THE GRACE HOPPER CELEBRATION OF WOMEN IN COMPUTING

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ANITA BORG INSTITUTE
FOR WOMEN AND TECHNOLOGY

Association for Computing Machinery

The Fight or Flight Moment

Understanding Why We Leave or Stay in Industry

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Survey of Three 2008 Studies

- The Athena Factor: Reversing the Brain Drain in Science, Engineering, and Technology *[SET]* (Harvard)
- Women in Technology: Maximizing Talent, Minimizing Barriers (Catalyst)
- Climbing the Technical Ladder: Obstacles and Solutions for Mid-Level Women in Technology (ABI/Stanford) [*supporting underwriter*]

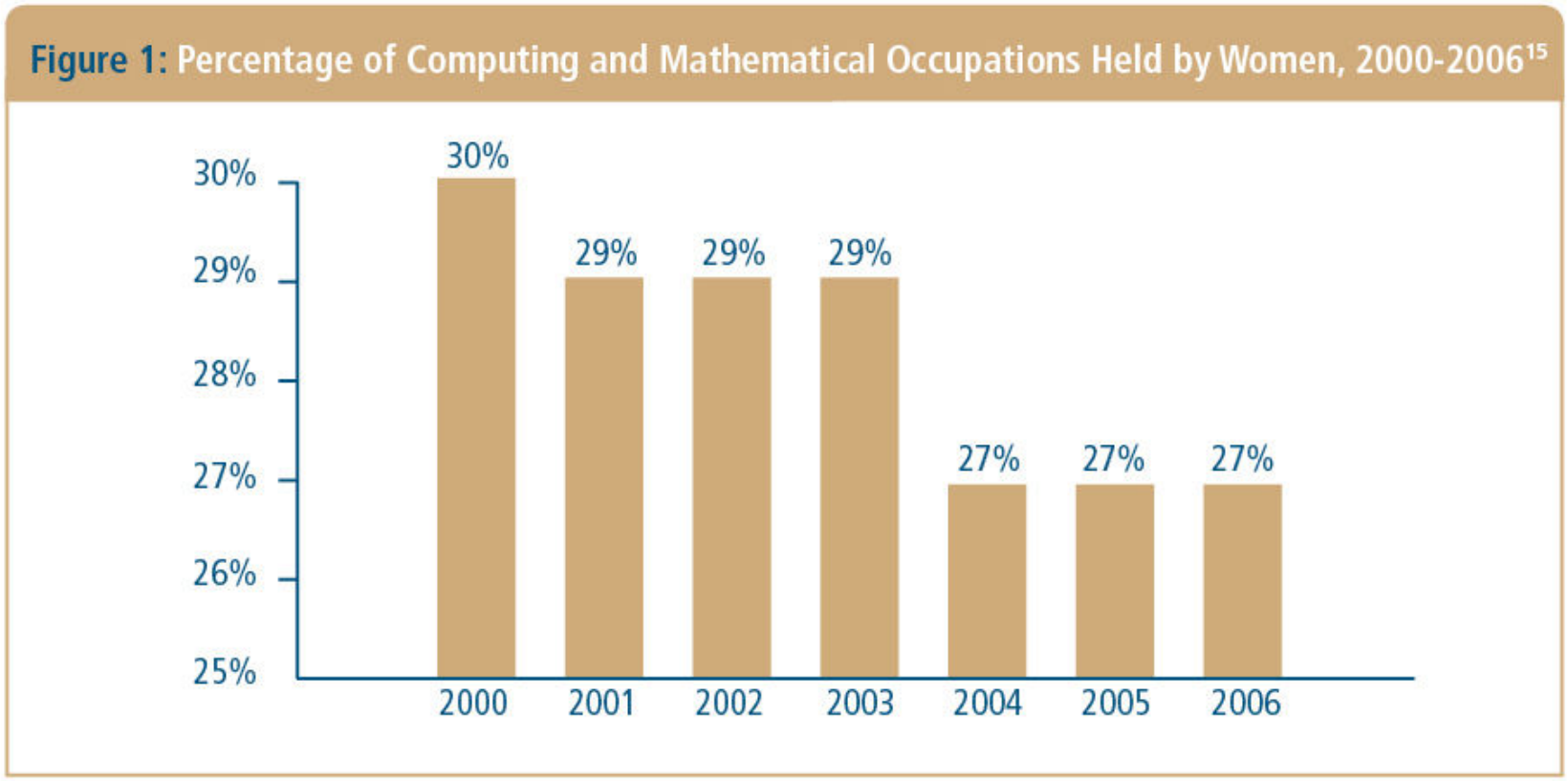
Sue Dorward

- Coach high-potential techies
  - J&J, Google, Smith College/SWE
  - private clients (mid-career women!)
- Speaker at Google, SWE, …
- Articles for IEEE (WIE)
- NYU coaching certificate, ICF certified
- *i*Village VP, CNET senior engineer, instructor
- MS CS Princeton (NSF), BA CS Smith College

Why focus on retention?

- SET growth is 5x other sectors (2008)
- Demand outstripping supply, IT supply shrinking
- Fewer visas since 2001
- Emerging economies - 75% Chinese students go home vs 20% prior
- Baby boom retirements
- Highly trained, expensive to replace

Tech Women



US Bureau of Labor Statistics

Harvard Study: Athena Factor

Sylvia Ann Hewlett, Carolyn Buck Luce, Lisa J. Servon, Laura Sherbin, Peggy Shiller, Eytan Sosnovich, Karen Sumberg, *The Athena Factor: Reversing the Brain Drain in Science, Engineering, and Technology*, Harvard Business Review Research Report, June 2008, 108 pages.

This research was done by the Hidden Brain Drain Task Force, under the aegis of the Center for Work-Life Policy, a nonprofit think tank.

Survey Research Sponsors

- Alcoa
- Cisco
- Johnson & Johnson
- Microsoft
- Pfizer

Methodology

- Four surveys of men and women
  - US online survey (2493)
  - company surveys at 3 global corporations in S,E,T
- Respondents age 25-60 who
  - have a SET degree or tech on-the-job training, and
  - hold or held an industry SET job using that training
- Focus groups and interviews

Fight or Flight Moment

- Over time 52% of women leave industry SET jobs
  - High tech 17% men vs. 41% women leave (2.5 times!)
- % tech-trained women in tech industry jobs:

  53% (25-34) 50% (35-44) 31% (45-60)
- 50% go to non-industry SET jobs, 30% to non-SET industry jobs, 20% stay home

Why the exodus?

Of those leaving:

- Extreme Job Pressure (39%) – hours, stress, health
- Culture not woman-friendly (38%)
- Compensation (27%)

SET Industry women:

- Feel career is stalled (46%) (mid-career)
- Lack career paths (47%), sponsors (84%), mentors (47%), role models (40%) (tech) - Lewinsky factor
- Feel isolated (38%) (tech)

More subtle attrition factors

- Risk-aversion leads to fewer high-profile successes
- Less credit even if you take a risk, no 2nd chances (no sponsor)
- Sidetracked into helper roles

- Macho culture (Discrimination)
  - 66% mid / 64% tech "experienced sexual harassment"
  - 44% mid / 46% tech "perceive bias in performance evaluation"
  - 23% mid / 27% tech "believe women are seen as intrinsically less capable"

What helps retain women?

- 10% female management tipping point
  - culture change from the top
  - less isolation
  - more role models
- Flexible workday and career track timing
- Career paths, mentors, and sponsors
- Opportunities for altruism (Athena factor)

- On-ramps (64% are interested)

Catalyst Study: Women in Technology

Heather Foust-Cummings, Laura Sabattini, Nancy Carter, *Women in Technology: Maximizing Talent, Minimizing Barriers*, 2008, 38 pages.

Lead Sponsor: IBM Corporation *(175% increase in women execs in late '90s)*

Contributing Sponsors: Cisco Systems, Inc., Dell Inc., National Center for Women and Information Technology (NCWIT)

Background

- 3rd study in a series (2003, 2005), very focused
- Phase 1: Towers Perrin-ISR surveys of men and women in 23 tech organizations (2002-2005)
- Phase 2: Online survey of 471 women who either work at tech co. (80%) or are techies at non-tech co. (20%); 2/3 techies, 1/2 managers, 87% US (2007)

Table 4: Individual Barriers to Career Advancement: Generational Cohorts

Barrier	Percentage of Women Responding That Barrier Affected Career Advancement to a Great or Very Great Extent		
	Boomers	Gen X	Gen Y
Not Having a Mentor, Sponsor, or Champion Who Makes My Accomplishments Known to Important People in the Company	45%	32%	18%
Lacking Role Models in the Company Who Are Similar to Me	43%	38%	31%
Being Excluded From the Important Networks of Key Decision-Makers	40%	32%	20%
Having a Limited Number of Important or Special Job Assignments That Are Highly Valued by Higher-Level Managers	26%	28%	27%
Not Understanding the "Unwritten Rules" or Norms of My Company or Department	25%	20%	16%
Not Fitting the Company Image of How a Leader Should Look and Behave	23%	18%	16%

More likely to report barriers if…

- Have MS or PhD
- Work for larger company
- Have fewer women in your working group

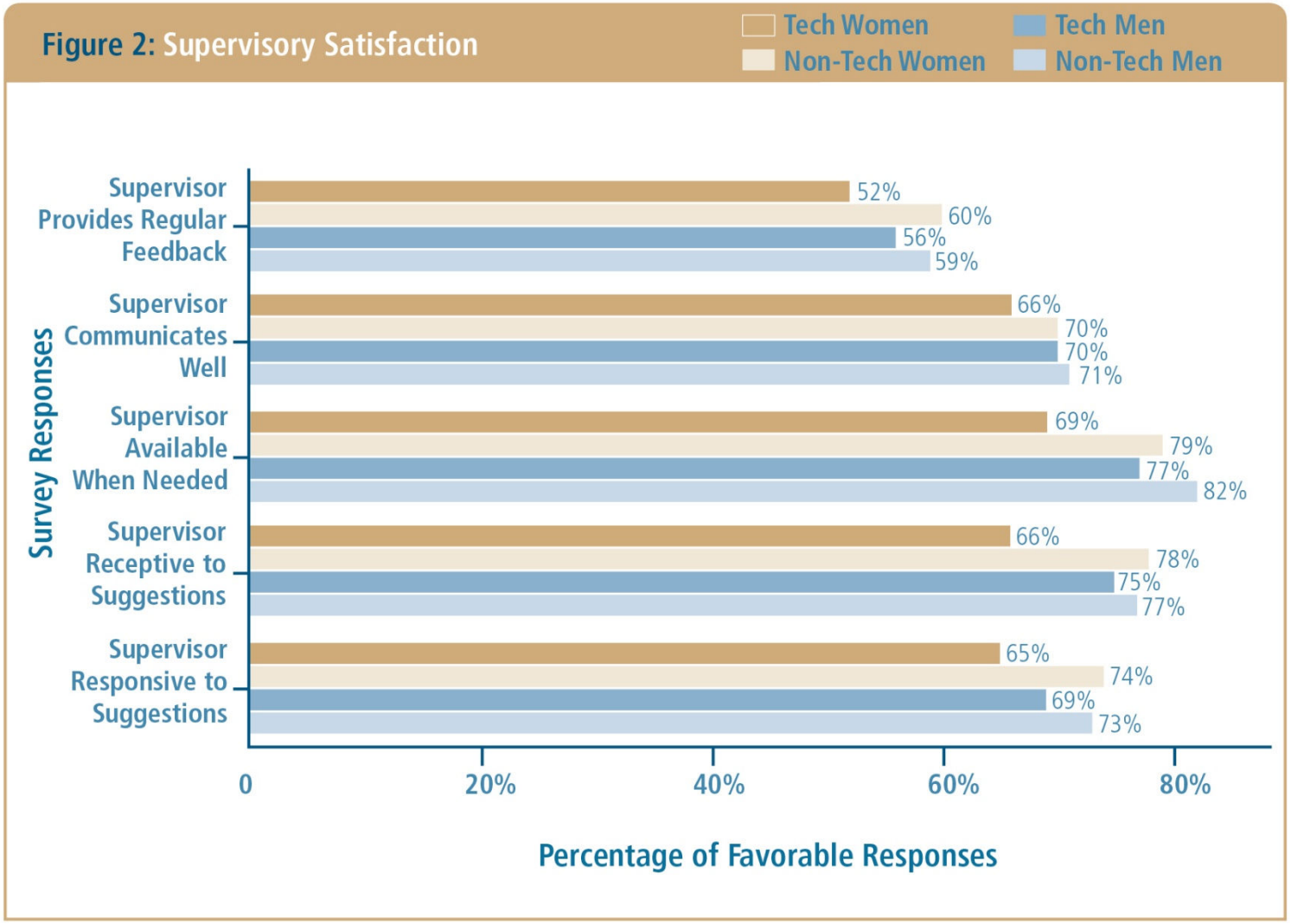
Barriers are the same for tech and non-tech women, at tech and non-tech companies.

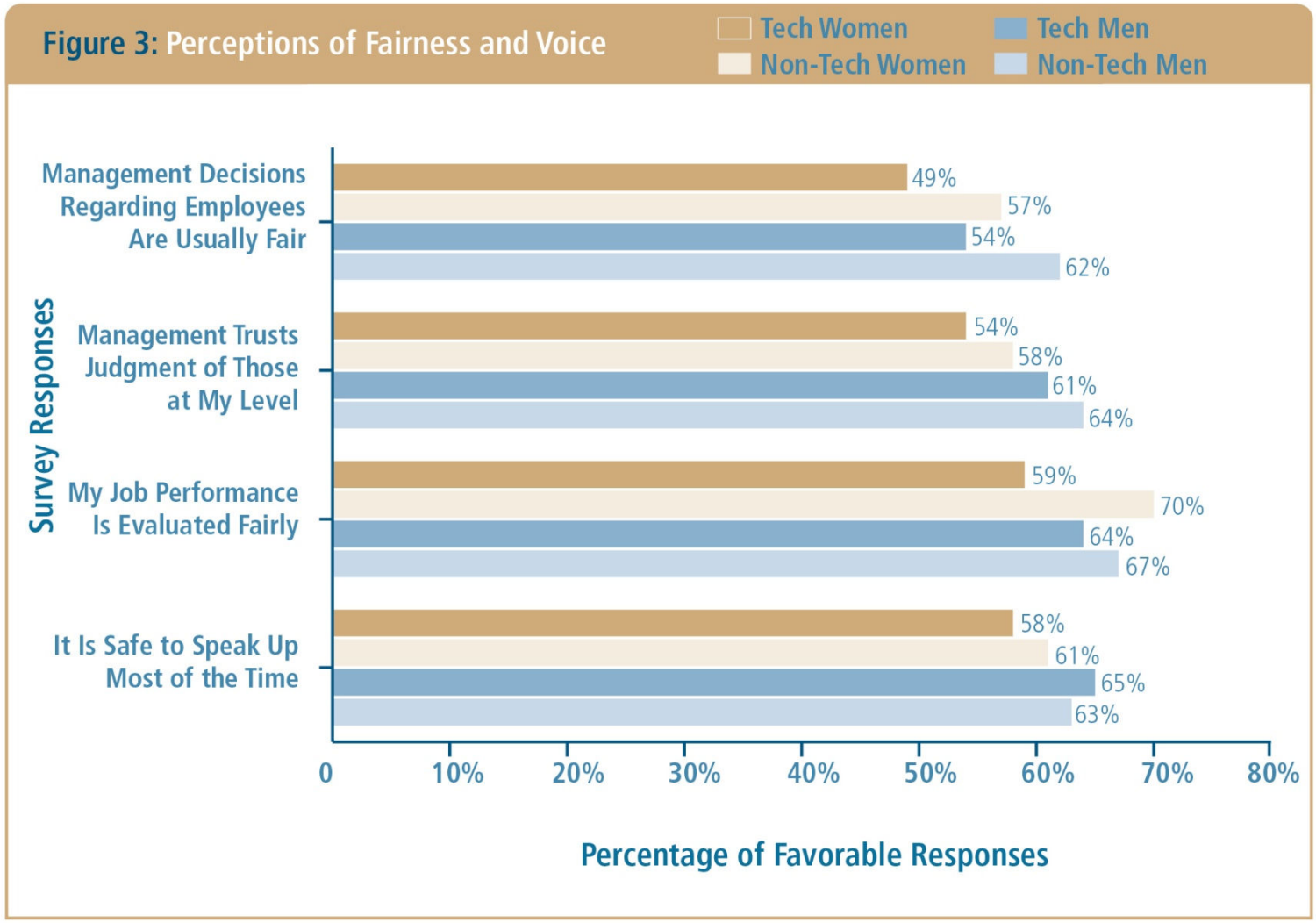
Gender-Based Differences

Tech women gave lower ratings than tech men and non-techies on every measure of:

- supervisors and supervisory relationship
- perceptions of fairness and voice

All other areas were similar, including "planning to leave" and "career development".





Climbing the Technical Ladder

Caroline Simard, Andrea Davies Henderson, Shannon Gilmartin, Londa Schiebinger, Telle Whitney, *Climbing the Technical Ladder: Obstacles and Solutions for Mid-level Women in Technology*, 2008, 81 pages.

Authors are from Anita Borg Institute for Women and Technology (ABI) and Michelle R. Clayman Institute for Gender Research at Stanford University

Underwriters

- Research Underwriters - NSF, NCWIT, Career Action Center, ABI, Stanford
- Report underwriters
  - Contributing – Symantec, Stanford, ABI
  - Supporters – ***Sudo Coaching LLC***, Alexander Atkins Design, Inc., Ventana Public Relations, Jody Mahoney

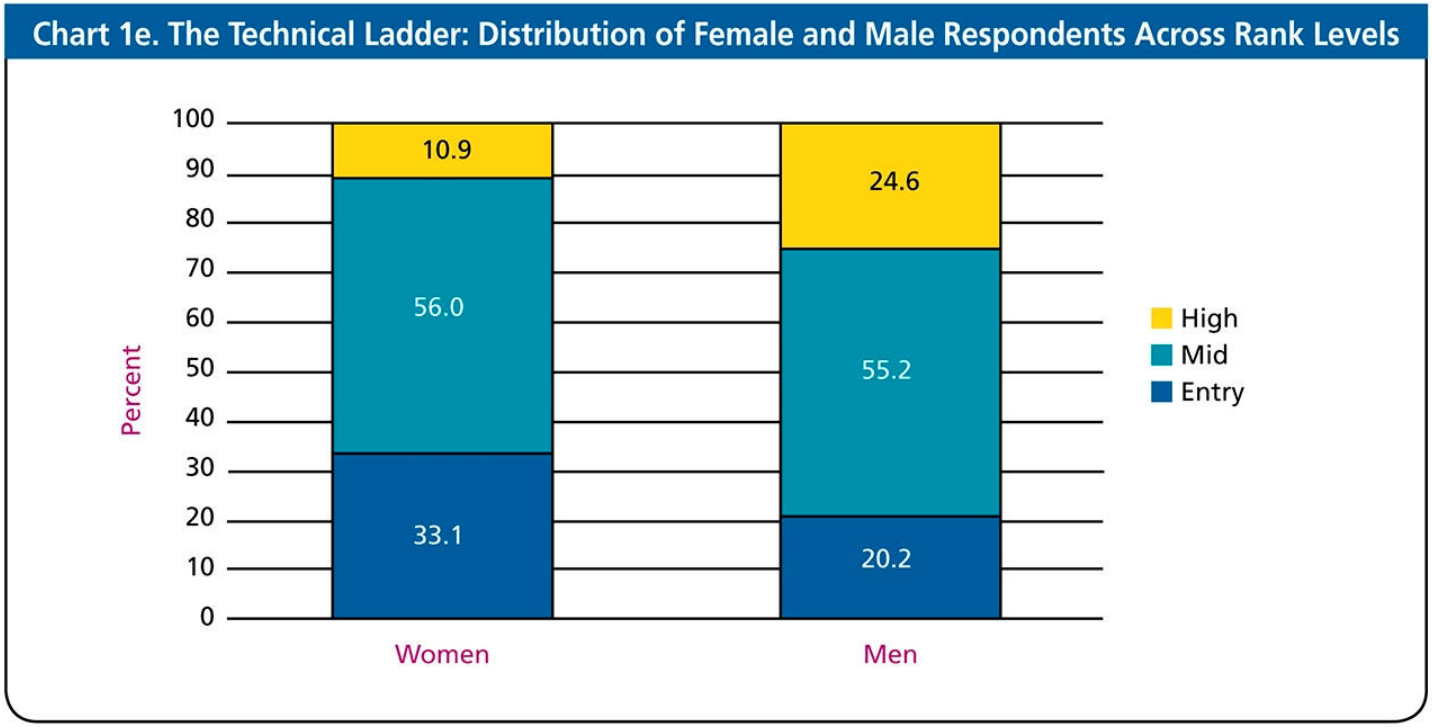
Methodology

- Surveyed technical employees (men and women) of seven top-tier Silicon Valley software and hardware companies
- 14% response rate (1,795 of 12,805)
- One co. encouraged women to respond
- 112 follow-up interviews (men and women)

Respondent Profile

- 34% women (vs 24% expected)
- 55% mid-level (~10-20 years exp.)
- Avg. man 2 years older, almost 4 years more tech expertise than avg. woman (attrition)
- 48% international (born outside US)
  - 41% int'l from India, 11% China
  - 59% int'l women from India, 18% China

"2.7x more likely to be in high-level position if male"



At mid-level, women are more likely than men to…

- be Asian (44 vs 37%)
- experience a competitive work environment (66 vs 47%) – difference only at mid-level (promotions)
- have partner working full-time (79% vs 38%)
- have techie partner (69% vs 32%)
- feel long hours needed to succeed (58 vs 47%)

At mid-level, women are less likely than men to…

- feel they work long hours (36 vs 41%)
- have a partner who does not work (9% vs 34%)
- have a partner primarily responsible for home and kids (13% vs 51%)
- have CS or engineering degree (62 vs 77%)
- learn tech skills on own time (62 vs 82%)

High-level women are more likely than mid-level women to…

- have CS degree (42 vs 29%)
- have a techie partner (75 vs 69%)
- have partner responsible for home & kids (24 vs 13%)

50% difference in tech skills? (expect 26% based on degree)

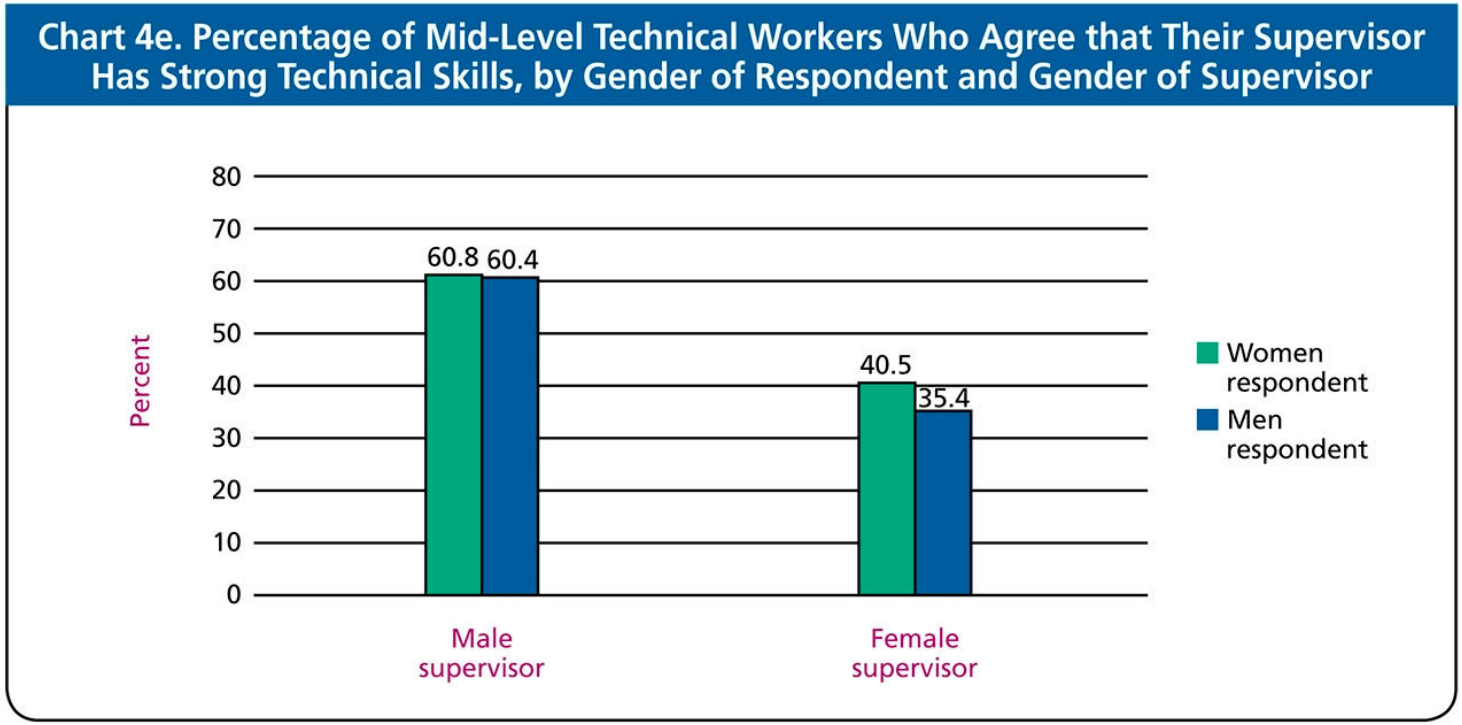


Chart 4d. Perceptions of Supervisors Among Mid-Level Technical Workers, by Gender of Respondent and Gender of Supervisor

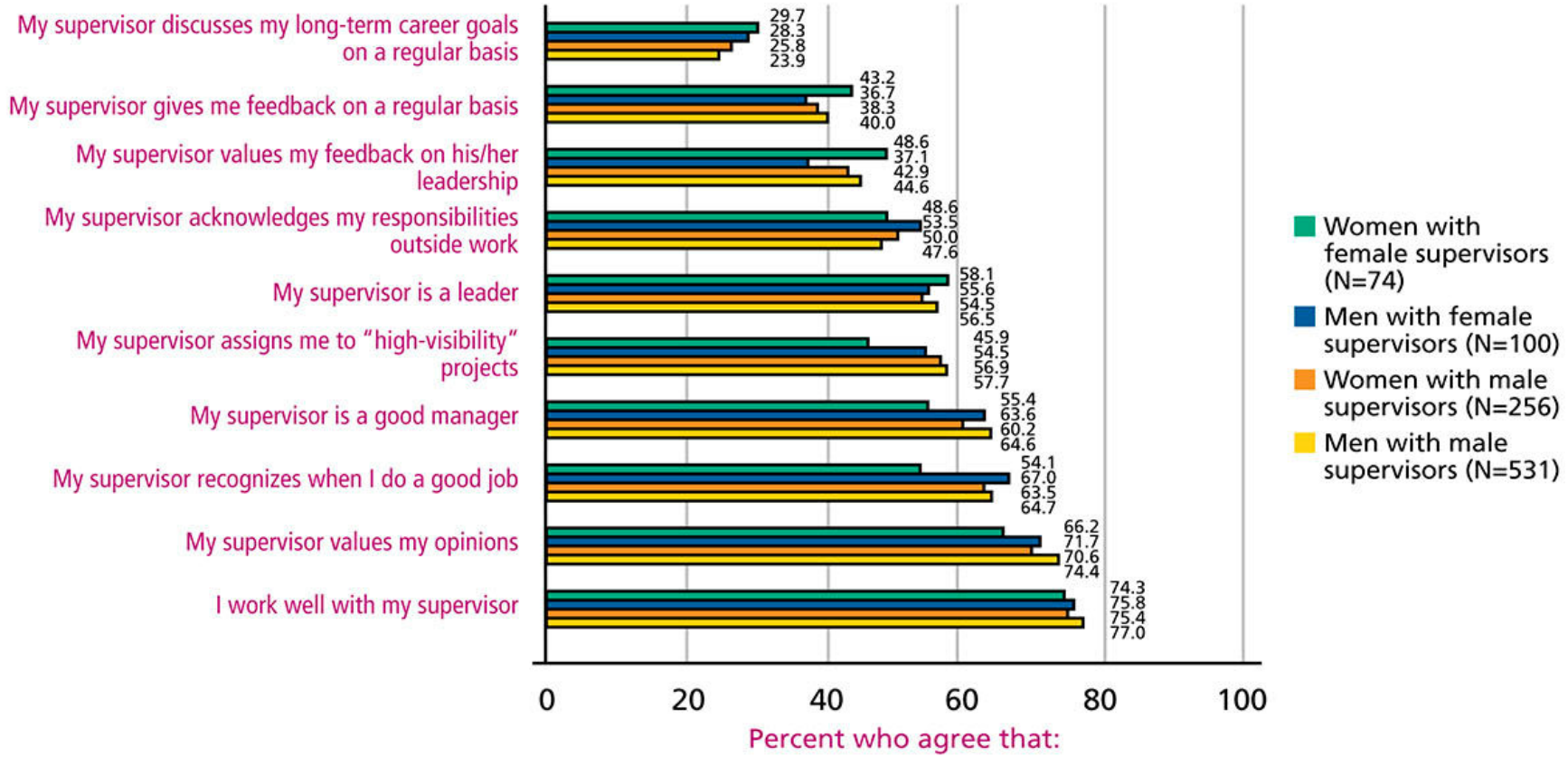
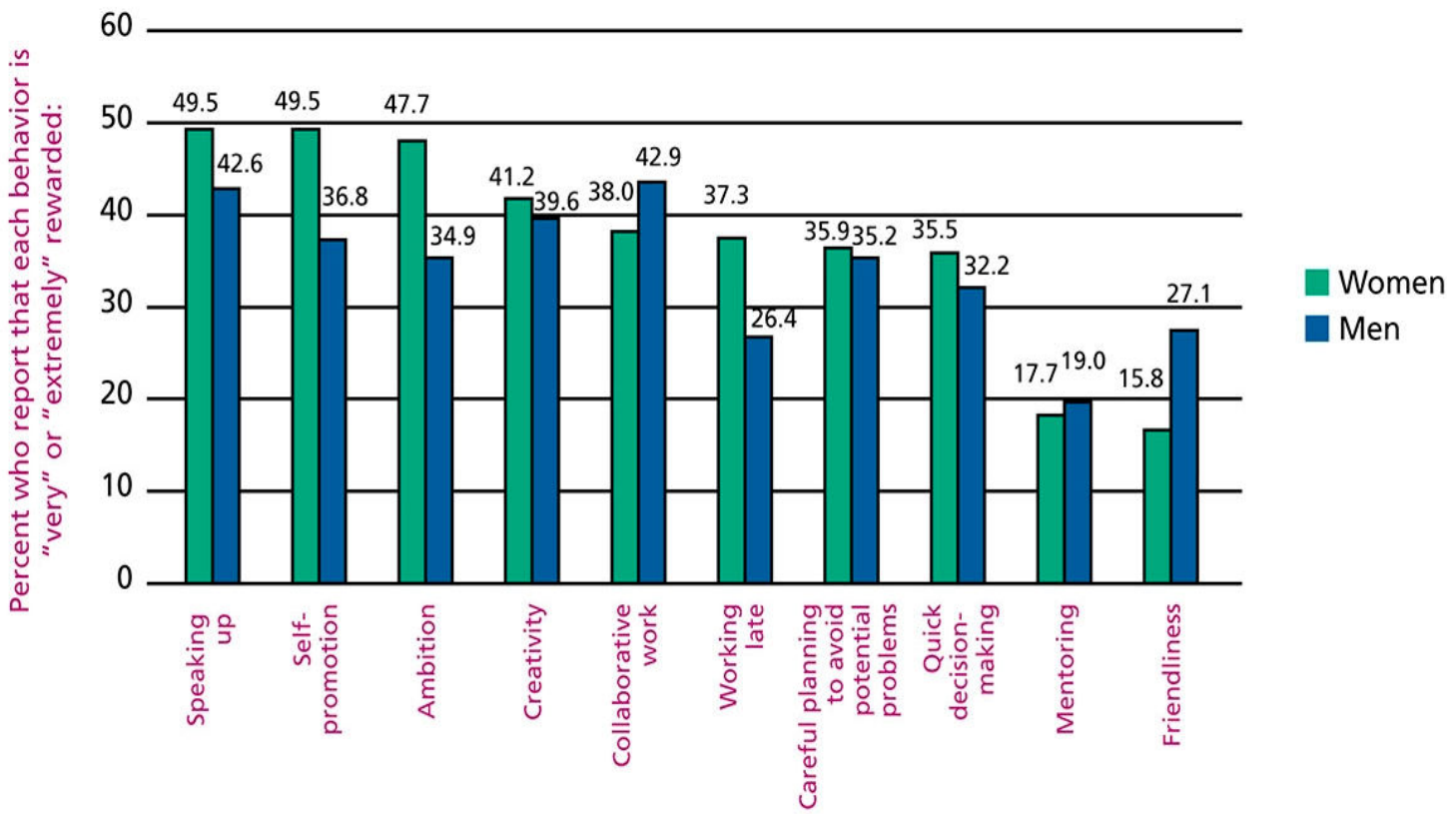


Chart 4a. Perceptions of Rewarded Behaviors at Current Company among Mid-Level Technical Women and Men



What can we do?

- Look for 10% women execs (woman-friendly culture)
- Combat isolation (mentor, sponsor, coach, role models)
- Have a career goal and let people know
- Build and demonstrate tech skills
- Ask for high-profile & riskier assignments

- Be flexible (schedule, promotions, off- and on-ramps)
- Train supervisors (comm, fairness, career development, tech)
- Re-evaluate tech/risk criteria for promotions, provide support
- Align reward systems (mentoring, career development)
- Altruistic opportunities

Links to Studies

- Harvard – http://braindrain.hbr.org ($295) (volume discounts)
- Catalyst – http://catalyst.org/publication/36/ (free PDF or $40 printed)
- Stanford – http://anitaborg.org/news/research/ (free report and executive summary PDFs)

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articles & presentations on resources page