

# Opportunity Lost?

## The Academic Career Pathways of Underrepresented Groups in STEM

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# Why Does a Lack of Diversity in STEM Academia Matter?

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- Perpetuates differential access, encouragement, and opportunity
- Hinders new approaches to research, new perspectives, and innovation
- Limits availability of role models and mentors
- Sends cultural signals that constrain choices
- Challenges STEM identity development

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# Women are Stalled Early in Their Careers

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- Men are more likely than women to secure a position upon earning a STEM Ph.D.
  - 70% compared with 65%
- Minority women and mothers are even less likely to have secured a position
  - 59% of racial/ethnic minority women
  - 59% of mothers of young children

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# Women *Start* Down Academic Pathways

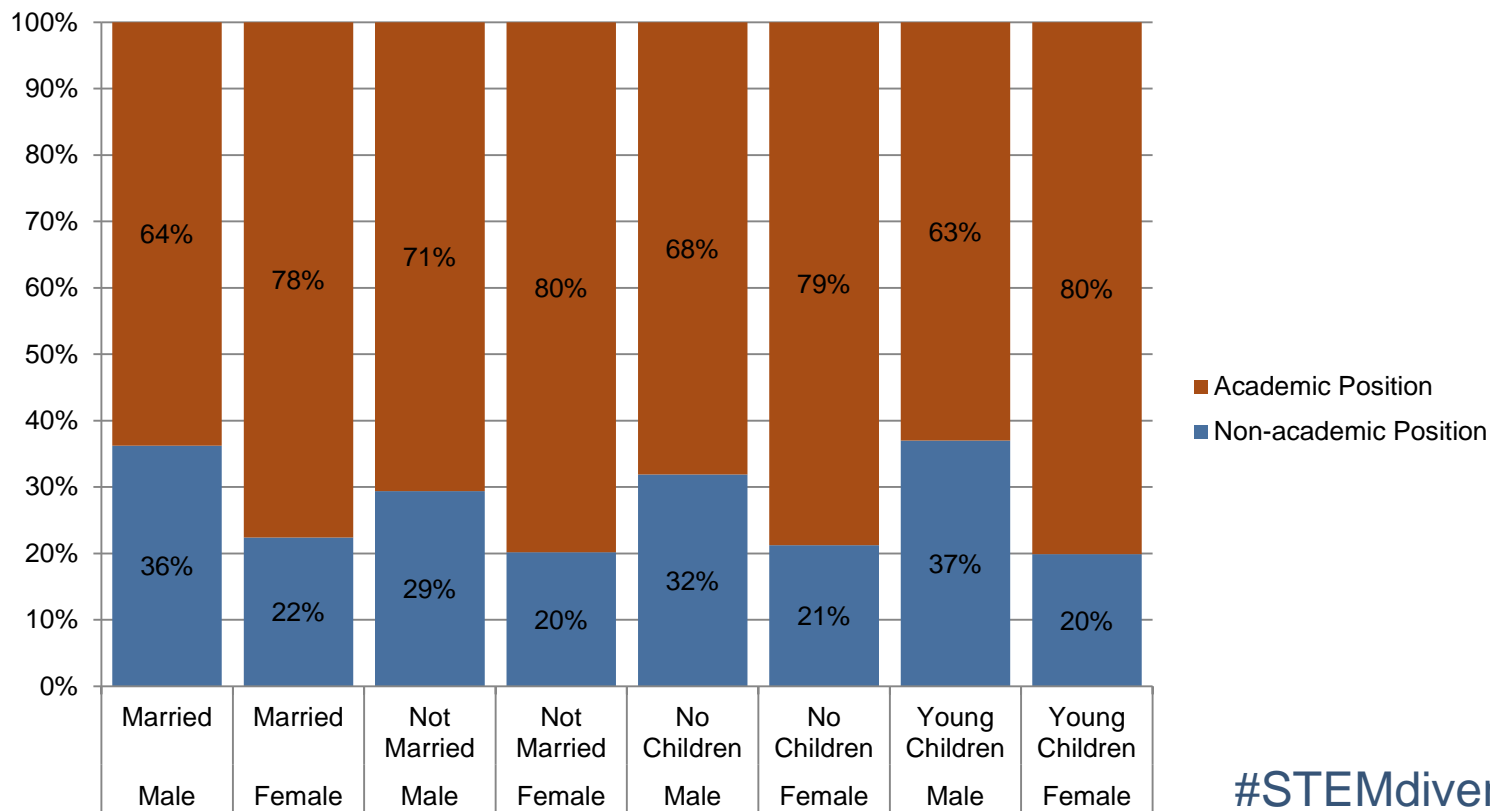
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Among new STEM Ph.D. recipients with secured positions...

- 71% total find an academic position
- The rate among women is higher
  - 79% of women compared with 67% of men
- The rate among mothers is highest
  - 80% of mothers compared with 63% of fathers

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# Early Academic Career Pathways Among STEM Ph.D.s: 2009-2010



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# Women's and Men's Pathways are not Equal

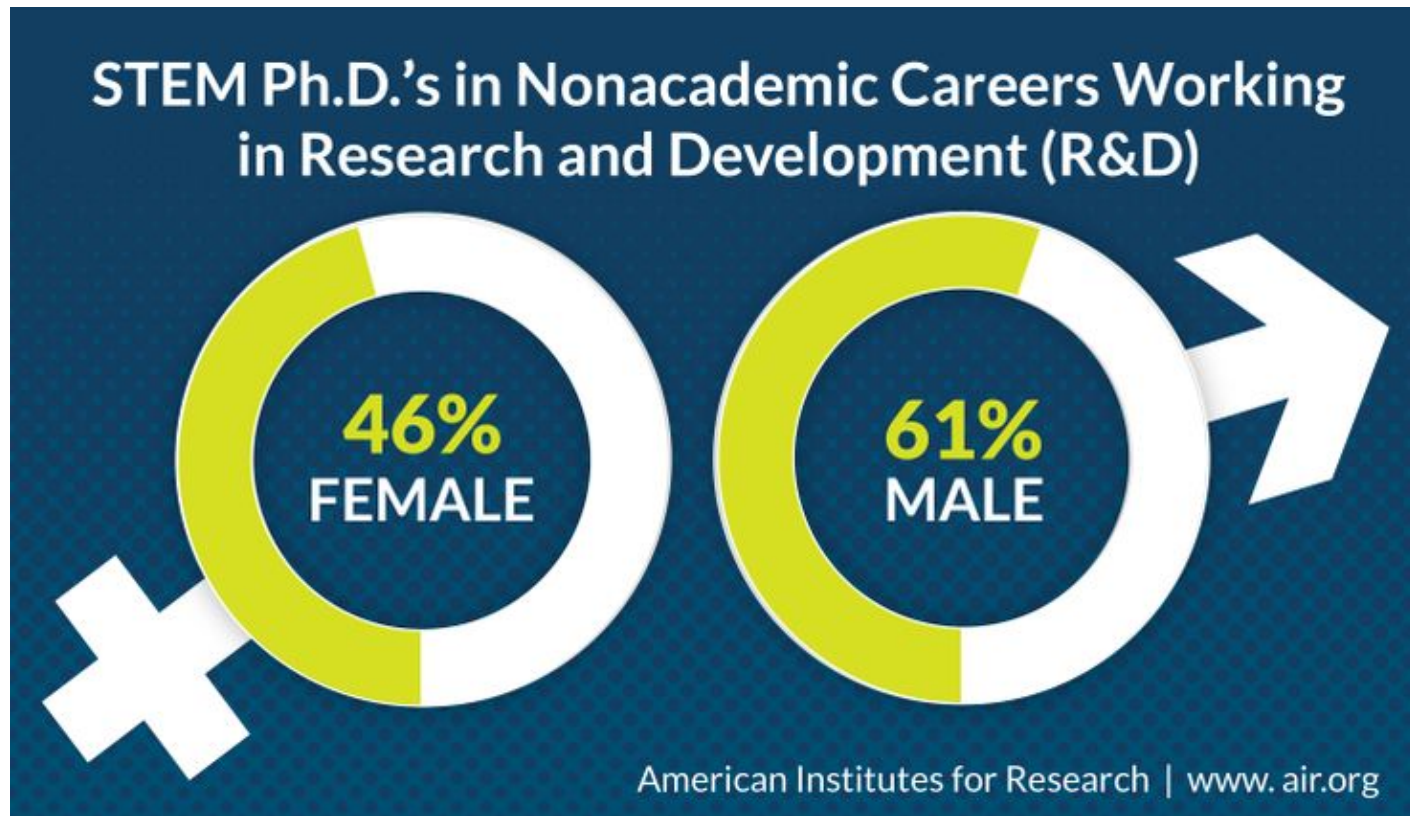
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Among new STEM Ph.D.'s with secured academic positions...

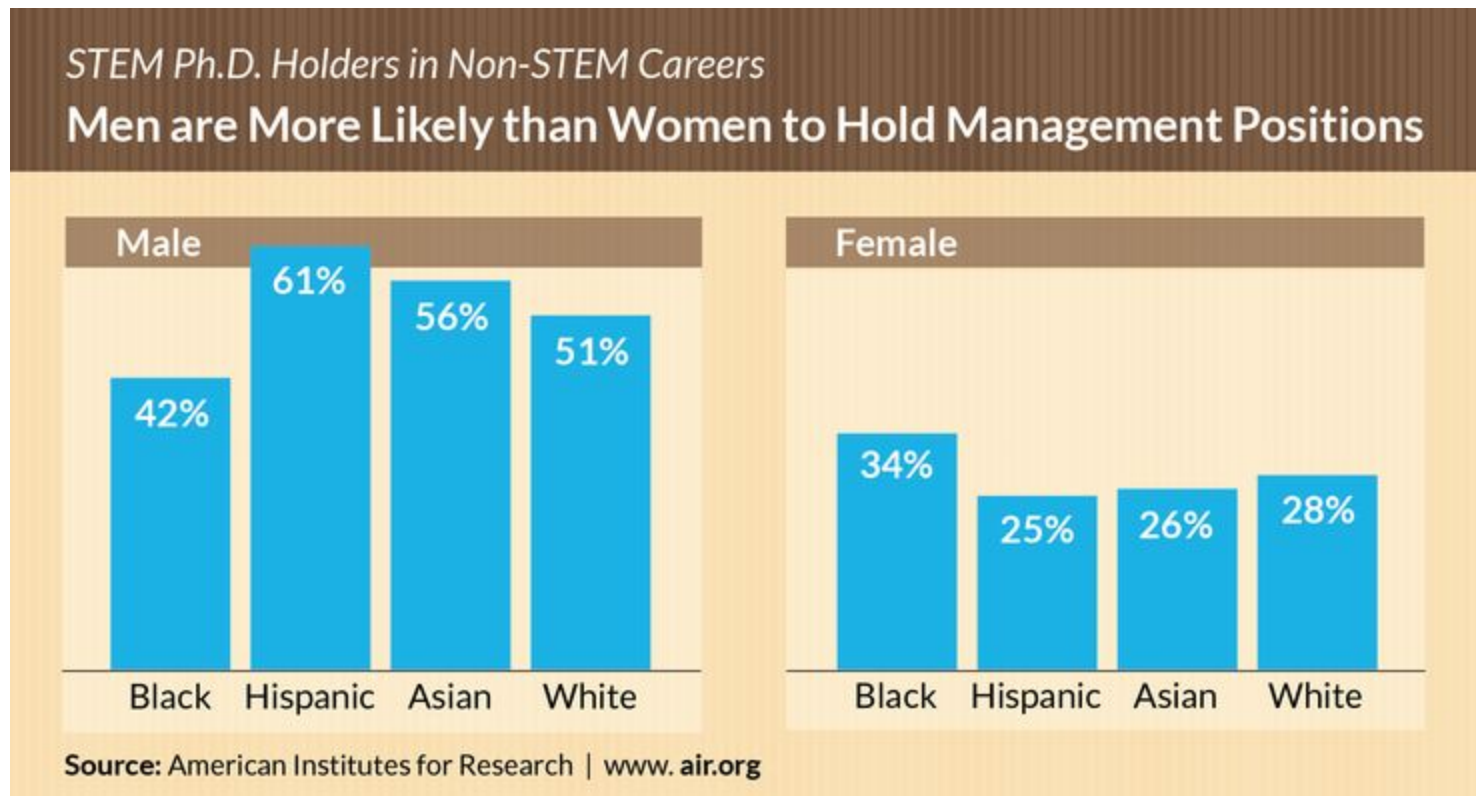
- 76% of women and 81% of men secured positions at research institutions
- Just 70% of mothers secured such positions compared with 75% of fathers

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# Low Visibility of Female STEM Leavers in R&D...



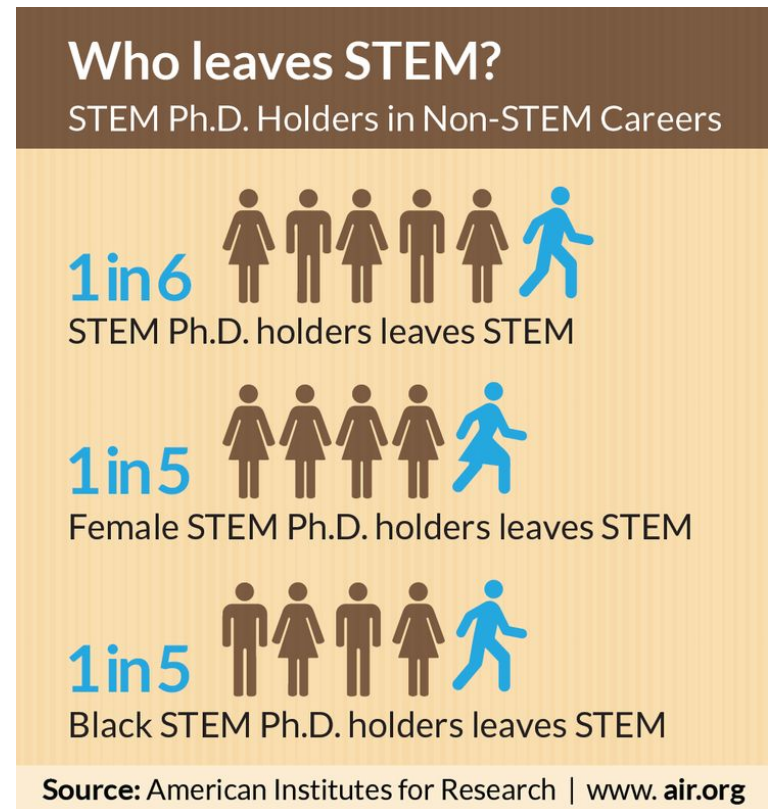
# ...and in Management





# Women and Blacks Most Likely to Leave STEM Careers

- Women more likely than men to leave STEM
  - 19% versus 16%
- Blacks more likely than other races and ethnic groups
  - 21% compared with 17% of whites and 14% of Asians and Hispanics
- Black women most likely of all groups to leave
  - 22%



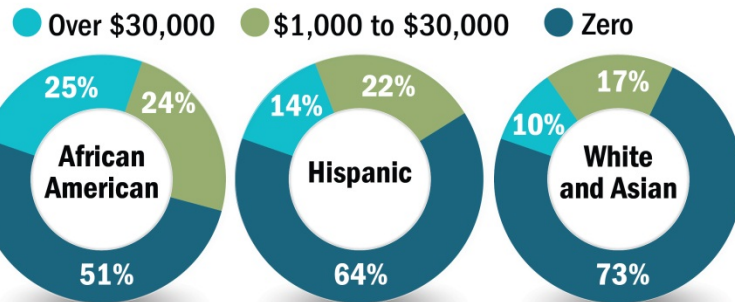
# For Blacks and Hispanics, a STEM doctorate costs more



## Paying for a STEM Ph.D.

**Debt Disparities:** Among those who earned a Ph.D. in a STEM (science, technology, engineering and mathematics) field, African Americans and Hispanics were more likely to graduate with debt than their white and Asian peers.

### Student Debt for Ph.D. STEM Graduates by Race/Ethnicity



Source: The Price of a Science PhD: Variations in Student Debt Levels Across Disciplines and Race/Ethnicity, Center for STEM Education & Innovation at American Institutes for Research | [air.org](http://air.org)

- Blacks are twice as likely to have more than \$30K in debt
- An HBCU Ph.D. is most common for black women and first gen college students
  - 72% of those with an HBCU doctorate were also HBCU undergraduates
  - 1/3 graduate with more than \$30K in debt, compared with 1/5 of their peers at predominately white institutions

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