

For all without Discrimination

Gender, Race, and Computer Programming
Week 1, The Research



Doug Bradbury
Software Craftsman

Draw the typical programmer

What does the programmer look like?

How does the programmer spend time
(inside and outside of work)?

What does the programmer value?

Bachelor Degrees in CS (2011)

88.3% men

11.7% women

66.9% white

14.8% Asian

5.4% Hispanic, any race

3.6% Black or African American

Computing Research Association

Taulbee Survey



Friday, November 22, 13

Women as percentage of the profession

Computer Programmers - 22%

Computer Software Engineers - 21%

Physicians and Surgeons - 31%

Forbes

Top 10 Best-Paying Jobs For Women In 2011

Earnings as percentage of men's earnings

Computer Programmers - 95%

Computer Software Engineers - 91%

Physicians and Surgeons - 71%

Forbes

Top 10 Best-Paying Jobs For Women In 2011

Early Childhood Attachment

A young child with short brown hair, wearing a blue and white striped sweater, is sitting in a red office chair at a desk. The child is looking intently at a large computer monitor on the left. The room is dimly lit, with light coming from a window in the background, creating a warm, focused atmosphere. The child's hands are resting on the desk near the keyboard.

photo: Lars Plougmann

Given a computer as a child

Boys - 40%

Girls - 17%

Jane Margolis & Allan Fisher

Unlocking the Clubhouse

Confidence



photo: Walt Stoneburner

Stereotype Vulnerability



photo: zoomar

“the sense of always looking at one's self
through the eyes of others.

W.E.B. DuBois

African American sociologist

Geek Culture



photo: rockygirl05

“69% of female cs majors consider themselves different from the majority of their peers and assert that their lives do not revolve around computers.

Jane Margolis & Allan Fisher

Unlocking the Clubhouse

“The dominate cs culture does not venerate multiple interests. Instead the singular and obsessive interest in computing that is common among men is assumed to be the road to success in computing. The model shapes the assumptions of who will succeed and who "belongs" in the discipline.

Jane Margolis & Allan Fisher
Unlocking the Clubhouse

Experience?

Prior computing experience level turns out not to be a predictor of eventual success in CS programs.

Encouraging Mentors



photo: Lafayette College

Supportive Learning Communities



photo: Chicago Women Developers

Parental Careers

52% of the women who graduated at CMU had one or more parents in a CS related field.

Jane Margolis & Allan Fisher

Unlocking the Clubhouse

A photograph of a computer lab with four students. In the foreground, a male student in a dark blue sweater is seen from behind, looking at a computer monitor. To his right, a female student with long dark hair, wearing a white shirt and a blue patterned vest, is seated and looking at her monitor. Further right, another female student in an orange and white striped shirt is seated, and a fourth student in a pink shirt is standing behind her. The lab has grey cubicle dividers. On the wall behind the students is a corkboard with various papers, including a map of Ireland and a document titled 'The National'. A whiteboard is also visible on the wall. The text 'No Choice' is overlaid in the top left corner.

“No Choice”

photo: Kaplan International Colleges

Attributional beliefs about intelligence and talent



“因材施教 有教無類

Teach your student according to their aptitude, and provide education for all without discrimination.

Confucius

Non-traditional pathways

Increase in the number of IT jobs in the US
from 1996 to 1997

200,000

Number of bachelors and masters degrees
awarded in IT fields that year:

45,000

Kathryn M Bartol and William Asprey

The Transition of Women from the Academic World to the IT Workplace

“At a fundamental level, men, women, ethnic minorities, racial minorities, and people with handicaps, experience the world differently. Those differences in experience are the 'gene pool' from which creativity springs.

William Wulf

President of the National Academy of Engineering

What's next?

May 11 - Panel discussion on women in software development

May 18 - Panel discussion on race and ethnicity and software development



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