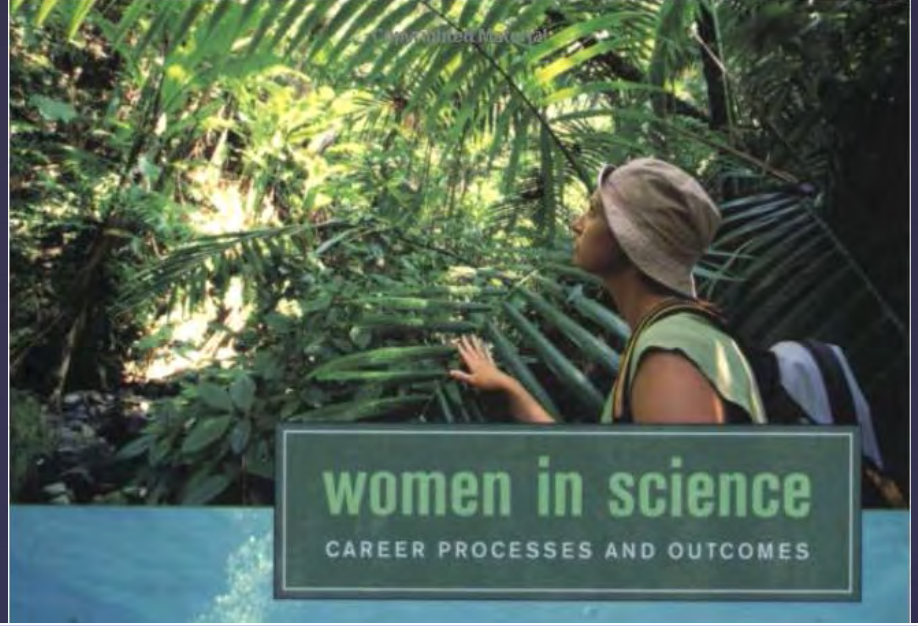
Gatekeepers in Recruiting AND Organizational Solutions

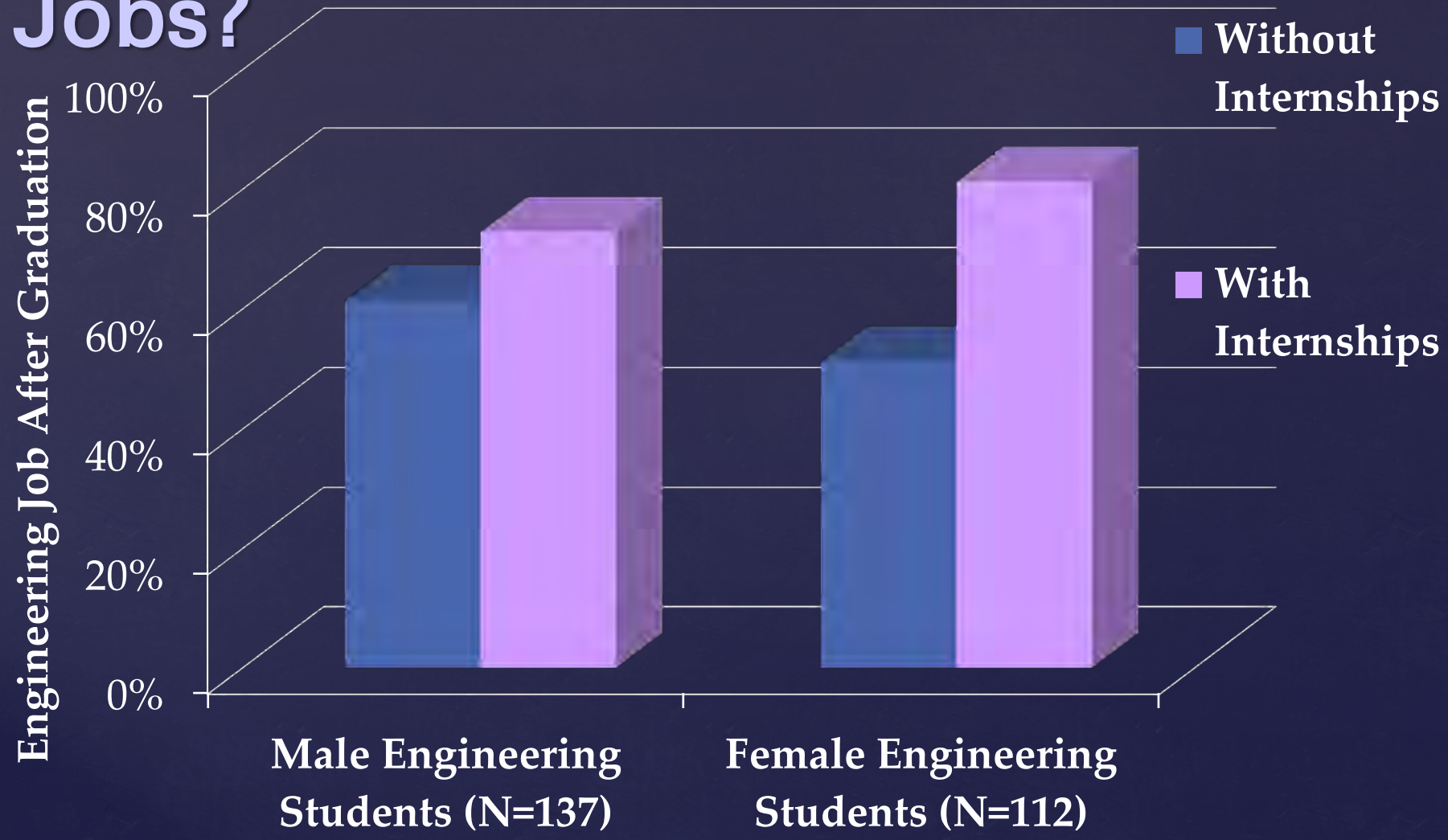
{ Brian Rubineau
Cornell University



"investigating gender differences in the transition from an S/E bachelor's degree to further participation in S/E [labor force] is particularly important." (2005, p. 98)

Organizational Opportunities

Engineering Internships During College → Engineering Jobs?



Source: Rubineau et al. 2013. NSF Award # 1123905

Photo credit: Cornell University College of Engineering.

Photo credit: Cornell University College of Engineering.

Solutions?!

4

1) Mirror.

Birds of a feather…

2) What?

- **Bias reduction:** Remove decision separation
- **Better info:** Internship → Working interview

3) How Groups.

- **Diversity:** Sequential versus cluster
- **Performance:** Stars vs. Lift-Outs (Groysberg)
- **Retention:** Social Ties (Rubineau & Fernandez)

4) New Goals.
4) Why?

InFormal?

<u>MOST</u> common way STEM workers find their jobs

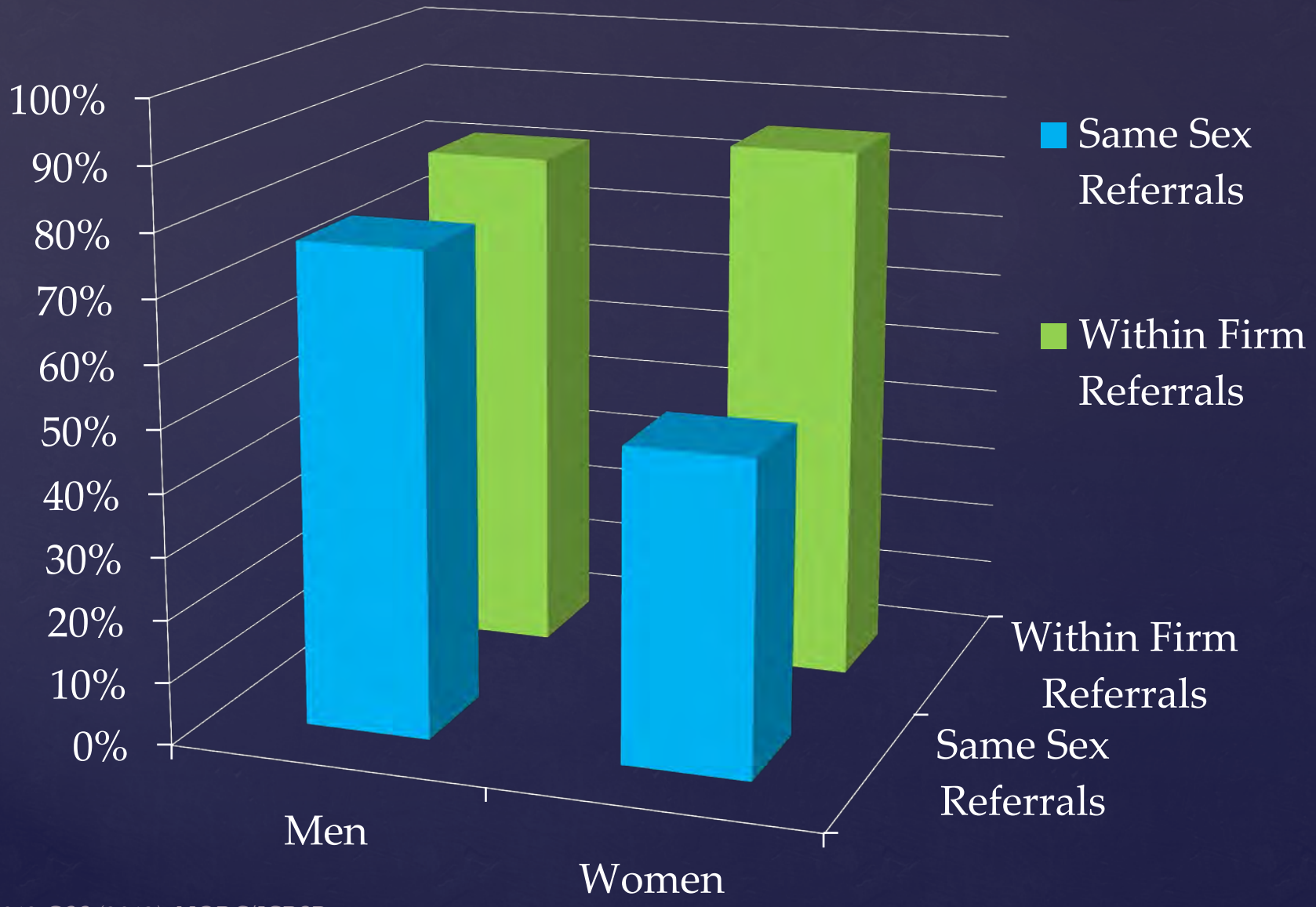
- 55%, All STEM workers, GSS 1991
- 27%, 2007 Engineering Seniors
  Career office: 24%,
  Internships: 20%, Recruiters: 13%

Source: Silbey et al. NSF Award # 0240817

Lessons Apply

| Brian Rubineau | brubineau@cornell.edu | GS3NA | Nov. 14, 2013 | Washington, DC

STEM Referring



Source: 2012 GSS (2013). NORC/ICPSR.

Get underrepresented groups to refer more.

Rubineau & Fernandez (In Press)

Cornell University
School of Applied and Engineering Physics

AEP -

Cornell Engineering

jobs

The School of Applied and Engineering Physics at Cornell University is seeking applications for a tenure-track, assistant professor position

The School of Applied and Engineering Physics at Cornell University is seeking applications for a tenure-track, assistant professor position. Consideration of applications for an associate or full professor level position may be given to exceptionally well-qualified individuals. Candidates must be able to demonstrate the ability to develop a highly successful independent research program and to participate effectively in the teaching of the applied physics curriculum at both the undergraduate and graduate levels. Research areas of interest include biophysics and biotechnology, optics and photonics, nanostructure science and technology, novel instrumentation methods, computational physics, renewable energy, and materials physics. However, exceptional candidates in all areas of applied physics will be given serious consideration.

Prospective candidates who wish to pursue interdisciplinary research efforts are strongly encouraged to apply. The successful applicant can expect a highly competitive level of support for the start-up of his/her research program. Considerable institutional resources are available at Cornell that can strengthen this research program and support interdisciplinary and collaborative research ventures. The successful candidate can expect to benefit from association with one or more of Cornell's interdisciplinary research centers, national facilities, and national resources, listed at http://www.engineering.cornell.edu/research/facilities.cfm.

How to Apply

Interested applicants should go to the following link to submit their curriculum vitae, a statement of teaching philosophy, a brief (3-page limit) statement of research interests, and the names and complete contact information for at least three references: https://academicjobsonline.org/ajo/jobs/3097. An automated messag
2013.

The Sch
seek ca
University is an affirmative action/equal opportunity employer; qualified women and minority candidates are particularly encouraged to apply.

women and minority candidates are particularly encouraged to apply.

Cornell University seeks to meet the needs of dual career couples, has a Dual Career program, and is a member of the Upstate New York Higher Education Recruitment Consortium to assist with dual career searches.

Visit http://www.unyherc.org to see positions available in higher education in the upstate New York area.

Research-based Radical?

- **Mirrored recruiters** (formal & informal)
- **Empowered recruiters**
- **Leverage social ties**
- **Re-imagined internships & interviews**

Recruiting Integrators

Thank You!

brubineau@cornell.edu

Acknowledgements

- Some of the data in this presentation were collected in research projects funded by the National Science Foundation (Grants # 0240817, 0503351, 1123747, 1123905, and 1124169). Any opinions, findings, and conclusions or recommendations expressed in this material are our own and do not necessarily reflect the views of the National Science Foundation.
- **Kristie McAlpine** provided research support for some of the data presented.
- GSS data via NORC: Tom W., Michael Hout, and Peter V. Marsden. General Social Survey, 1972-2012 [Cumulative File]. ICPSR34802-v1. Storrs, CT: Roper Center for Public Opinion Research, University of Connecticut /Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributors], 2013-09-11. doi:10.3886/ICPSR34802.v1
- Photo Credits:
  - Job fair photos from engineering.cornell.edu
  - Network image from : http://www.greatgraduate.co.uk/networking-skills/

| Brian Rubineau | brubineau@cornell.edu | GS3NA | Nov. 14, 2013 | Washington, DC

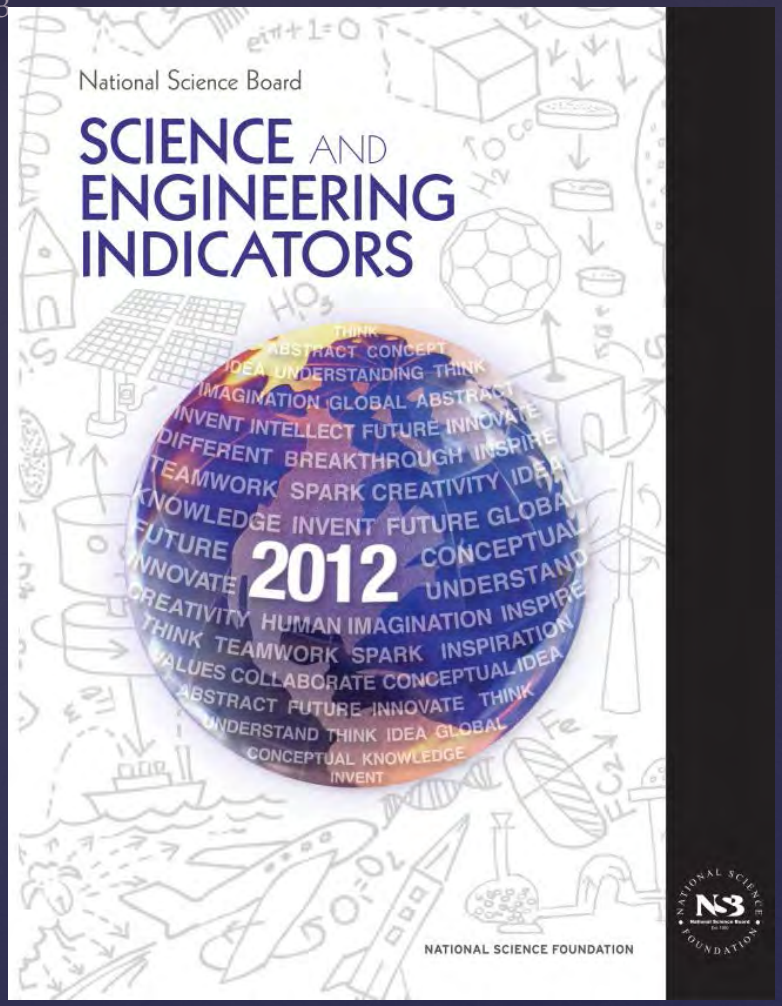
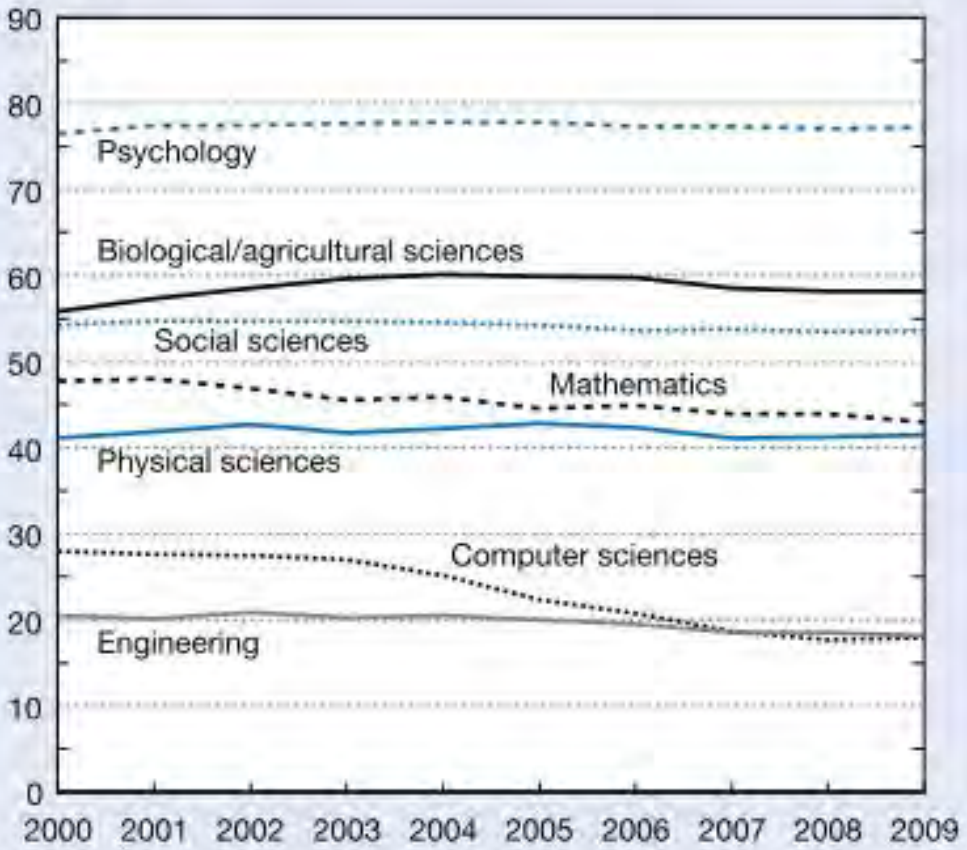


Figure 2-14

Women's share of S&E bachelor's degrees, by field: 2000–09



NOTE: Physical sciences include earth, atmospheric, and ocean sciences.

SOURCES: National Center for Education Statistics, Integrated Postsecondary Education Data System, Completions Survey; and National Science Foundation, National Center for Science and Engineering Statistics, WebCASPAR database, http://webcaspar.nsf.gov. See appendix table 2-18.

Science and Engineering Indicators 2012

The Pipeline Is Leaking Women All the Way Along

Joe Alper

Science, New Series, Vol. 260, No. 5106 (Apr. 16, 1993), 409-411.

WHY DO WOMEN LEAVE SCIENCE AND ENGINEERING?

Jennifer Hunt

Working Paper 15853
http://www.nber.org/papers/w15853

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
March 2010

I use the 1993 and 2003 National Surveys of College Graduates to examine the higher exit rate of women compared to men from science and engineering relative to other fields. I find that the higher relative exit rate is driven by engineering rather than science, and show that 60% of the gap can be explained by the relatively greater exit rate from engineering of women dissatisfied with pay and promotion opportunities. Contrary to the existing literature, I find that family–related constraints and dissatisfaction with working conditions are only secondary factors. My results differ due to my use of non–science and engineering fields as a comparison group. The relative exit rate by gender from engineering does not differ from that of other fields once women's relatively high exit rates from male fields generally is taken into account.

Bibliography

- Interviewers: prefer similar others, distant hiring managers can increase apparent biases., and interviewers' decisions are not based primarily on quality:
  - Rivera, L. A. (2012). Hiring as Cultural Matching The Case of Elite Professional Service Firms. American Sociological Review, 77(6), 999-1022.
  - Rivera, L. A. (2012). Diversity within Reach Recruitment versus Hiring in Elite Firms. The ANNALS of the American Academy of Political and Social Science, 639(1), 71-90.
  - Rivera, L. A. (2011, January). GO WITH YOUR GUT: A THEORY OF EMOTION AND INEQUALITY IN HIRING. In *Academy of Management Proceedings* (Vol. 2011, No. 1, pp. 1-2). Academy of Management.
- Group selection yields greater diversity than sequential. (Valerie Purdie-Vaughns and colleagues).
  - Brooks, R. R., & Purdie-Vaughns, V. (2007). Supermodular Architecture of Inclusion. *Harv. JL & Gender*, *30*, 379.
  - Crosby, F., Clayton, S., Alksnis, O., & Hemker, K. (1986). Cognitive biases in the perception of discrimination: The importance of format. *Sex Roles*, *14*(11-12), 637-646.
- Performance of individually-recruited "stars" declines, while team-level "lift-outs" have lower relocation performance penalties. (Boris Groysberg).
  - Groysberg, B., & Abrahams, R. (2006). Lift outs: how to acquire a high-functioning team. *Harvard business review*, *84*(12), 133.
  - Groysberg, B., Lee, L. E., & Nanda, A. (2008). Can they take it with them? The portability of star knowledge workers' performance. *Management Science*, *54*(7), 1213-1230.
  - Groysberg, B. (2008). How star women build portable skills. *Harvard Business Review*, *86*(2), 74.
- Social ties via referring affect expected turnover rates.
  - Fernandez, R. M., Castilla, E. J., & Moore, P. (2000). Social capital at work: Networks and employment at a phone center. *American journal of sociology*, 1288-1356.
- Managing referrer behavior can reduce job segregation. (Rubineau and colleagues).
  - Rubineau, B., & Fernandez, R. M. (2013). Missing Links: Referrer Behavior and Job Segregation. *Management Science*.
- Xie, Y., & Shauman, K. A. (2003). *Women in science: Career processes and outcomes* (Vol. 26, No. 73.4). Cambridge, MA: Harvard University Press.

Finding a Job

- **Personal contacts** are the ***single most common method for finding*** actual ***jobs***.
  - Franzen, Axel, and Dominik Hangartner. "Social networks and labour market outcomes: The non-monetary benefits of social capital." *European Sociological Review* 22.4 (2006): 353-368.
  - Granovetter, Mark. *Getting a job: A study of contacts and careers*. University of Chicago Press, 1995.
- **Personal contacts** are also the ***single most common recruiting method***.
  - Bewley, Truman F. *Why wages don't fall during a recession*. Harvard University Press, 1999.
  - DeVaro, Jed. "Employer recruitment strategies and the labor market outcomes of new hires." *Economic Inquiry* 43.2 (2005): 263-282.
  - Henly, Julia R. "Mismatch in the low-wage labor market: Job search perspective." *The Low-Wage Labor Market* (2000): 145.
  - Marsden, Peter V., and Elizabeth H. Gorman. "Social networks, job changes, and recruitment." *Sourcebook of labor markets*. Springer US, 2001. 467-502.