# Where have all the women gone?

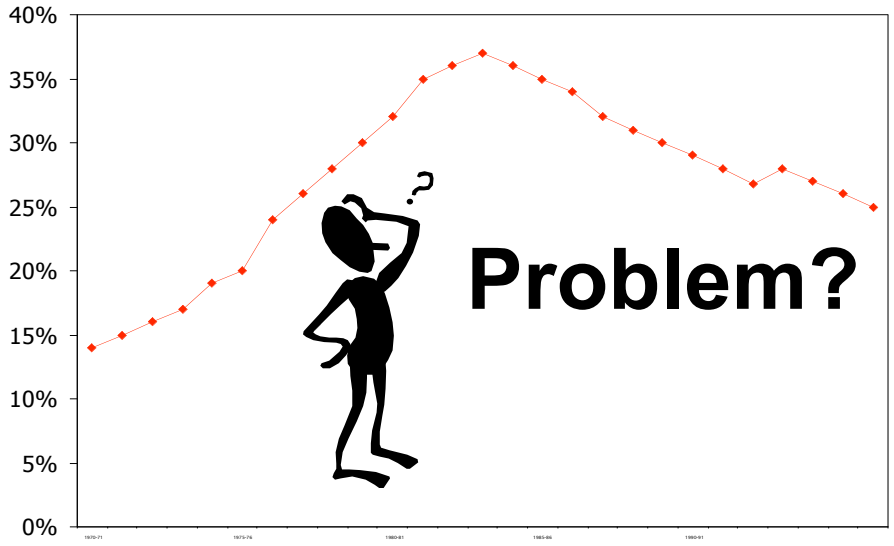
Ada Lovelace,

The 1st Programmer

Grace Hopper,

Creator of Cobol

Katie A. Moor
PhD Student
Indiana University




# Problem?

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# Recruitment

# Retention

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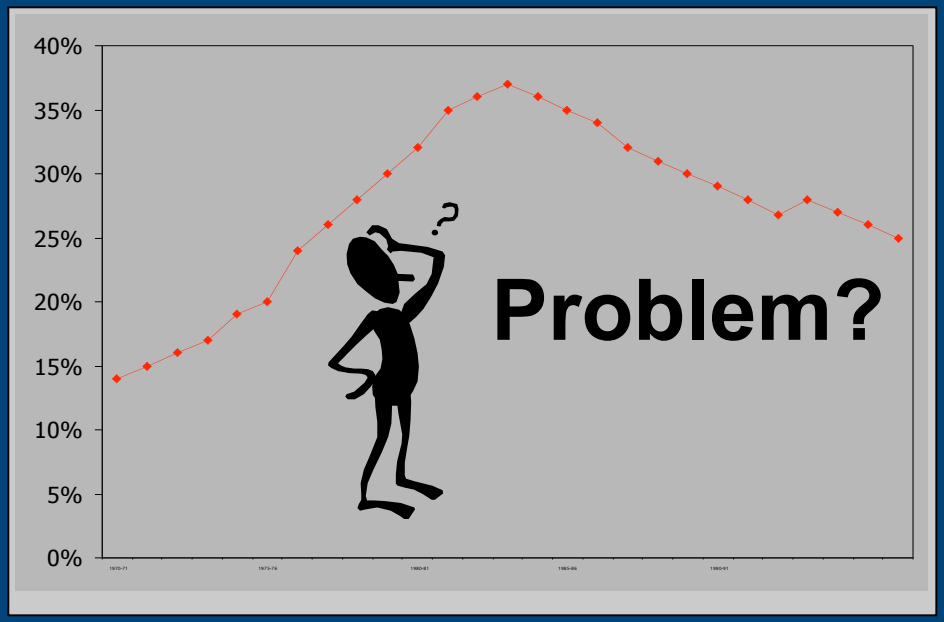
online community

# What can we do?

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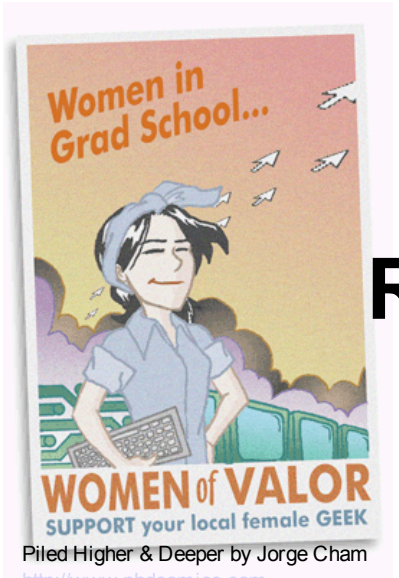


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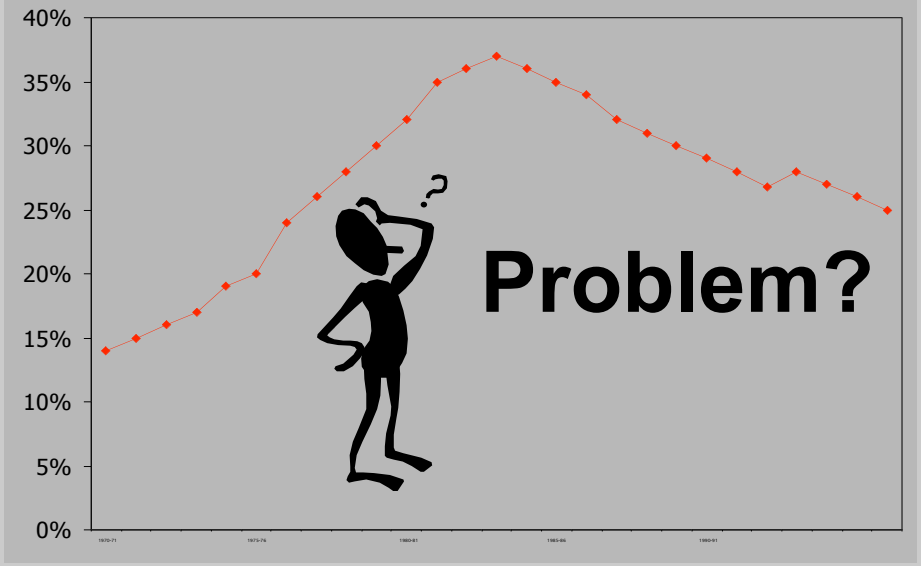


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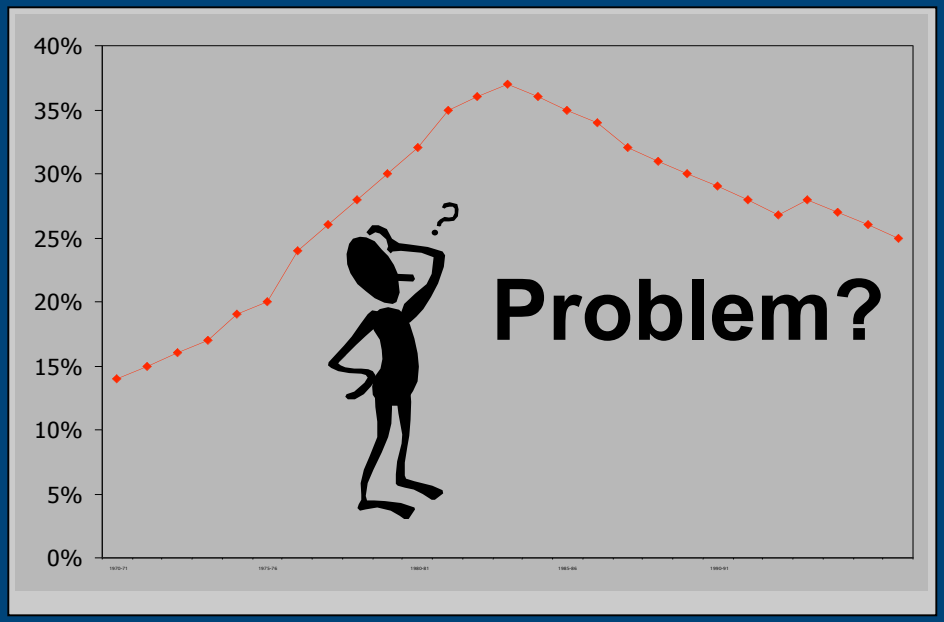


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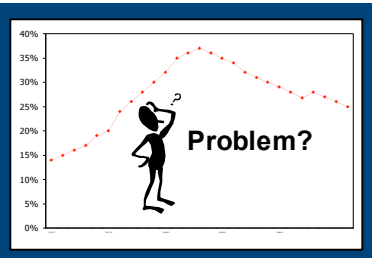


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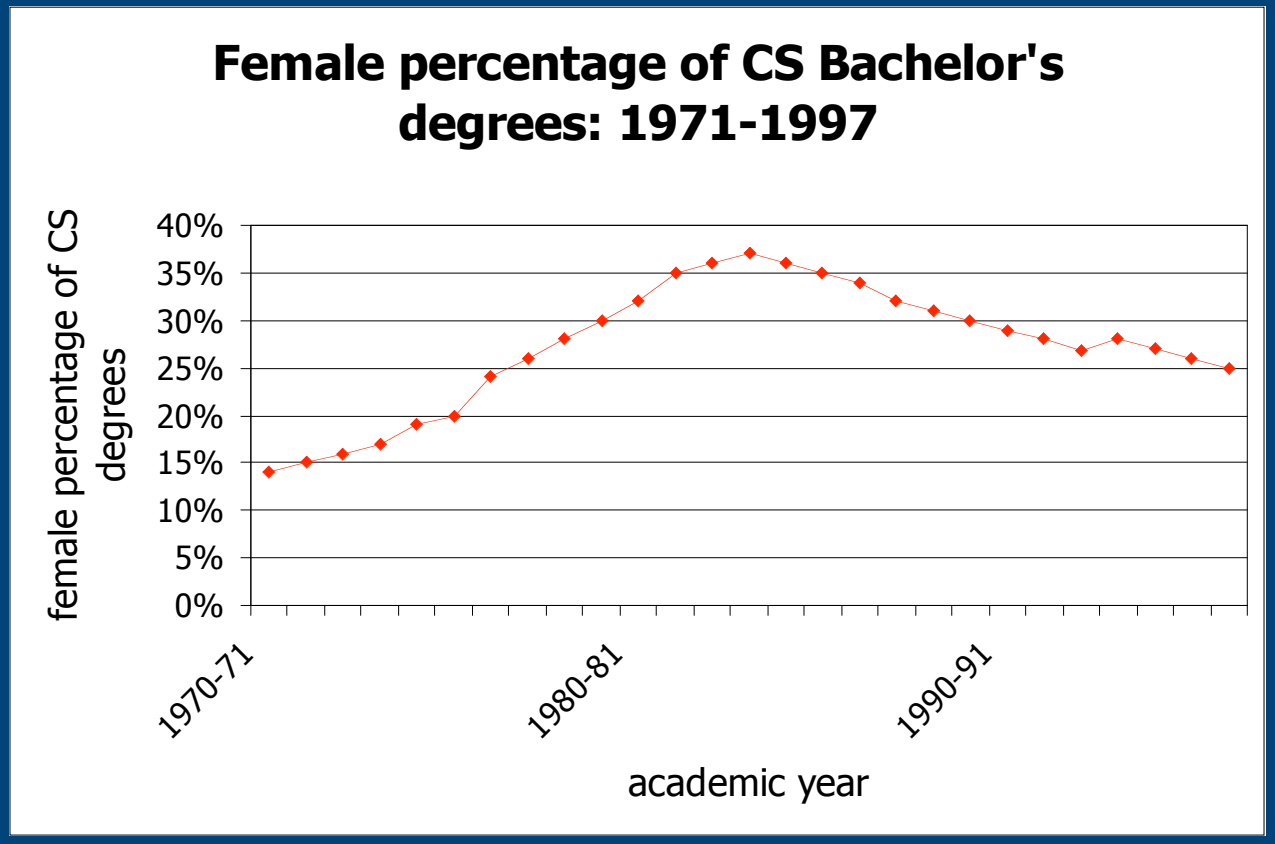
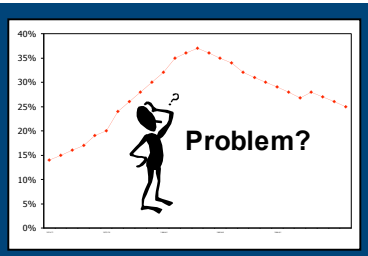



Cohoon, J. McGrath. “Toward Improving Female Retention in the Computer Science Major” in Communications of the ACM: May 2001.

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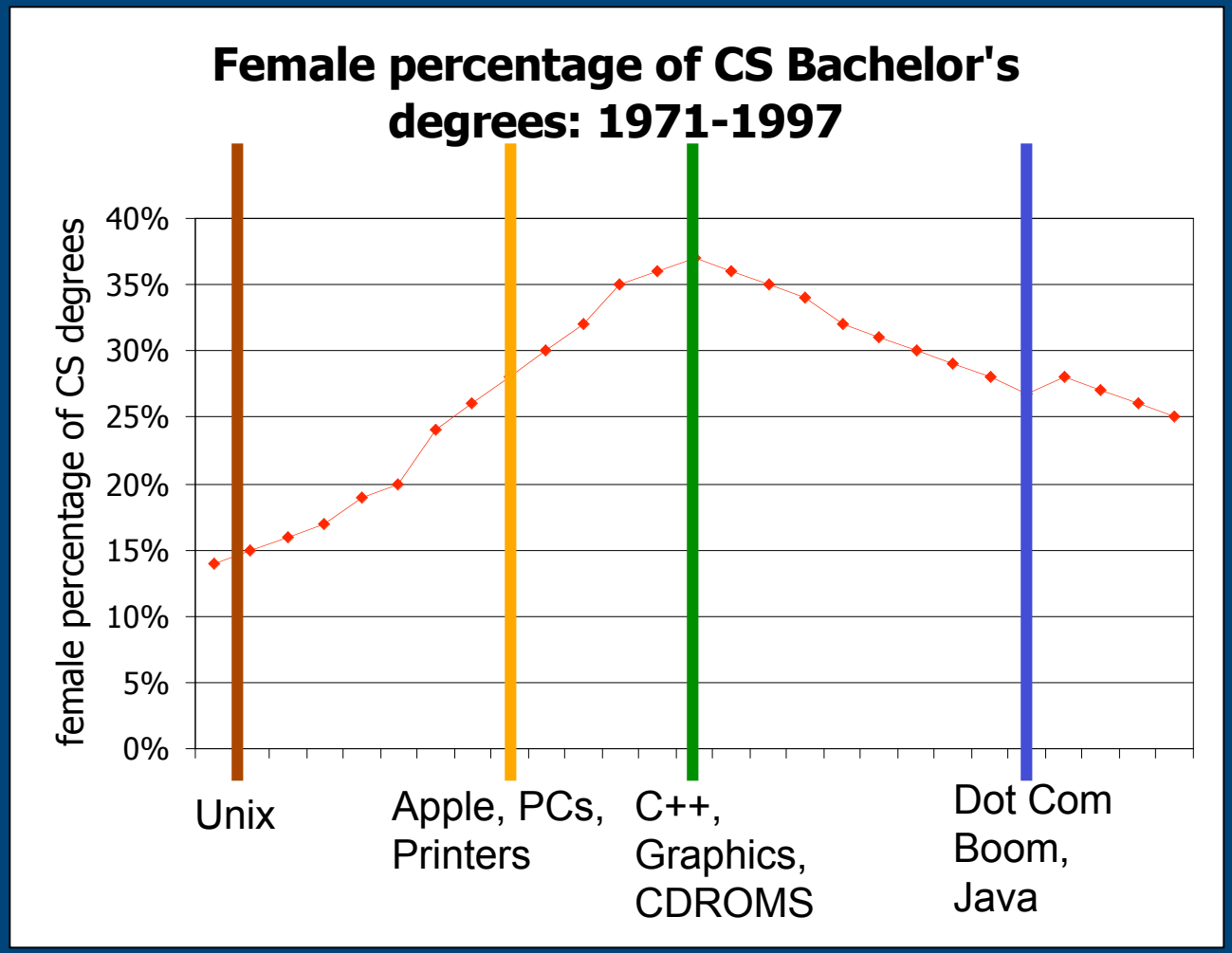
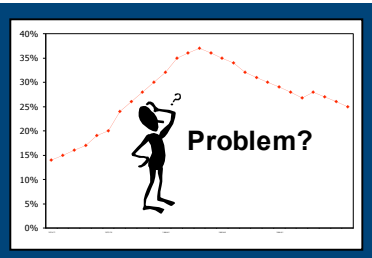
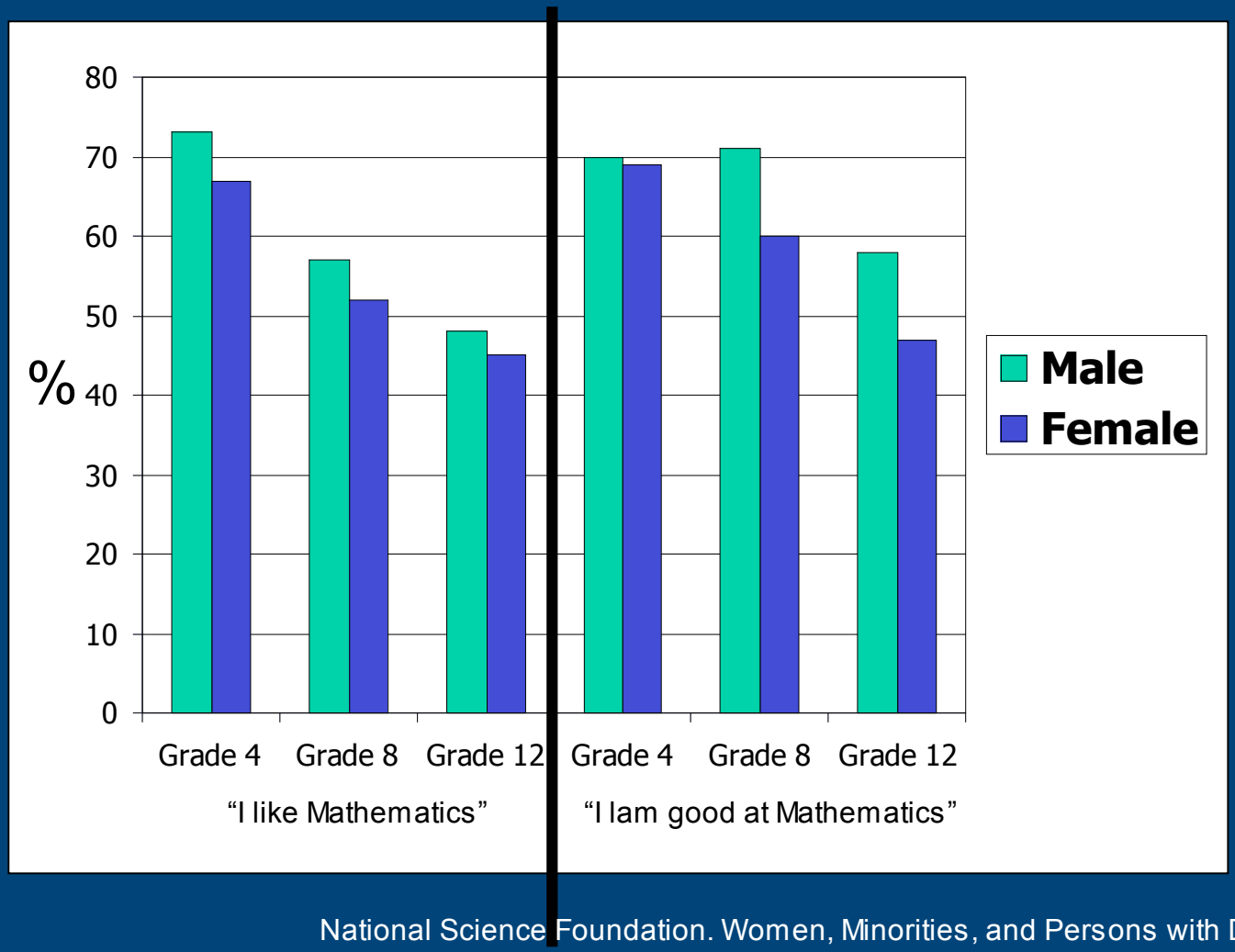
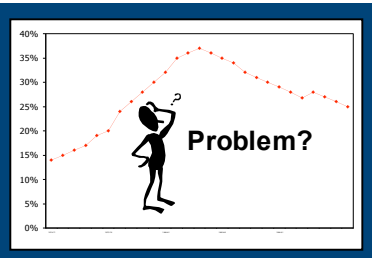




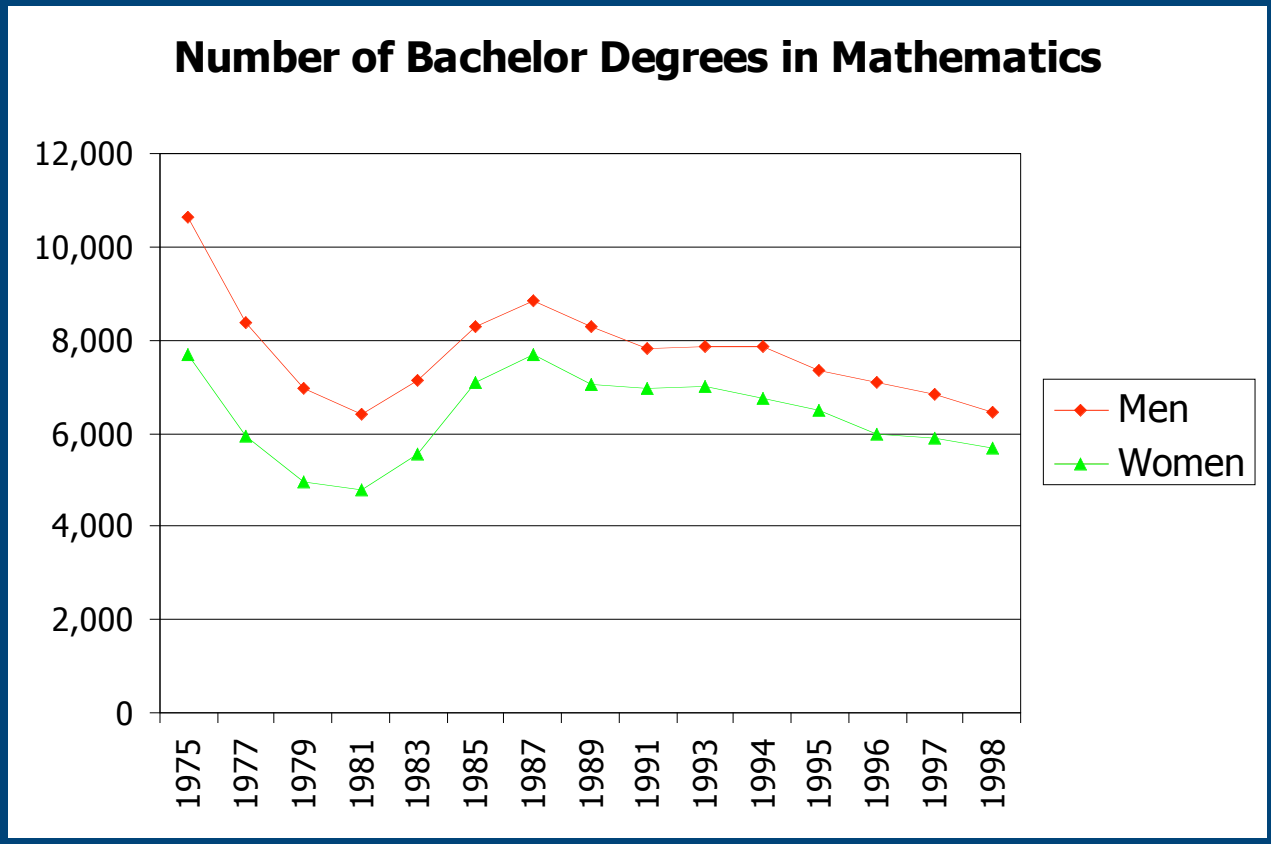

# Dispelling some rumors...



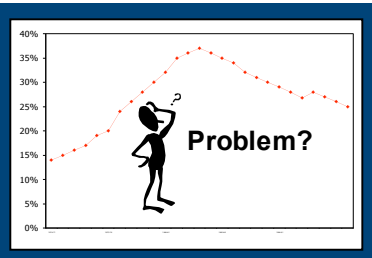

National Science Foundation. Women, Minorities, and Persons with Disabilities in Science and Engineering: 2002. July 2003.




# Women can do math




Association of Women in Science. Statistics:
http://awis.org/statistics/r_statisticsmain.html




# Why do we need women in computing?

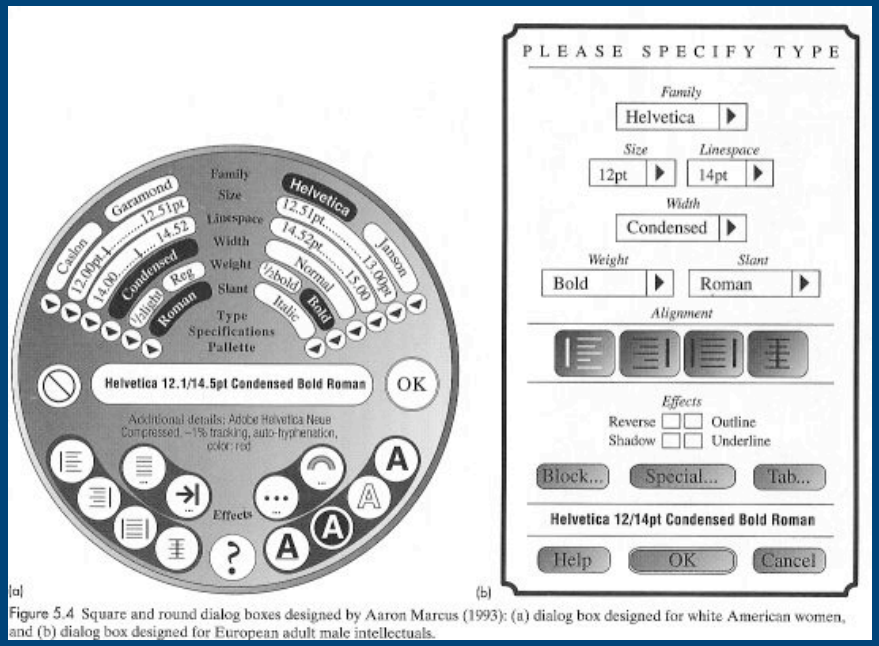


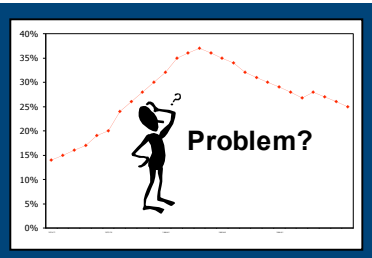

Figure 5.4 Square and round dialog boxes designed by Aaron Marcus (1993): (a) dialog box designed for white American women, and (b) dialog box designed for European adult male intellectuals.

- Program design is improved when designers better understand users.
- Having designers from a diversity of gender and ethnic backgrounds will improve designs.

DESIGN: Marcus, A (1993) Human communication issues in advanced UIs. Communications of the ACM, 101-109.

USER STUDY: Teasley, B., Leventhal, L., Blumenthal, B., Instone, K., and Stone, D. 1994) Cultural diversity in user interface design. SIGCHI Bulletin, 26(1), 36-40.

Is Diversity in Computing a Moral Matter? In Inroads, by Deborah G. Johnson & Keith W. Miller




# Give women the opportunity to succeed in computing

- Over half of male students who have a computer at home have the computer in **their room**
- Only 17% of women received a computer early in their education (40% of male students reported having computers early on)

*Unlocking the Clubhouse: Women in Computing.*
Jane Margolis and Allan Fisher

**Recruitment**

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# Where do we start?

- **At all ages, boys spend more times playing video games**
  - **Age 8, twice as much time gaming than girls**
  - **Over age 14, over 50% more gaming than girls**
- **Gaming = confidence in computing**

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# High School is Important

- **Boys typically make decisions about computing early on from gaming**
- **Girls "try things out" in high school**

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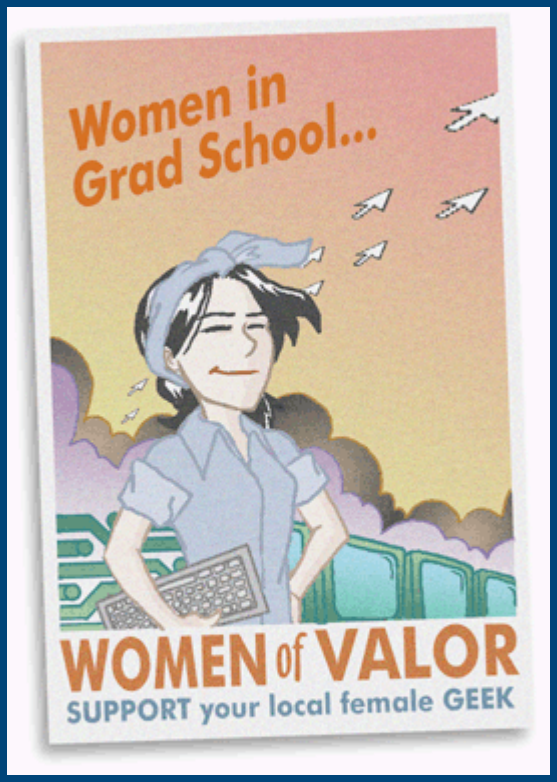
# How do we get women interested in computing?



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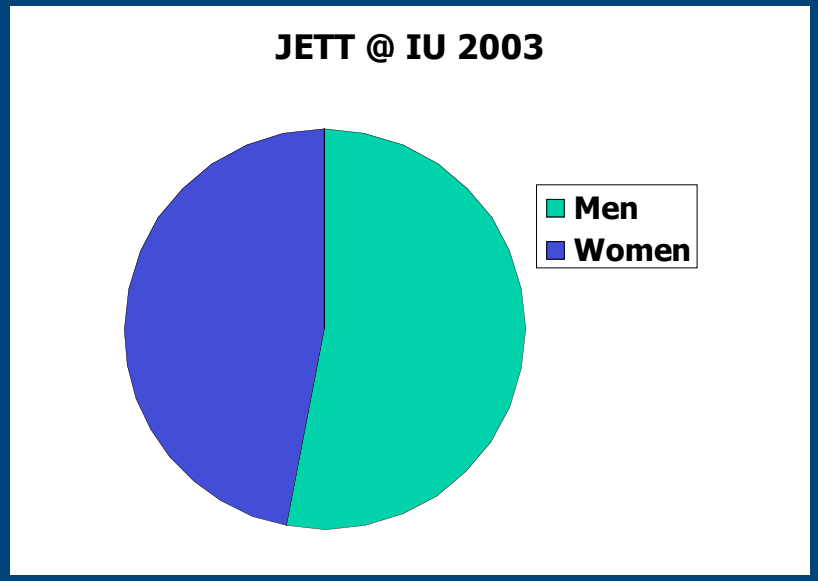
# Dispel the geek stereotype

- CMU Roadshow
- Invite guest speakers
- Be a positive role model

CMU Roadshow. http://women.cs.cmu.edu/What/Outreach/Roadshow/

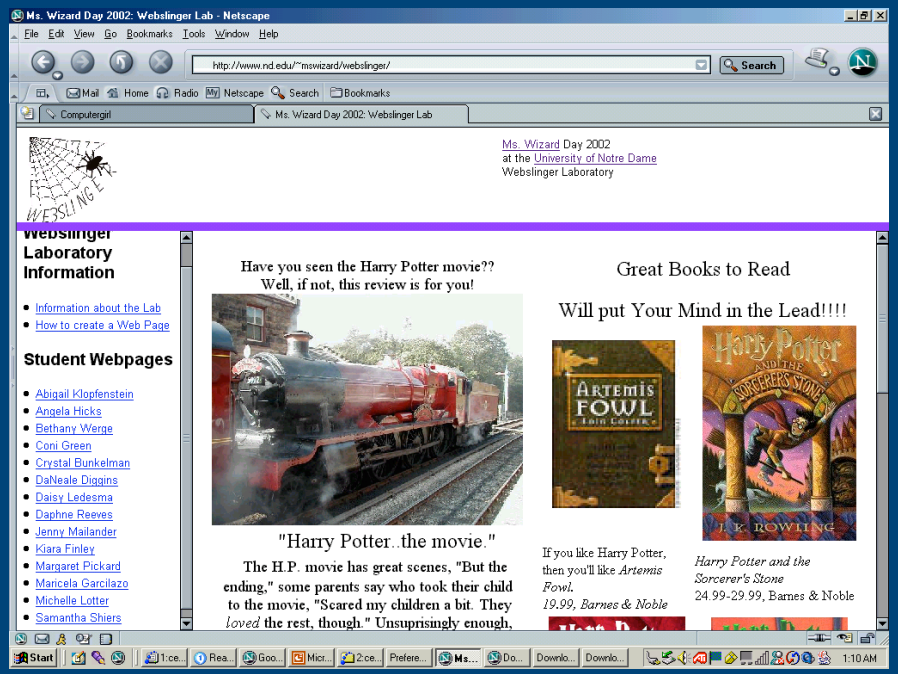
# Educate yourself, teachers, counselors, and parents




- Recommend home computers be placed in centralized locations
- If your classes are not 50-50, notify administrators
- Talk to parents and counselors to help encourage women
- Create a technology club

# Create opportunities for interdisciplinary work

- Over 40% of women wanted to do interdisciplinary work (art, medicine, education, etc.).
- Women design applications for communication and collaboration. Men design applications as an "extension of power."



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Honey et al. (1991) Bank Street College Center for Children and Technology.

# Provide a safe, positive lab environment

- Computer labs allow students to get a break
- Limit harassment and lewd conduct
- Lab set-up influences how students work

# Create a community for all students

- Why aren't there Men in Education or Men in Psychology groups?
- Create a support structure for female students
- Keep in mind how people think

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# Encourage women!

- Be aware of your voice, gestures, and body language
- Do not “talk down to girls”
- Ask high-order, open ended questions to all students
- Put girls in touch with female scientists
- Encourage questioning and exploration for all students

# Get Involved!

- ACM-W High School Chapters
- Systers
- Computer Girl
- Regional Grace Hopper Conference