

# Gender and Career Choice in the 21<sup>st</sup> Century

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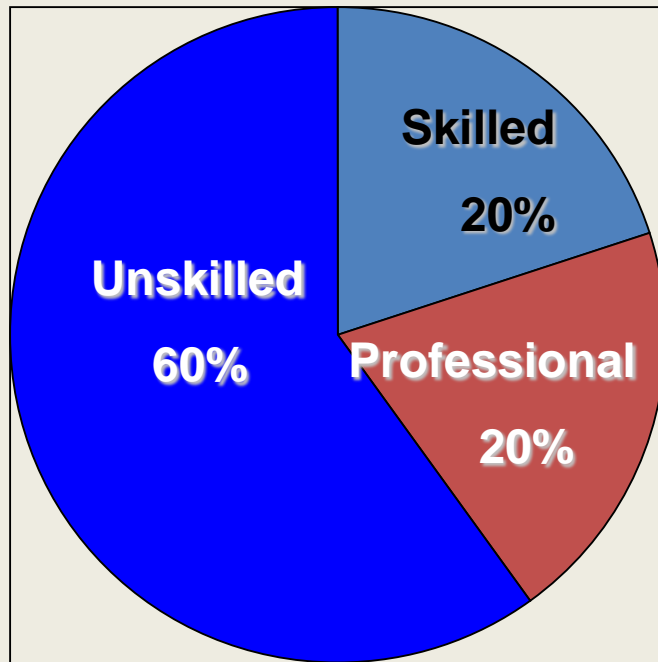
*Center for Women in Government & Civil  
Society, University at Albany*

# The Changing Workforce:

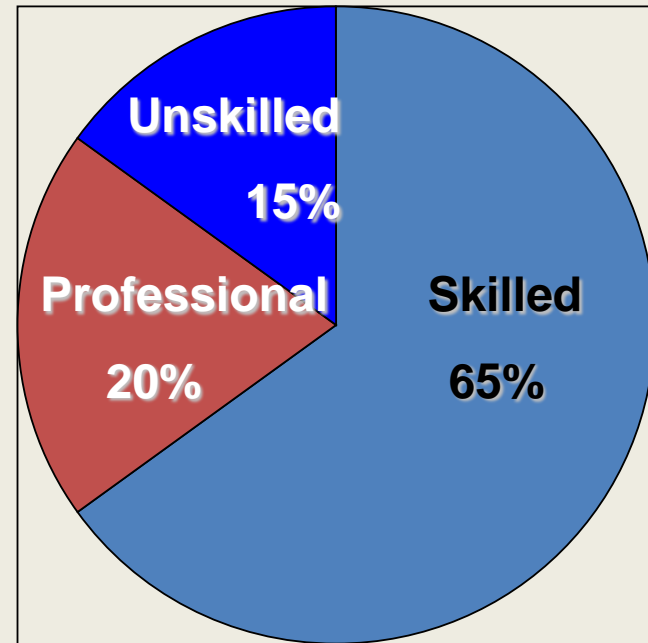
“Old” vs. “New”

# The Changing U.S. Workforce

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1950



2005

# Job Skill Level Changes

Year	Skilled	Unskilled	Professional
1950	20%	60%	20%
1991	45%	35%	20%
2005	65%	15%	20%

Unskilled: High school or less with no technical training

Skilled: Post-secondary training, but less than a baccalaureate degree. Includes associate degrees, vocational-technical schools, apprenticeship training, and military.

Professional: Baccalaureate degree or more.

# Education Levels: Comparison

## High School +

1950 45%

2007 87%  
(54%)

## B.A/B.S +

1950 5%

2007 28%  
(10%)

Source: Aspen Institute, 2006  
US Census, 2007

# The Changing Workplace: Rules for Success

- **Old Workplace**

- Choose occupation
- Training/education
- People **or** technology skills
- Work hard
- Loyal to company
- Gain seniority
- Benefits and pension
- Gender segregation

- **New Workplace**

- Skills bank
- Continuous learning
- People **and** technology skills
- Entrepreneurial
- Team member
- Package of supports
- Diversity

# Our 21<sup>st</sup> Century Workplace

- Global competition and cooperation
- Technology assisted communications
- Manufacturing to service economy
- New skills, including innovation, entrepreneurship and cultural competency
- Diversity enhances worker capacity
- Individual achievement is being replaced by team focus.
- Strong interpersonal skills will become a condition of employment.
- The worker contract is changing

Source: International Center for Leadership in Education

# Regarding competitive advantage...

“If you look at India, China, and Russia... even if you discount 90 percent of the people there as uneducated farmers...you still end up with about 300 million people who are educated. That’s bigger than the U.S. work force.”

- Bob Herbert, New York Times

# Women and girls in IT

- In 2005 women were:
  - 29% of the US IT workforce
  - 11% of IT corporate officers
  - 24% of computer scientists
- In 2005 girls were:
  - 15% of AP computer scientist test-takers
  - 23% of ISEF in mathematics
  - 52% of ISEF in biochemistry
  - 15% of computer science degree awards

Source: [www.ncwit.org](http://www.ncwit.org)

# Culture and Gender in IT

## United States:

- 24% of computer-science jobs are held by women
- Masculinity and technology

## Malaysia:

- 60% of computer-science jobs are held by women
- Masculinity vs. “indoor work”

Source: Clayman Institute for Gender Research, 2010

# Why Diversity?

- Servicing an increasingly diverse, global marketplace
- Recruiting and retaining the best talent
- Expanding creativity and better decision making from diverse groups due to:
  - Varied perspectives
  - A wider array of ideas and solutions
  - Challenge to long-accepted views
  - Divergent thinking
  - Differing communication skills

# Gender and Careers: History and Culture

# Gender and Work in America

- Based on family gender roles
- Cultural expectations and norms
  - Respectability and status
  - “Family wages”
- Influenced by history and technology
  - New tools first used by men, then women
  - War time shifts women into men’s jobs
  - Shortages attract nontraditional workers

# Did you know?

## Men were the first secretaries

- Well educated and multilingual advisors who functioned as personal or “private” secretaries
- Prominent position and status
- U.S. government service
- Civil War created need for female office workers
- Typewriters available 1874-1878
- By 1900 90% typists were women

# Did you know?

Men were the first nurses

- Florence Nightingale opened nursing to women in 1854 during the Crimean War
- Civil War both male and female nurses
- Men were barred from serving as nurses in the military until after the Korean War
- The U.S. supreme court ruled in 1982 that it was illegal to discriminate against men in nursing education

# Gender and career choice

- Gender role stereotypes
- Traditional family role expectations
  - Father and worker
  - Mother and family and worker
- Occupational segregation
  - Nurses, secretaries, teachers
  - Engineers, dentists, technicians
- Influenced by history and technology
  - New tools first used by men, then women
  - War time shifted women into men's jobs
  - Shortages attract nontraditional workers

# Gender Roles in The 50's

## The Myth

- Ideal nuclear family
- Men earned a “family wage”
- Housewife career option

## Reality

- 30% to 40% women in paid workforce
- 50% of working women were married



*What shall I be?*  
TRADE MARK

# THE EXCITING GAME OF CAREER GIRLS



# School/Career Cards



# School/Career Cards



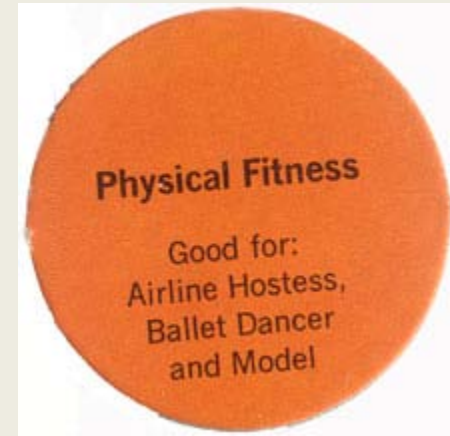
# School/Career Cards



# What Should We Study?



# What Should We Study?



# Challenges to the Stereotypes

# Gender Equity in Vocational Education

- Vocational Education Act of 1963
  - Disadvantaged/handicapped population
- Vocational Amendments of 1976
  - Girls and women
- Carl D. Perkins Voc Ed Act of 1984
  - Sex Equity Coordinator; “set-asides”
- Carl D. Perkins VATEA of 1990
- Carl D. Perkins VATEA of 1998
  - Core indicator IV; leadership funds
- Carl D. Perkins VTEA of 2006
  - Accountability measures; local plans



# 1972: Title IX

Title IX of the Education Amendments to the Civil Rights Act of 1964 states that...

- Any institution receiving federal funding may not discriminate against anyone based on gender.

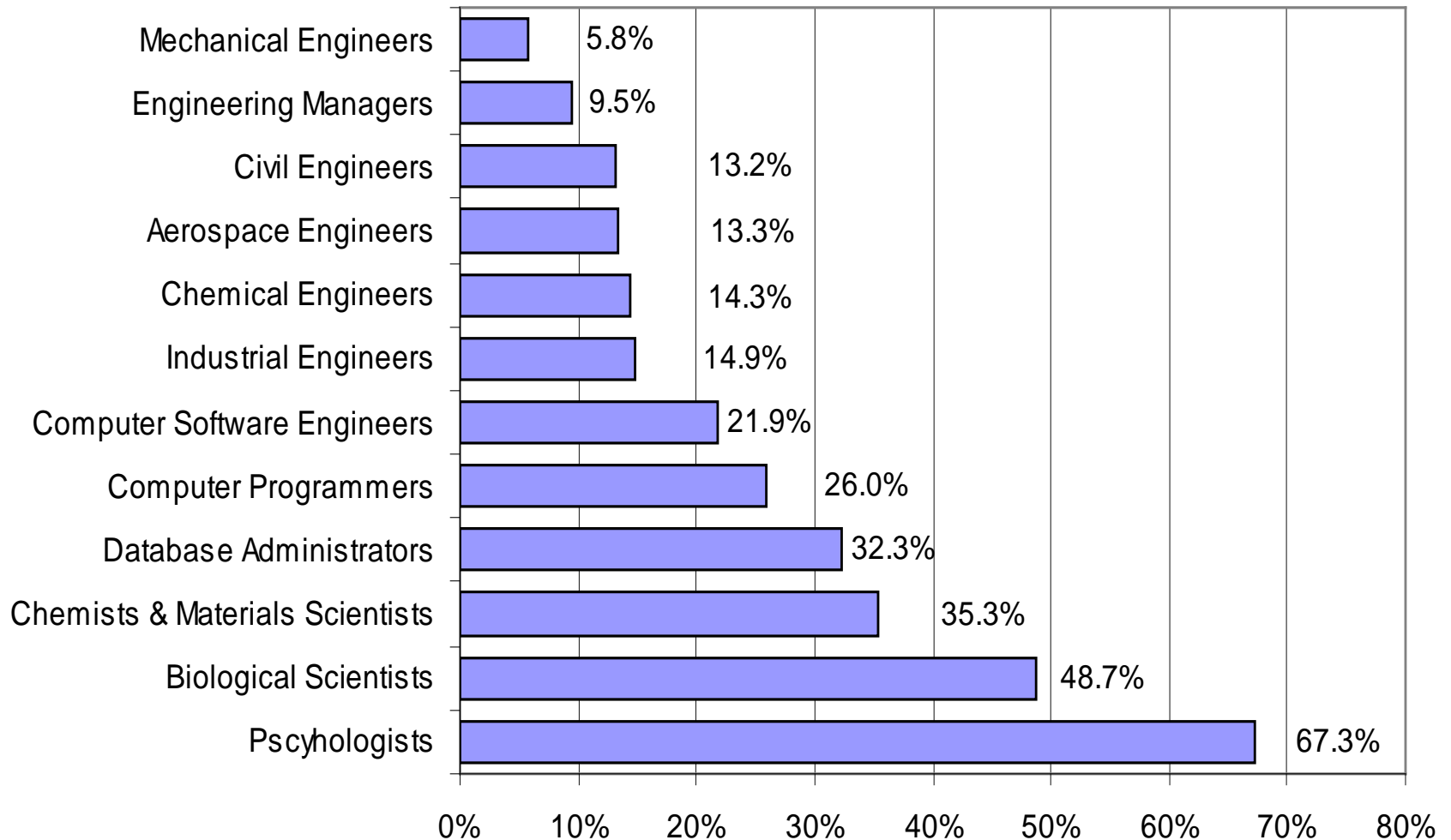
As a result of Title IX...

- Over the last three decades, girls and women have made significant gains in education.
- Women make up 58% of the nation's college students
- Women graduate more often, and with the majority of honors degrees
- Women earn roughly 50% of the STEM degrees awarded

And yet...

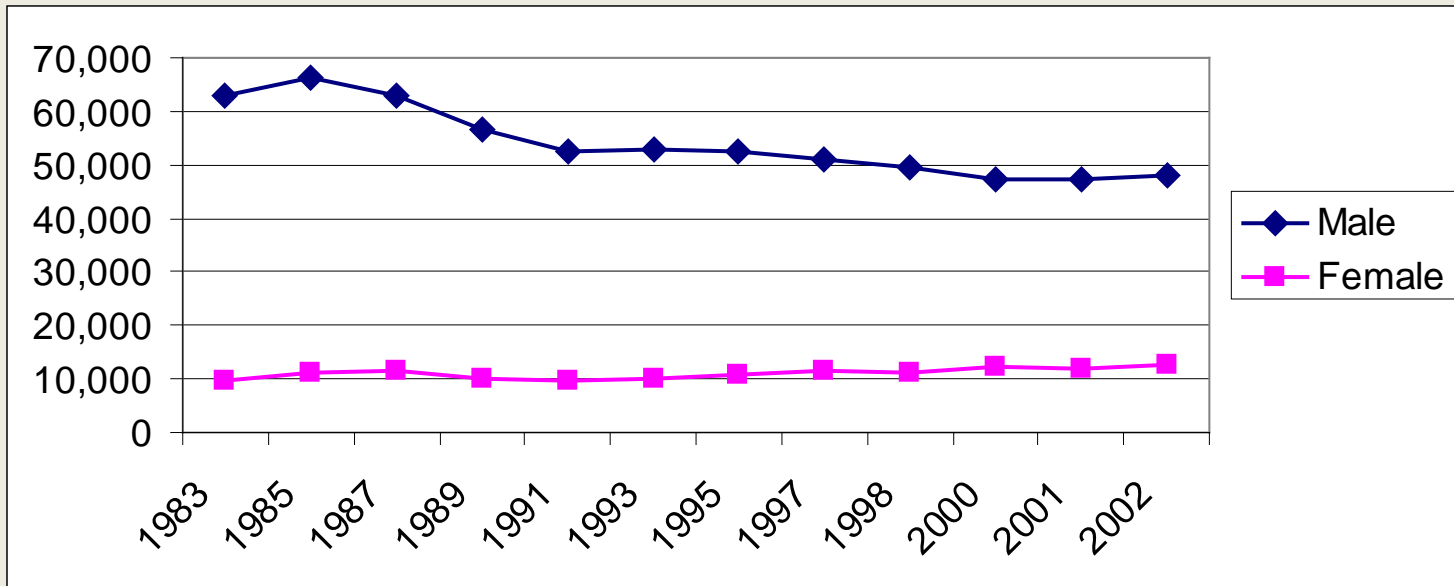
- **Women make up less than 25% of the STEM workforce!**

## Women as a Proportion of Selected STEM Occupations, 2005



Source: CPST, *Professional Women and Minorities*. Data derived from U.S. Census Bureau, *Current Population Survey*

# Engineering Degrees Awarded by Gender



National Science Board 2006 Science and Engineering Indicators

# Career Choice

# How will they choose their occupations?

- Cultural messages
  - Family
  - Community
  - Media
- Experiences
  - Skills and interests
  - Education
- Personality
- Need and opportunity

# What are the messages?

- College
- Economic security
- Brain vs. brawn
- Gender
- Technology

# The Quiet Dilemma

- “One way to win” paradigm
- International shortage of technicians
- Underemployment of college graduates
- Reverse transfers

Source: Kenneth Gray, 2006

# Career Decisions Without Direction

Survey of HS students in 2002 found:

- 51% reported no help from school
- 10% credited teacher/counselor
- 78% cited parents as adult influence
- 68% plan four-year college
- 6% plan technical career

Source: Ferris State University 2002

# Interest Over Opportunity

Technology remains a low priority

- “32% say computers offer the greatest career opportunities; 6% will prepare for a career in a computer field; none of these were female”
- Majority of parents unaware of benefits of vocational and technical programs at both high school and two-year college levels

Source: Ferris State University, 2002

# Interest over Opportunity

- Select for own career
  - Computers 6.8%
  - Medical 21%
  - Teaching 9.4%
  - Business 4.7%
  - Engineering 3.2%
  - Science 4.0%
  - Automotive 2.7%
- Good career opportunity
  - Computers 47.6%
  - Medical 51.1%
  - Teaching 24.3%
  - Business 16.8%
  - Engineering 8.7%
  - Science 6.9%
  - Automotive 3.4%

Source: Ferris State University 2002

# “Just a Feeling....”

## Primary reason for career choice

- Something I like 33%
- Personal growth 22%
- I am good at this 21%
- Always been interested 13%
- Good money 3.7%
- Good field for job 2.5%

# Still Pink and Blue in 2005: Enrollments in CTE Courses

- In courses leading to traditional occupations for females:
  - 87% females
  - 13% males
- In courses leading to traditional occupations for males:
  - 15% females
  - 85% males

Source: National Women's Law Center, 2005

How can we achieve the skill capacity needed for the region if we are recruiting talent from only 50% of the population?

# The Sector Strategy

- Identify capacity gaps in local growth industries
  - Economic development reports & BLS data
  - New industries
- Match with gender gaps in college programs
  - Enrollment data
  - Faculty interest
- Outreach to targeted industries
- Develop strategic partnerships



## **The NET Project**

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