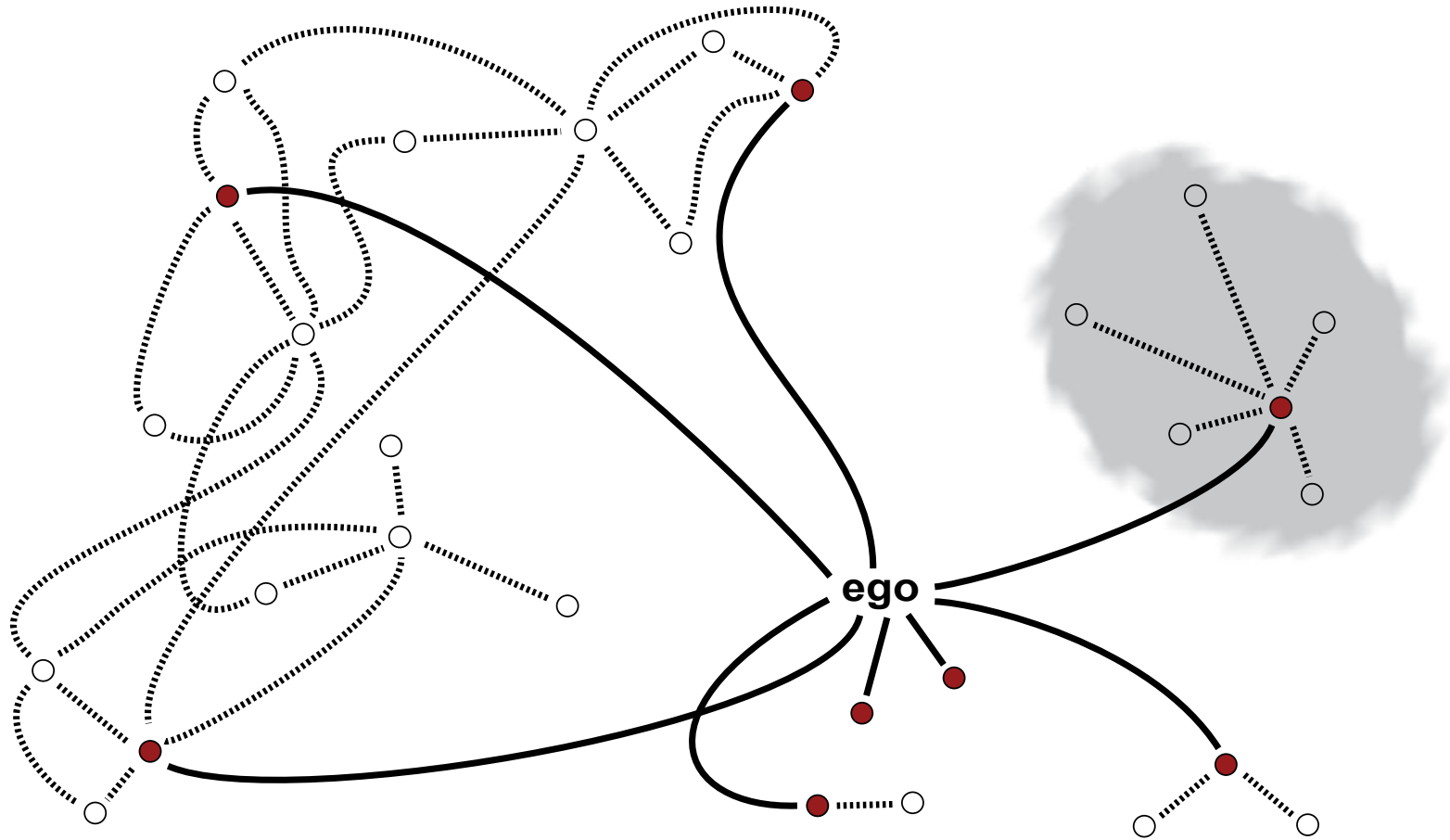
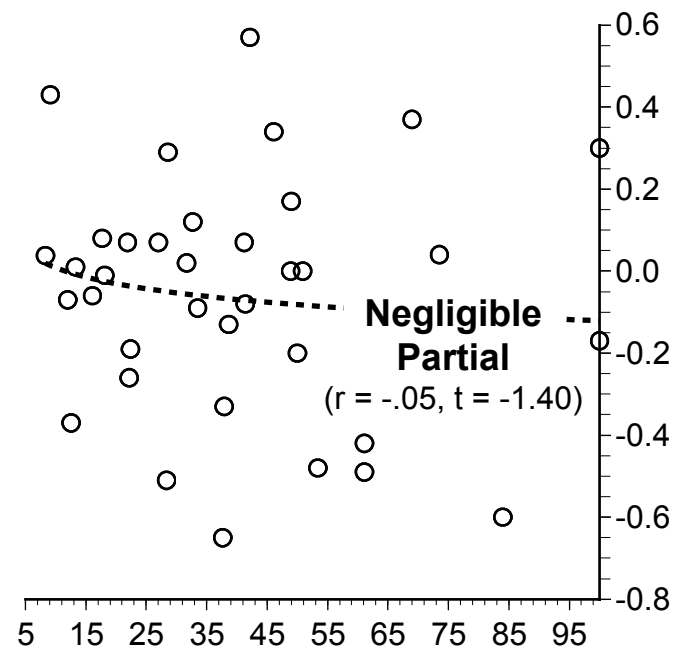
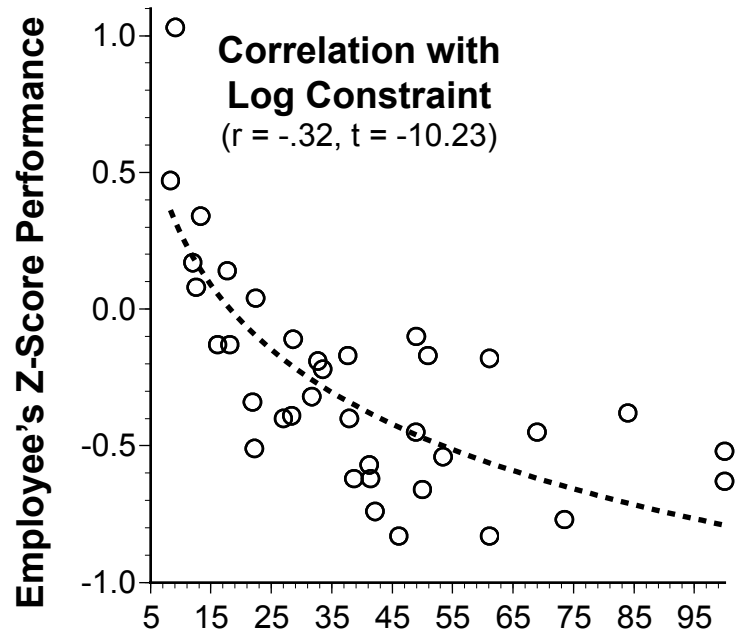


Managers in a Network Organization: Re-Thinking the Boss

Where Should the Boss be in Your Network?



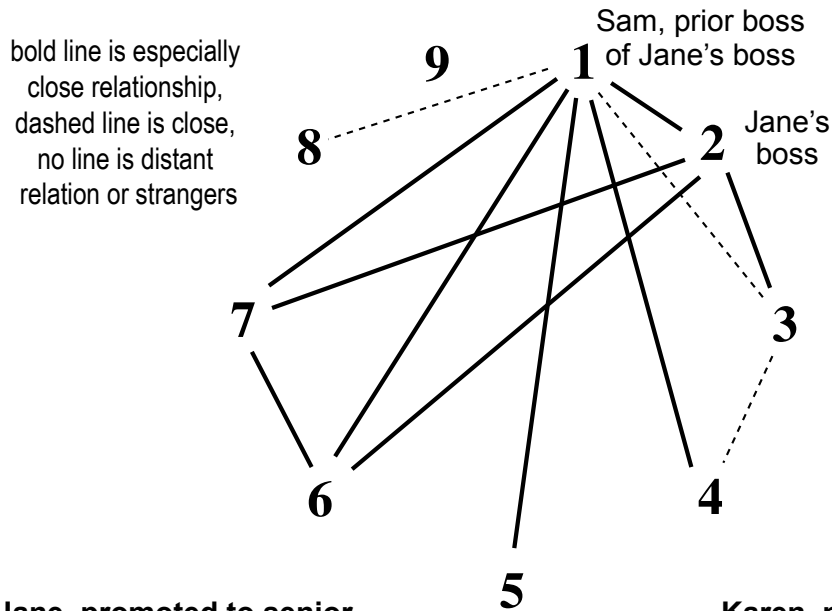
No Spillover Effect, so no guidance by that criterion — boss could be close or distant.



Lack of Structural Holes in Network around Employee's Boss
(network constraint on boss, averaged within five-point intervals)

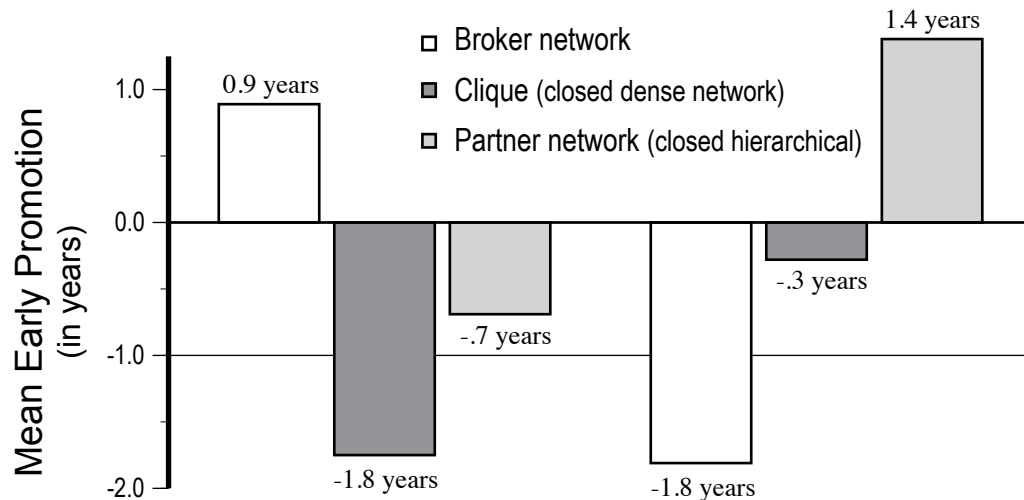
Residual Z-Score Performance
(studentized residual holding constant job rank, direct network constraint, and other control variables)

These results were in the "Brokerage" handout, from Figure 4.6 in *Neighbor Networks*. Each dot in the graph is a population average on the Y axis and X axis for a five-point interval on the X axis (HR employees, product-launch employees, and supply-chain managers). Correlations and test statistics are estimated across individuals.



Jane, promoted to senior manager 9 years early

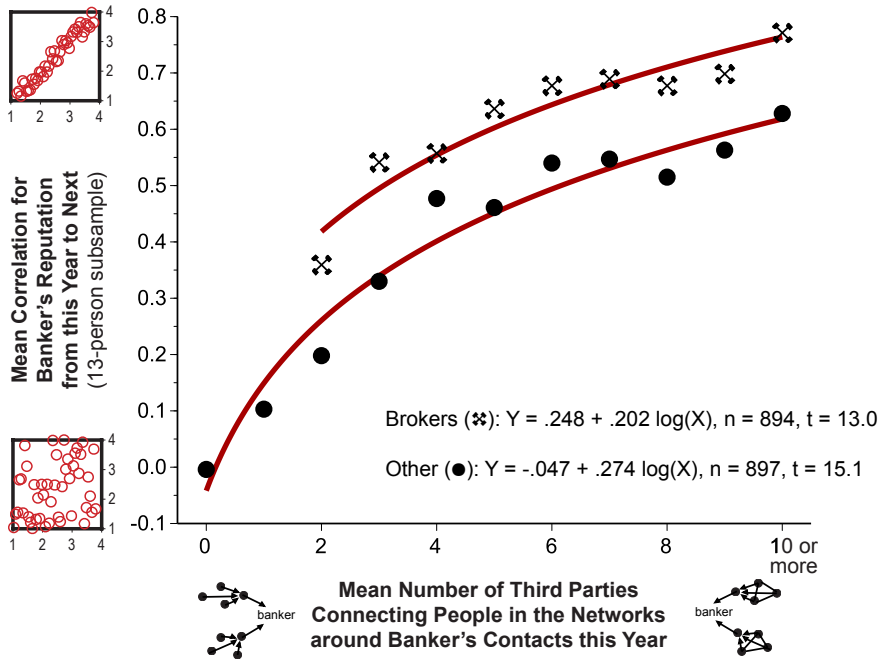
Karen, pro senior mar



No Partner Benefit to Outsiders and Tonto Cost to Insiders, so you don't want the boss to be your partner link to structural holes (though if a partner is needed, the boss can be helpful in finding partners, e.g., Jane).

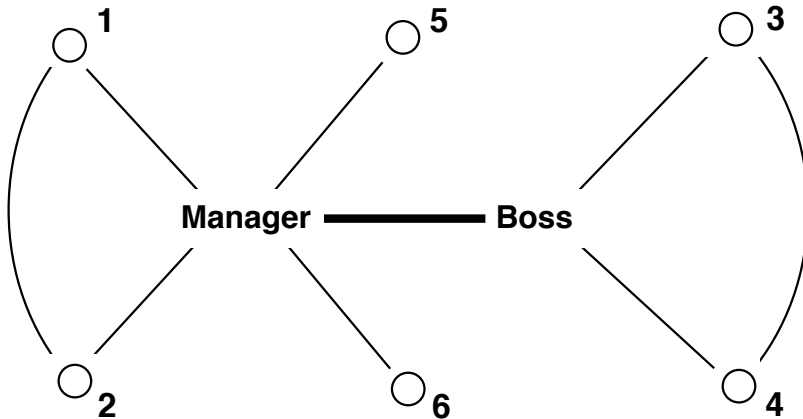
Kinds of Networks Have Different Consequences for Kinds of Managers
($F = 3.77, 5-278 \text{ d.f.}, P < .01$)

These results were in the "Partners" handout, from Burt, "Gender of social capital" (1998, *Rationality and Society*) and Figure 7.4 in *Neighbor Networks*. Bars show average number of years managers with each kind of network, in a large computer firm, were promoted to senior rank before peers.

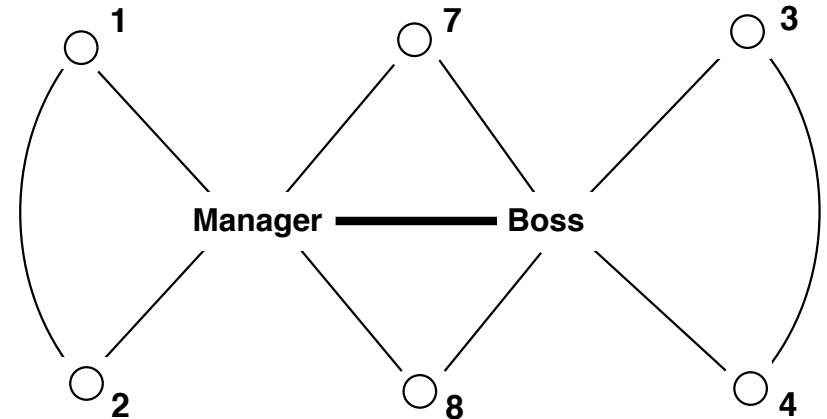


However, you want the boss close enough to be an informed source to senior colleagues about your achievements.

Additionally, bridge supervision can be alienating and performance eroding.



Bridge Supervision



Embedded Supervision

Graph results were in the "Closure" handout, from Burt (2013 *Structural Holes in Virtual Worlds*). Vertical axis is reputation persistence from one year to next. Horizontal axis is average number of third party connections in the networks around banker's contacts (rounded to nearest whole number). Brokers are bankers with below-median network constraint this year. Regression lines in graph go through averages. Regression equations estimated from 894 year-to-year banker transitions. Sociograms are from a working paper by Jen Merluzzi on "Bridge Supervision."

There is no authoritative answer to the "where should the boss be" question, or most other management questions

TABLE I. Whom Should You Believe? Clashing Business Book Titles

<i>In Search of Excellence: Lessons from America's Best-Run Companies</i>	<i>The Myth of Excellence: Why Great Companies Never Try to Be the Best at Everything</i>
<i>Charisma: Seven Keys to Developing the Magnetism That Leads to Success</i>	<i>Leading Quietly: An Unorthodox Guide to Doing the Right Thing</i>
<i>Leading the Revolution: How to Thrive in Turbulent Times by Making Innovation a Way of Life</i>	<i>Managing for the Short Term: The New Rules for Running a Business in a Day-to-Day World</i>
<i>Love Is the Killer App: How to Win Business and Influence Friends</i>	<i>Business Is Combat: A Fighter Pilot's Guide to Winning in Modern Business Warfare</i>
<i>The Peaceable Kingdom: Building a Company Without Factionalism, Fiefdoms, Fear and Other Staples of Modern Business</i>	<i>Capitalizing on Conflict: Strategies and Practices for Turning Conflict to Synergy in Organizations</i>
<i>Managing by Measuring: How to Improve Your Organization's Performance Through Effective Benchmarking</i>	<i>Managing with Passion: Making the Most of Your Job and Your Life</i>
<i>The Quest for Authentic Power: Getting Past Manipulation, Control, and Self-Limiting Beliefs</i>	<i>What Would Machiavelli Do? The Ends Justify the Meanness</i>
<i>Thinking Inside the Box: The 12 Timeless Rules for Managing a Successful Business</i>	<i>Out of the Box: Strategies for Achieving Profits Today and Growth Tomorrow through Web Services</i>
<i>Built to Last: Successful Habits of Visionary Companies</i>	<i>Corporate Failure by Design: Why Organizations Are Built to Fail</i>

Table 1 in Pfeffer & Sutton (2006 *California Management Review*), "Management half-truths and nonsense: how to practice evidence-based management."

So, you've got to figure out an answer productive for your situation — "evidence-based management."

TABLE 2. Current Standards versus Evidence-Based Management

Current Practice	Evidence-Based Management
Treat old ideas as if they are brand-new.	Treat old ideas like old ideas.
Glorify, celebrate, and apply breakthrough ideas and studies.	Be suspicious of breakthrough ideas and studies—they almost never happen.
Celebrate brilliant individuals like management gurus, thought leaders, and star performers.	Celebrate communities of smart people and collective brilliance, not lone geniuses or gurus.
Emphasize only the virtues of the research methods and the management practices you use. Don't mention drawbacks or uncertainties.	Emphasize the virtues <i>and</i> drawbacks (and uncertainties) of your research and proposed practices.
Use success and failure stories about companies, teams, and people to uncover best and worst practices.	Use success and failure stories to illustrate practices supported by other evidence, not necessarily as valid evidence.
Use popular ideologies and theories to generate and justify management practices. Ignore or reject all clashing evidence (no matter how strong).	Take a neutral approach to ideologies and theories. Base management practices on the best evidence, not what is in vogue.

Table 2 in Pfeffer & Sutton (2006 *California Management Review*), "Management half-truths and nonsense." Resistance to evidence-based management is discussed in Pfeffer & Sutton (2006 *Harvard Business Review*), "Evidence-based management" and more generally in their book, *Hard Facts, Dangerous Half-Truths, and Total Nonsense: Profiting from Evidence-Based Management* (2006, HBS Press).

Specifically, combine effective communication with the rules of scientific inference.

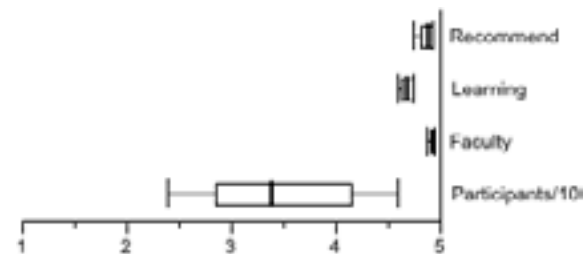
- Define a baseline for the target issue — the null hypothesis of what you expect if no action is taken, or what you expect if a specific alternative action is taken ("tried to prove the opposite case; that managers don't matter").
- State your proposed action as a solution to the issue. Why should your proposed action work? ("What if everyone had an awesome manager — not just a good one or a competent one, but a truly amazing manager? What kind of results would we see?")
- How will you demonstrate to the audience that your intervention worked or should work? ("magic picture" "killer graphic") What are the relevant target audience concerns? What kind of evidence will they find compelling; stories, focus groups, facts?

For Example, consider Raytheon's collaboration with the University of Chicago Booth School of Business School to train executives in network coordination across the enterprise.

Business Leadership Program

Raytheon Company and University of Chicago

Evaluation and Follow-Up



Business Leadership Program (BLP)

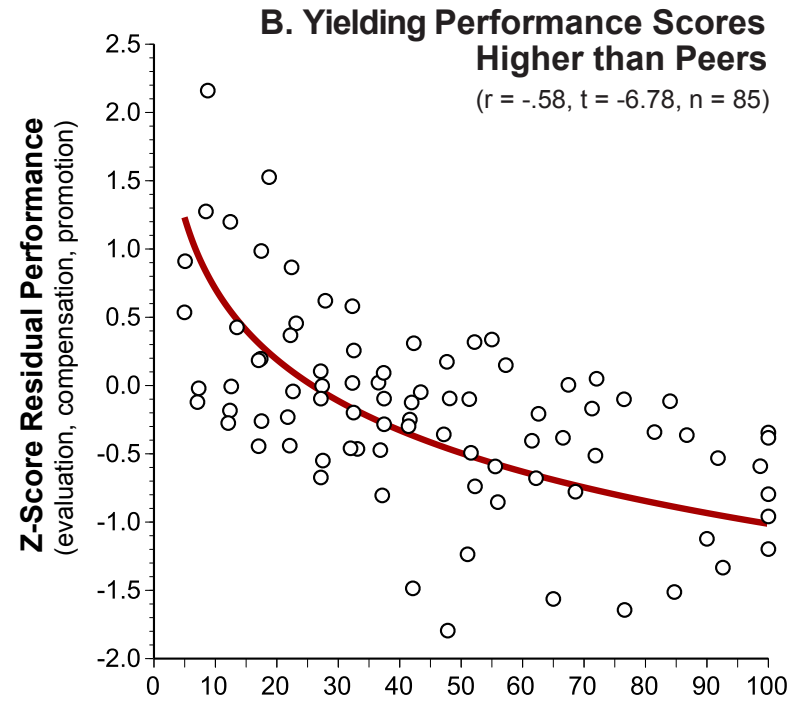
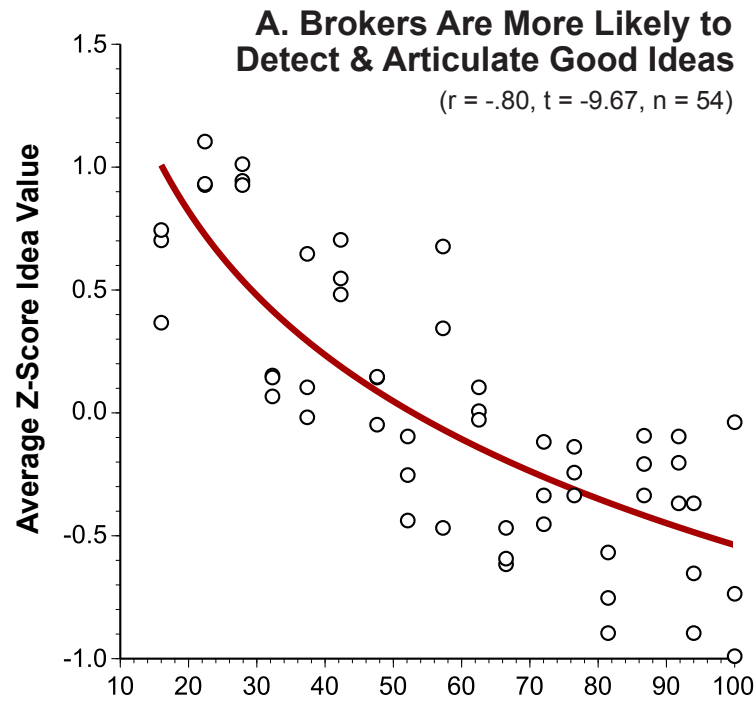
... enhances transition to leading other leaders in strategic thinking about markets, competitors, customers, suppliers, and the Raytheon businesses, while building personal connections across the businesses. The program is (a) a week at the University of Chicago consisting of project work on Raytheon strategy issues combined with debate over video, written cases, the latest theory-research on business and corporate strategy, (b) a mid-course session in Waltham about six weeks later at which Bill Swanson leads a Q&A with the participants, and (c) a graduation session in Waltham about three months after Chicago for project-team presentations, with Bill Swanson leading the discussion.

The BLP is aimed at Directors and Vice-Presidents, but open to promising people in other ranks. Participants are selected in consultation with business leaders, guided by the HR review process and performance in the Strategic Leadership Program, then invited to a specific program by the CEO.

Monday	Tuesday	Wednesday	Thursday	Friday	MidCourse	Graduation
<p>11:00 Program Introduction</p> <p><u>Principles of Strategic Leadership</u></p> <p>- creating value in a world of silos</p> <p>- managing reputation</p> <p>Group Dinner</p>	<p><u>Cornerstones of Competitive Advantage</u></p> <p>Experience curves, five forces, RBV</p> <p>- Cooper Ind.</p> <p><u>One-Company with Superior Solutions for Customers</u></p> <p>- Affymax & GlaxoWellcome</p> <p>- O&M in WPP</p>	<p><u>Business and Corporate Strategy</u></p> <p>(What business units should be combined?)</p> <p>- PepsiCo</p> <p><u>Technology Strategy and Competitive Advantage</u></p> <p>- EMI and the CT Scan</p>	<p><u>Creating and Delivering Value within the Raytheon Strategy</u></p> <p>Project Bazaar</p> <p><u>Making It Happen in Raytheon</u></p> <p>Project Teams begin work & compare notes</p> <p>Group Dinner</p>	<p><u>Making It Happen in Raytheon</u> (continued)</p> <p>Project teams iterate through team work on project idea followed by debriefing and critiquing across teams.</p> <p>3:00 Close</p>	<p>Project teams reconvene to report out to one another for mid-course correction</p> <p>Q&A with Bill Swanson on strategic issues of interest to the participants</p>	<p>Project team presentations with Bill Swanson leading the discussion</p> <p>Program Conclusion (reception and graduation)</p>

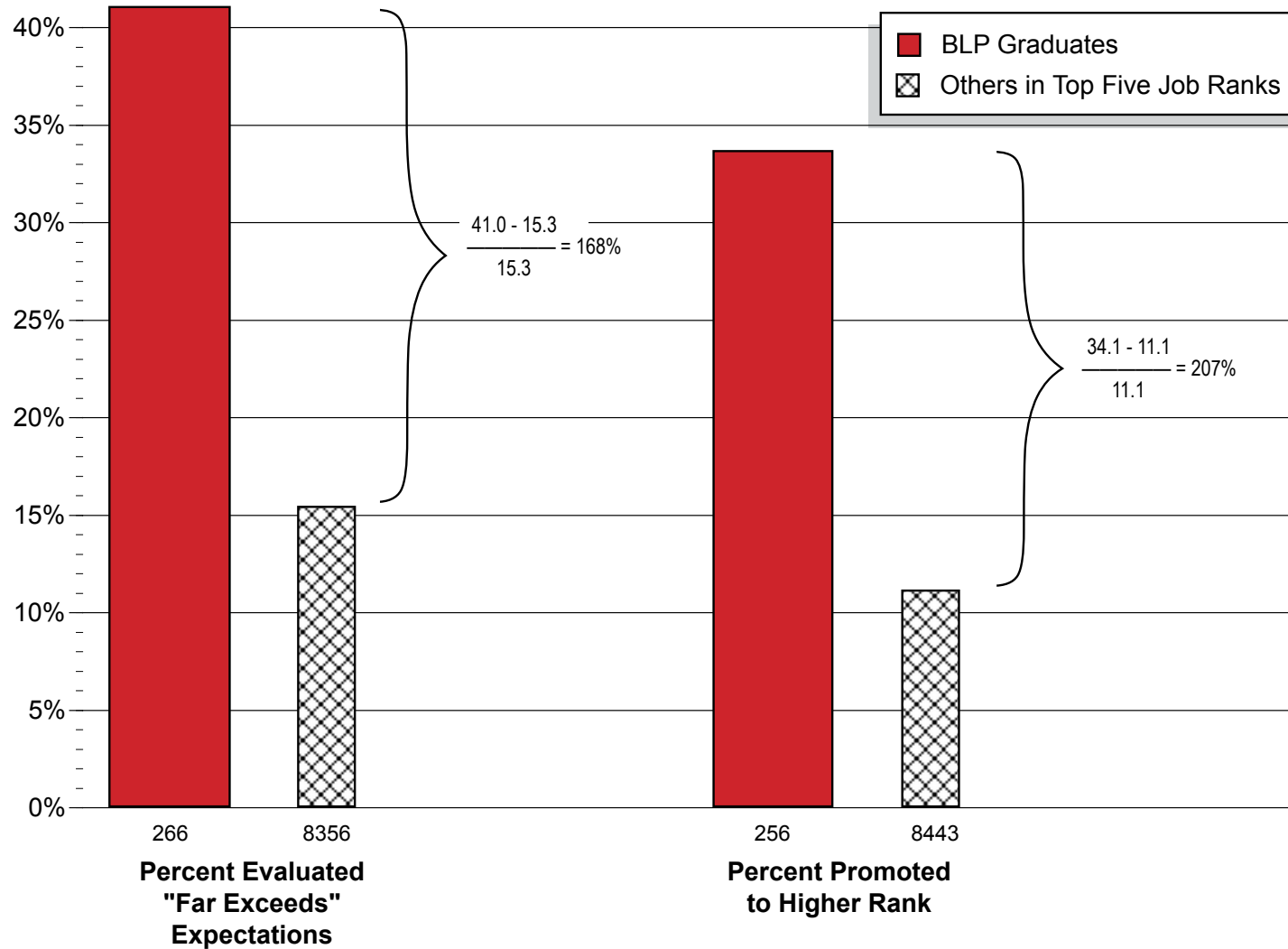
Brokerage for Detecting and Developing Opportunities

Manifest as better ideas, more-positive evaluations, higher compensation, earlier promotion, and faster teams.



These results were in the "Foundations" handout. Graph A shows idea quality increasing with more access to structural holes. Circles are average scores on the vertical axis for a five-point interval of network constraint among supply-chain managers in a large electronics firm (page 92 *Brokerage and Closure*). Bold line is the vertical axis predicted by the natural logarithm of network constraint. Graph B shows performance increasing with more access to structural holes. Circles are average scores on the vertical axis for a five-point interval of network constraint within each of six populations (analysts, bankers, and managers in Asia, Europe, and North America; page 56 in *Brokerage and Closure*).

ROI on Executive Education: Initial Results, Flawed Evidence



from Figure 5 in Burt & Ronchi, "Teaching executives to see social capital: results from a field experiment" (2007, *Social Science Research*). Outcomes are up to four years after program, with exact time after held constant.

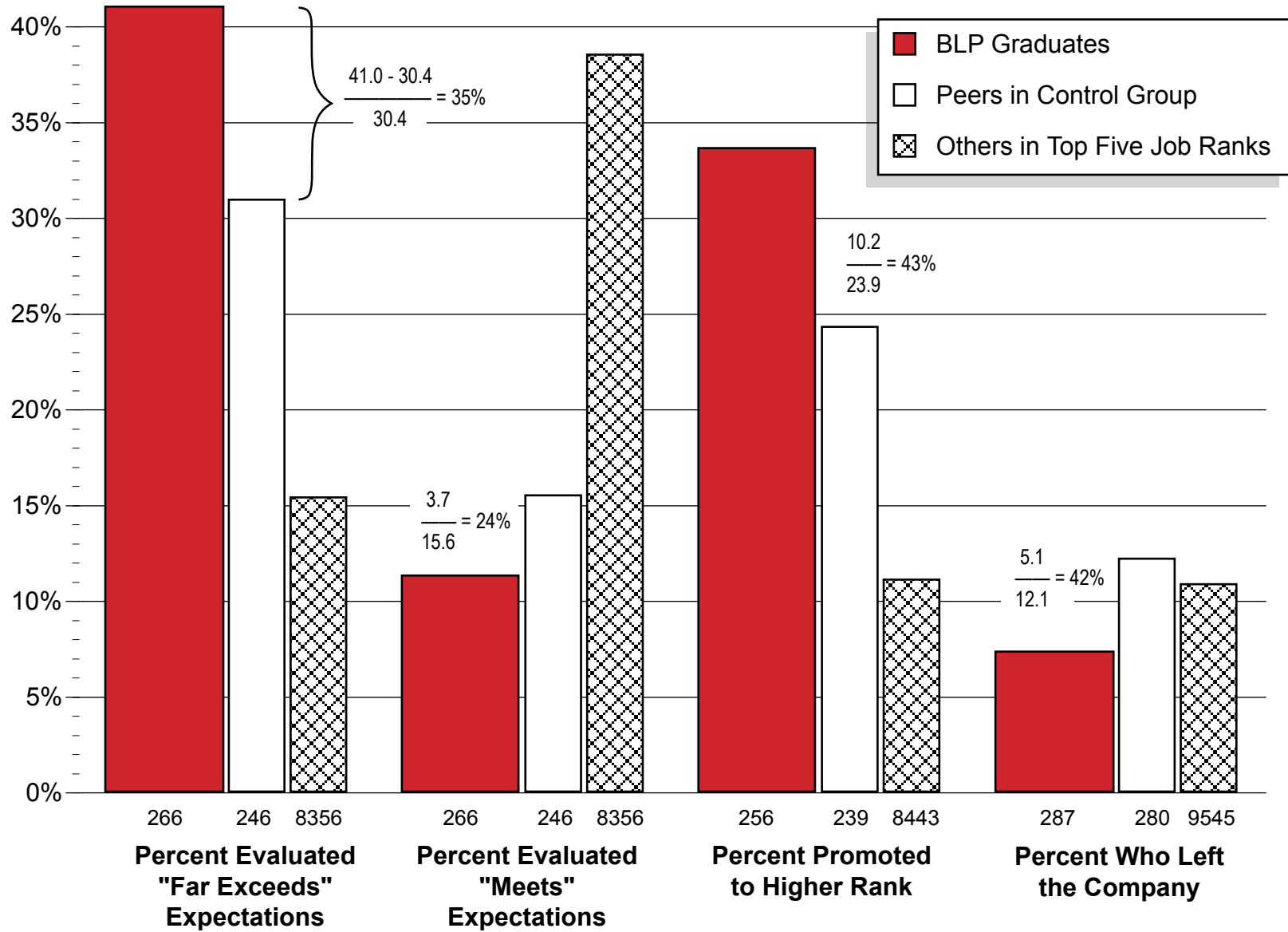
ROI on Executive Education: Define Baseline

Table 1. Risk Factors for Invitation and Attendance.

	Z-Score Invitation	Z-Score Attend		Z-Score Invitation	Z-Score Attend
Job Rank			Personal Attributes		
Vice President	7.18	-1.38	Age (in years)	-2.99	-.78
Senior Director	8.87	-.92	Age past 55 (years)	-3.36	-.13
Director	--	--	Woman	1.82	.88
Senior Manager	-10.90	.53	African-American	5.58	.85
Manager	-12.22	--	Asian	2.30	-1.08
			Hispanic	.78	.20
Kind of Work			Bachelor's Degree	-.43	-.79
Engineering Job Category	.63	.87	Graduate Degree	2.31	.25
Business Development	1.90	-.09	Personal Performance		
Lead Engineer	-.02	1.62	Meets Expectations	-2.46	-1.76
Engineering Fellow	.27	-1.49	Exceeds Expectations	--	--
Other Engineer	-.70	-.22	Far Exceeds Expectations	5.93	-1.66
Production	1.55	.59	Relative Salary	3.55	-.21
Lead Program Manager	3.20	.38	SixSigma Specialist	1.05	.86
Other Program Manager	1.17	.13	SixSigma Expert	3.91	1.97
Finance	.67	.07	Performance in the SLP	13.77	3.89
Human Resources	--	--	New Hire (years)	-.05	-.58
Other Administrative Work	1.79	.15	Period 3 (after mid-2003)	6.81	1.78
			New Hire in Period 3	4.11	1.43
Geography			Multiple Invitations to BLP	--	-1.51
Arizona	1.72	-.66	<p>NOTE — These are z-score test statistics for two logit models, one predicting who was invited and the second predicting who accepts their invitation. Estimation is across three annual panels of data on employees in the top five job ranks (27,884 observations, adjusted for autocorrelation within employee across panels). Reference categories are indicated by "--" in place of a statistic. The "invitation" column lists z-scores for the row factor predicting invitation to the BLP (1144.41 chi-square, 35 d.f., P << .001). The "attend" column lists z-scores for the row factor predicting who among the invited people attended the BLP (74.65 chi-square, 35 d.f., P < .001). The job rank of "Manager" is not included in the matriculation prediction because everyone invited from that rank accepted his or her first invitation.</p>		
California	-.82	.25			
New England	--	--			
Texas	.53	1.81			
Other Location	1.76	-.13			

Table 1 in Burt & Ronchi, "Teaching executives to see social capital: results from a field experiment" (2007, *Social Science Research*).

ROI on Executive Education: Advantage Can Be Learned



Strategic Leadership
Managers in a Network Organization: Re-Thinking the Boss (page 13)

Figure 5 in Burt & Ronchi, "Teaching executives to see social capital: results from a field experiment" (2007, *Social Science Research*).

More, Personal Engagement Matters

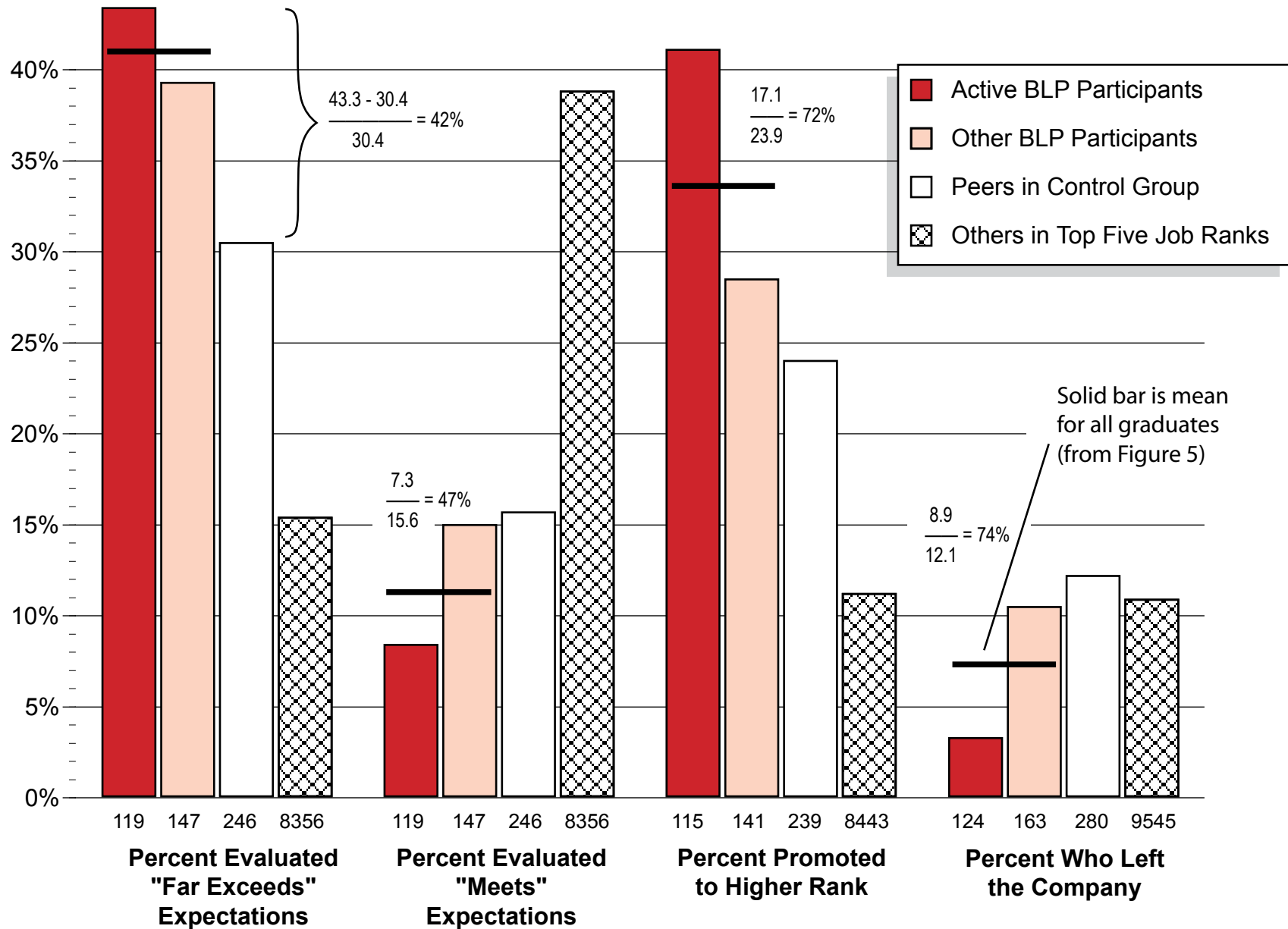
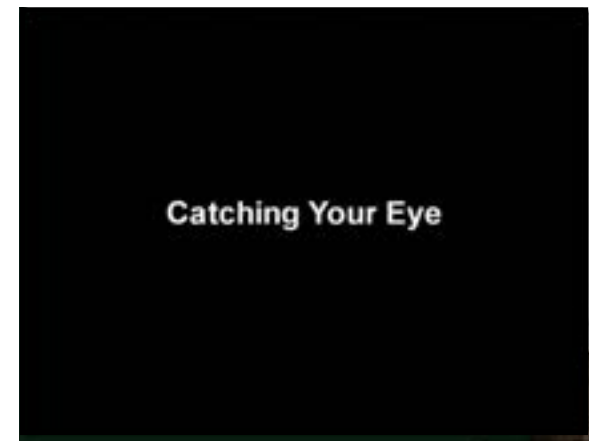


Figure 6 in Burt & Ronchi, "Teaching executives to see social capital: results from a field experiment" (2007, *Social Science Research*).

Google™



Now to Project Oxygen, combine effective communication with the rules of scientific inference.

- Define a baseline for the target issue — the null hypothesis of what you expect if no action is taken, or what you expect if a specific alternative action is taken ("tried to prove the opposite case; that managers don't matter").
- State your proposed action as a solution to the issue. Why should your proposed action work? ("What if everyone had an awesome manager — not just a good one or a competent one, but a truly amazing manager? What kind of results would we see?")
- How will you demonstrate to the audience that your intervention worked or should work? ("magic picture" "killer graphic") What are the relevant target audience concerns? What kind of evidence will they find compelling; stories, focus groups, facts?



Google's Project Oxygen was launched late in 2009 with the goal of answering the question: "Do managers matter?" The multi-year research project ultimately led to a comprehensive program, built around eight key management attributes, intended to help Google's managers become more effective. The "Project Oxygen" case shows how companies can use data-driven, evidence-based approaches (often termed "big data") to improve the practice of management. By November

2012, the eight attributes had been widely adopted within Google, and the company was able to show significant improvements in manager effectiveness and performance. Now, the question is how to build on that success to improve management on other dimensions — such as the effectiveness of senior executives, the composition and functioning of teams, and the employee life cycle at Google. The brief "Googley" case in the course materials sets the 2008 context for the 2009 Project Oxygen.

1. How would you describe Google's culture? What kinds of people work at Google?
2. How were managers viewed before Project Oxygen? What should be the role of HR in such a setting. What should be the role of managers?
3. What is the key bit of evidence in Project Oxygen?
4. Describe three aspects to the execution of Project Oxygen that we have discussed in this course (there are several).
5. Project Oxygen has been a success with middle management in Google. How would you build on that success to improve the effectiveness of Google senior management — the directors, vice presidents, and other senior executives?

Distinguishing Good from Better Google Managers

Neal Patel, PiLab: "The team had to be careful. Google has high standards of proof, even for what, at other places, might be considered obvious truths. Simple correlations weren't going to be enough."



These are peer-evaluation data not from Google, but like the data used by the people in Google's PiLab ("People & Innovation Lab") to distinguish good from better managers, these evaluations are concentrated in the high scores with a long tail into the low scores. The score difference is not large between the bottom of the top 25% and the top of the bottom 25%. Googlegeist Survey is an annual 30-minute survey of all employees about career development, perks, benefits, company culture (90% average response rate). The key evidence for managers making a difference is discussed on pages 5-6 of the Oxygen case. After distinguishing high from low managers (above) and showing that the difference mattered for employee morale and performance, the PiLab team interviewed award-winning managers and representative managers both high and low to learn how the managers managed.

Standing back from the details:



- Is Google better off because of Project Oxygen?
- Do you see any feature of the Project as particularly critical to its success?
- If you were Prasad Setty, where would you be looking next?
 - Move up to do a Project Oxygen on Google senior management — the directors, vice presidents, and other senior executives. (Q4 in write-up.)
 - Expand the Project Oxygen cross-sectional analysis of middle managers to cover the manager life cycle, from hire to departure.
 - Apply Project Oxygen methodology to the study of teams, their composition and process.
 - Build on Project Oxygen success in improving managers on average, and low-performing managers in particular, to focus on getting more managers from good to great ("How do we create truly amazing managers?")

In addition to numerous bits of knowledge about locating your boss in your network, evidence-based management, and the fascinating organization that is Google, there are two main learning points to this session:

Control & Trust: Evidence-based management is the scientific method applied to management decisions. The benefits are obvious. The method can improve management much as it has improved science. However, the realpolitik to harnessing the power of evidence-based management for exploring and selecting business policy involves a shift in control from business leaders typically responsible for business outcomes to more “academic” people focused on the evidence for how things work (mechanisms). The latter are typically not responsible for business outcomes, which can make it dangerous to follow their advice. A focus on outcomes anchors results on individuals. A goal in science is to remove individuals from results. Trust is critical to evidence-based management. Business leaders need to be able to trust the people utilizing evidence-based management and the results recommended.

Google & Reputation: The case is not about the 8 behaviors identified by Project Oxygen so much as the steps by which the behaviors were found and promulgated through the organization. Google has two defining features of a cult: there is a strong insider-outsider boundary around the company, and coordination is based on reputation (vs job ranks/titles), which we know is grounded in closed-network gossip (fueled in Google by, among other things, the teamwork culture, transactional company awards, and “incident” reports posted by “bureaucracy busters”). Project Oxygen made good use of the Googlegeist surveys to identify the 8 recommended manager behaviors (recall the project’s killer graphic, “The data were about us, by us, and for us.” and “Early feedback was positive. People latched on to it because it was Google data.”), and even better use of gossip and reputation in institutionalizing the 8 behaviors via the tech advisors as strategic partners, the Upward Feedback Surveys, and online tools to access scores and comments on the performance of individual managers. In essence, implementation involved baking the 8 behaviors into ongoing gossip about managers. Project Oxygen has a flavor of evidence-based management in that substantial data were involved, but it is more noteworthy as an example of building trust with the target audience. Bottom line — Google is better off for having run the Project, which expanded HR’s governance role in the company: managers are reflective about how they manage, and engaged through HR surveys and online feedback in stories about how able peers manage.