

# ***Women & Minorities in EPSCoR Science and Engineering?***

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Every public action which is not customary,  
either is wrong, or  
if it is right,  
is a dangerous precedent.  
It follows that **nothing**  
should **ever** be done for the first time.

--Francis M. Cornford (1908)



## Understanding the Challenges

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- Two key concepts help explain the slow pace of inclusion and advancement of women, minorities, and persons with disabilities in science and engineering (adapted from Virginia Valian (*Why So Slow?* )
  - ❖ Gender and racial/ethnic "schema"
  - ❖ Accumulation of advantage

# "Schema"

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- "Schema" are widely held beliefs about men, women, people from ethnic groups, and people with visible disabilities with respect to their competence, career roles, and leadership ability
  - *Lead us to overrate white men*
  - *Lead us to underrate women (and minorities)*

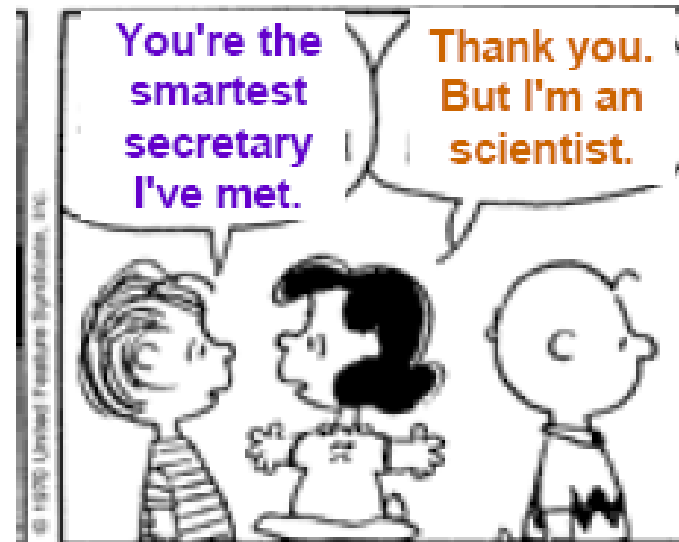


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*Overheard  
at the STEM  
conference:*



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# Accumulation of Advantage

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- "Accumulation of advantage" refers to the cumulative long-term effect of small differences in the way males and females from different ethnic groups are treated throughout their lives
  - At home and in school
  - On the sports field
  - In the workplace
  - In restaurants, stores, theatres,...
- If majority males experience "1.001" and others experience "0.999" the difference accumulates profoundly
  - Dominant-group males experience  $\rightarrow \infty$  ("1400" after 20 years)
  - Others' experience  $\rightarrow 0$  ("0.00067" after 20 years)



# ***Tensions for Women and Minorities in STEM***

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- **Being oneself *versus* fitting into the culture**
- **Making connections: political relationships *versus* meaningful relationships and performance**
- **Controlling one's destiny *versus* conforming to expectations**
  - Moreover, expectations of women/minorities conflict with expectations of scientists/engineers/leaders
- **Achieving wholeness: freedom to align ideas, personality, and passions while being and being perceived as professionally successful**
- **Gaining self clarity: knowing what you need to do and be**
- **Adapted from Ruderman and Ohlott: Standing at the Crossroads**



# References & Recommended Reading

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- Recent reports from National Research Council and National Science Board
- Committee on Equal Opportunity in Science and Engineering (CEOSE), Biannual Reports, especially 2004 and 2006; e.g. Broadening Participation in America's Science and Engineering Workforce (2005).  
<http://128.150.4.107/od/oia/activities/ceose/reports/ceose2004report.pdf>,
- D. Nelson: "A National Analysis of Diversity in Science & Engineering Faculty at Research Universities," 2007
- NSF 07-315: Women, Minorities, and Persons with Disabilities in Science and Engineering, 2007
- M. Ruderman & P. Ohlott: Standing at the Crossroads: Next Steps for High-Achieving Women, 2002
- Virginia Valian, Why So Slow?

