



TOWSON
UNIVERSITY

Using Social Media and Digital Archives to Disrupt, Debunk and Dismantle Stereotypes in STEM

Jameta N. Barlow, PhD, MPH
Assistant Professor of Women and Health
Department of Women and Gender Studies

Ajibola Bakare, BA
Graduate Student
Dept of Women and Gender Studies

Ruth Addisu
Undergraduate Student
Depts of Electronic, Film and Media and Journalism

Monica Short, BA
Graduate Student
Dept of Women and Gender Studies

Korey Johnson
Undergraduate Student
Depts of Communication/Political Science



TOWSON
UNIVERSITY™

“I write for those women who do not speak, for those who do not have a voice because they were so terrified, because we are taught to respect fear more than ourselves. We've been taught that silence would save us, but it won't.”

-Audre Lorde

COURSE GOALS



TOWSON
UNIVERSITY™

WMST 370/570: Intersection of Gender, Race and Science, Technology, Engineering, Mathematics (STEM) and Innovation

- to explore how the social, economic, and institutional practices of scientific and technological research are shaped by the presence and absence of diverse representative experiences of gender and people of color
- to engage in dialogue around these issues and integrate an understanding of how their personal gendered and racialized experiences are tied to the material in the course.

COURSE LEARNING OBJECTIVES



TOWSON
UNIVERSITY™

Students:

- identified cultural myths about scientists and engineers and compare how those myths in turn foster other myths about gender and race.
- critically analyzed research about women and people of color, examining social and technological knowledge in light of social debates about it.
- integrated and assessed how their gendered and racialized experiences are relevant to experiences with scientific and technological information.
- evaluated specific research about women, transgender and people of color to analyze and assess existing scientific knowledge and practices.
- participated in dialogue around the course content and demonstrate an ability to evaluate their gendered and racialized experiences in relation to this content.

WHAT WE KNOW



TOWSON
UNIVERSITY™

- Gender gap in STEM (Charleston et al, 2014; NSF, 2009)
- Black women were more likely than White women to show an interest in studying STEM disciplines when they enter college (Charleston et al, 2014; O'Brien et al, 2015)
- African Americans were less likely than White Americans to view STEM programs as masculine, which may help explain why the participation levels vary between the two ethnic groups (O'Brien et al, 2015)
- Black women are underrepresented in the number of STEM bachelor's degrees actually earned (NSF, 2009; O'Brien et al, 2015)
- Most studies don't identify the ethnicity of participants, due to minimal variation

DIGITAL SPACES



TOWSON
UNIVERSITY™

- Public and private spheres
- Technology gives visibility to the marginalized

“..it is instructive to recall how the historical subjugation of racial minorities and women by means of the politicization of space and place in American civil society spurred frequent mass mobilizations by these groups to take their long-standing grievances to the streets.”

(Everett, 2009, pg. 14)

AFRICAN AMERICANS AND DIGITAL GAZES



TOWSON
UNIVERSITY™

- Twenty-seven percent more likely than average to listen/download music
- More likely to use their mobile phones as their primary means of going online
- Three times as many use Android (73%) vs Iphone (27%)
- Spend 3 hours and 5 mins more per day than the general market on mobile social media
- Sixty-six percent more likely to use mobile phones as a source of entertainment for younger individuals
- Use smartphones for weather, news, sports, and finance for older individuals
- Two times more likely than average to use Twitter & Instagram
- Forty-four percent more likely to create a social profile than the general market
- Spend the most time among all ethnic groups watching mobile video

(Nielsen & National Newspapers Publishers Association, 2013).

COURSE PROJECT



TOWSON
UNIVERSITY™

- Digital storytelling as a tool for social justice and change
(Banks, 2012; Gachago et al, 2014; Sosin et al, 2007; Worcester, 2012)
- Blog/Website: <https://thisiswhatstemlookslike.wordpress.com/>
 - What area of STEM do you most identify?
 - How do you define STEM (thinking about the inclusion/exclusion of psychology, social sciences, etc.)?
 - Why do you think STEM is important?
 - Challenges you've had due to social identities?
 - Did you report this?
 - Ever discouraged/encouraged to pursue STEM?
 - Is having a network within your field important to you?
 - If you could tell girls one thing about STEM education?
 - What do you think about STEAM?

FRAMEWORK



TOWSON
UNIVERSITY™



Figure 1. Community Psychology's Six Values and Six Principles (Nelson & Prillentrsky, 2005)

FRAMEWORK



TOWSON
UNIVERSITY™

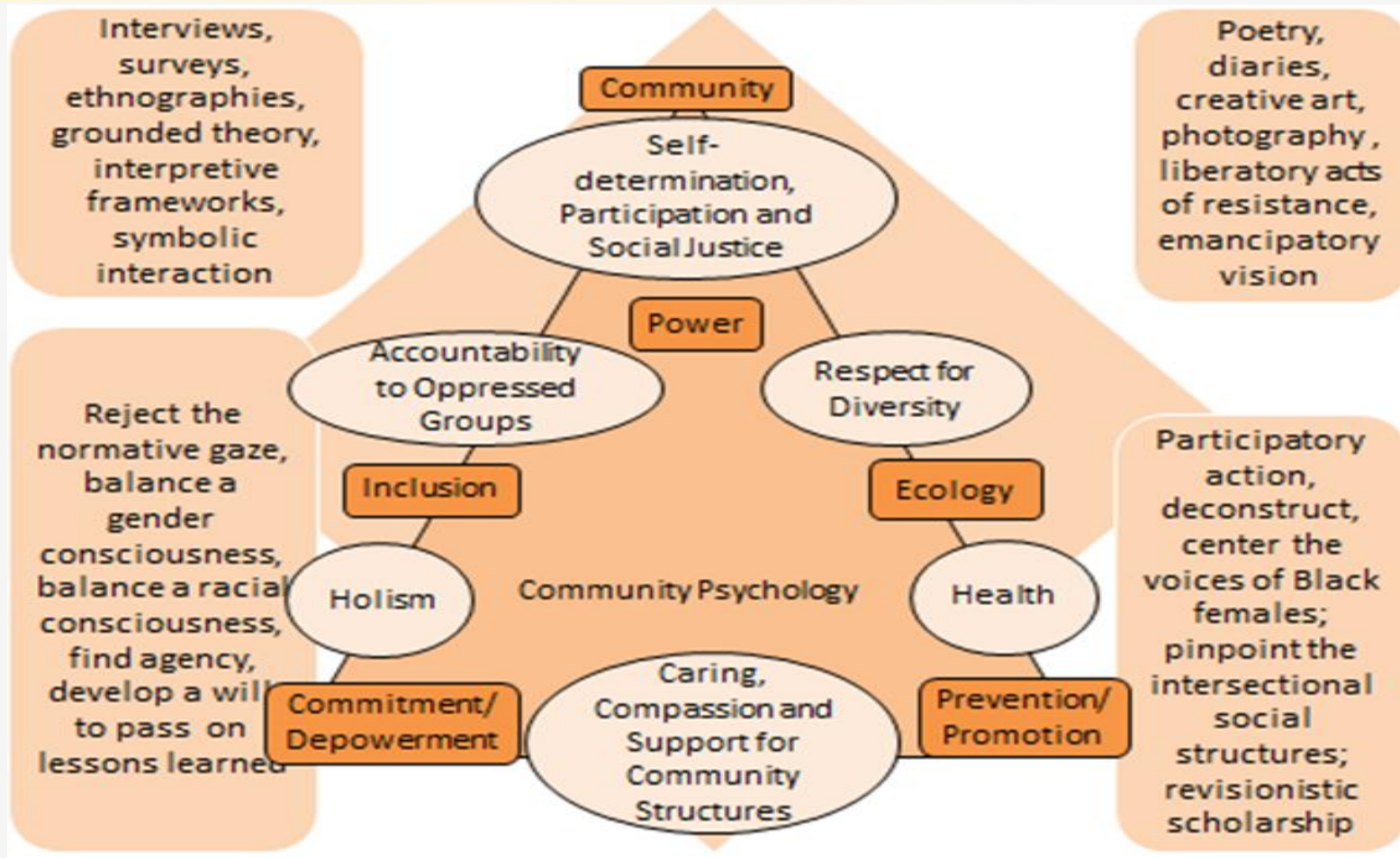


Figure 2. Conflation of Feminist Psychology's Research Methodologies & Community Psychology's Six Values and Six Principles as Applied to Intersectionality in STEM

FILM AND MEDIA



TOWSON
UNIVERSITY™

How to develop a mini-film/documentary

- Purpose
- Audience
- Resources
- Research
- Timeline
- Execute

Course mini-film

- <https://vimeo.com/154648953>

INTERSECTIONALITY



TOWSON
UNIVERSITY™

- Awareness of lack of inclusion for women in STEM
- Call to action,
 - centers on women as a category
 - Importance of race, class, and gender
- Importance of moving beyond gender, recognizing intersectional identities

TWITTER



TOWSON
UNIVERSITY™

- Currently one of the most popular social media platforms
- Pushes users to get their stories across succinctly
- Best practices include
 - Pairing tweets with images
 - Using trending hashtags
 - Assuring your twitter is active
 - Take advantage of hootsuite/tweetdeck
- Collaborate

STORIFY



TOWSON
UNIVERSITY™

- Used to create timelines and aggregate responses from social media platforms
- Pulls content from various sources and utilizes it to create a story for easy consumption
 - Twitter, Facebook, Tumblr, Instagram, etc
- Search for previously created stories
 - Publish your stories and share with others

CONTRACEPTION AND STEM



TOWSON
UNIVERSITY™

- Historical use of contraceptives for eugenics of Black women
- Current media portrayal as symbolizing sexual freedom
- Positive versus negative eugenics
 - Pushing contraceptives on the Global South
 - Fertility treatments for white women
- Roberts- “stratified reproduction”
- Melamed’s “neoliberal multiculturalism”
- Call for intersectionality

PINTEREST



TOWSON
UNIVERSITY™

- Typically used for recipes, exercise, DIY projects
- Due to its wide usage, potential to impact many people
 - Pinterest brand strategist Kevin Knight explains that “the number of people who actually see your pins is far greater than your number of followers.”
- Organizations can add a “Pin It” button to their website to boost content

<https://www.pinterest.com/monicadmshort/women-in-stem-advance/>

INSTAGRAM



TOWSON
UNIVERSITY™

- Similar to Twitter with use of hashtags
- Can follow organizations and/or individuals
- Can link to other forms of social media
- According to a study by Pew Research Center, 47% of Instagram users identify as Black, non-hispanic, and 38% identify as Hispanic, while 21% identify as White

Some examples of groups to follow:

- STEMinist Movement
- Black STEMinist
- Women_in_STEM

REPRODUCTIVE JUSTICE



TOWSON
UNIVERSITY™

- Gratuitous violence and its proximity to women we know
 - Historical Notions of Reproductive Violence & Sexualized Violence
 - Venus Hottentot/Sarah Baartman
 - Lucy/Betsey/Anarcha and James Marian Sims
 - “Father of Modern Day Gynecology”
 - Black Baltimore and it’s relationship to scientific research institutions
 - Henrietta Lacks (1950, Johns Hopkins)
 - Teenage Sterilization (Bob Embry 1990’s)
 - Infecting Guatemalans (1950, Johns Hopkins)

BLOGS



TOWSON
UNIVERSITY™

The question becomes how are we able to advocate for our own terms in ways that affirm and activate our agency as a means of reclaiming our bodies from scientific control in ways that are accessible to women?

BLOG!

<https://thisiswhatstemlookslike.wordpress.com>

<https://mskorey.wordpress.com>

EXAMPLE SOCIAL MEDIA CAMPAIGNS



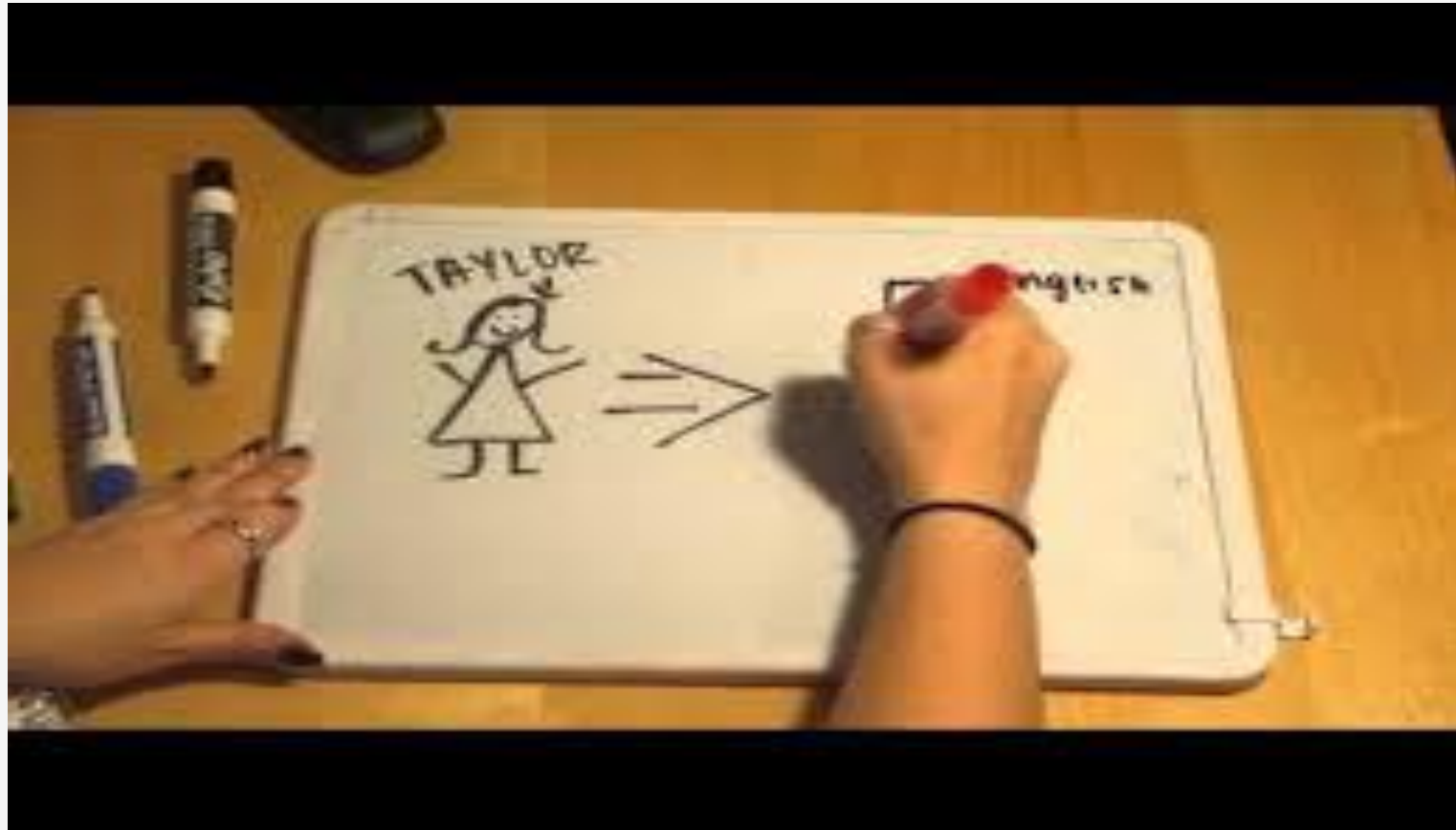
TOWSON
UNIVERSITY™

- #ilooklikeaprofessor
- #thisiswhatstemlookslike
- #WomeninSTEM
- #GirlsWhoCode
- #WomenInTech
- #BlackGirlsCode
- #WOCinSTEM
- #BlackWomenSTEM
- #diversityinstem
- #BlackandSTEM

#thisiswhatstemlooklike



TOWSON
UNIVERSITY™

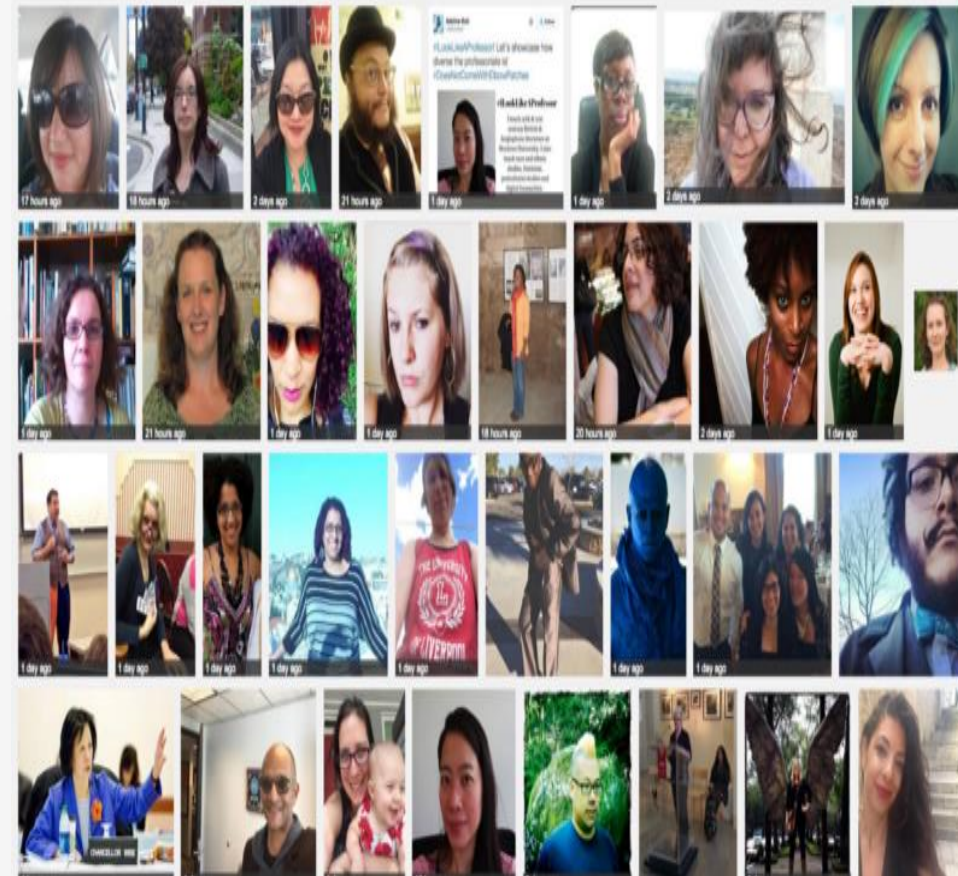


Source: <https://www.youtube.com/watch?v=MBkPI5souUI>

#ilooklikeaprofessor



TOWSON
UNIVERSITY™



Source: <https://twitter.com/otherhoodpod>

Source: https://d262ilb51hltx0.cloudfront.net/max/800/1*5XhIPzpbA5PI8bT9YWiRcw.png

#WomeninSTEM



TOWSON
UNIVERSITY™

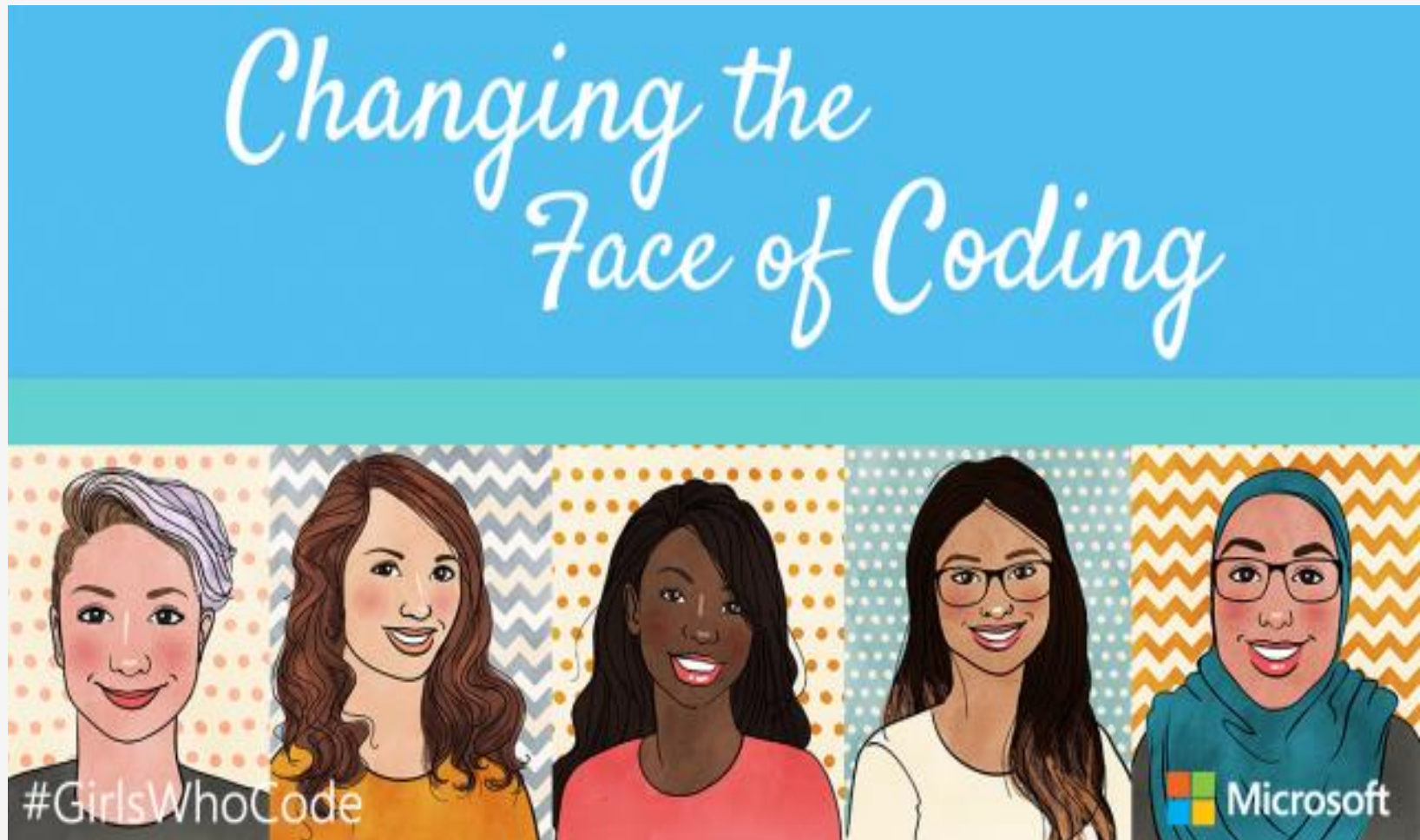


Source: http://www.schulichleaders.com/schulich-leader-scholarships-proud-celebrate-womeninstem#.VyQwl_krLIU

#GirlsWhoCode



TOWSON
UNIVERSITY™

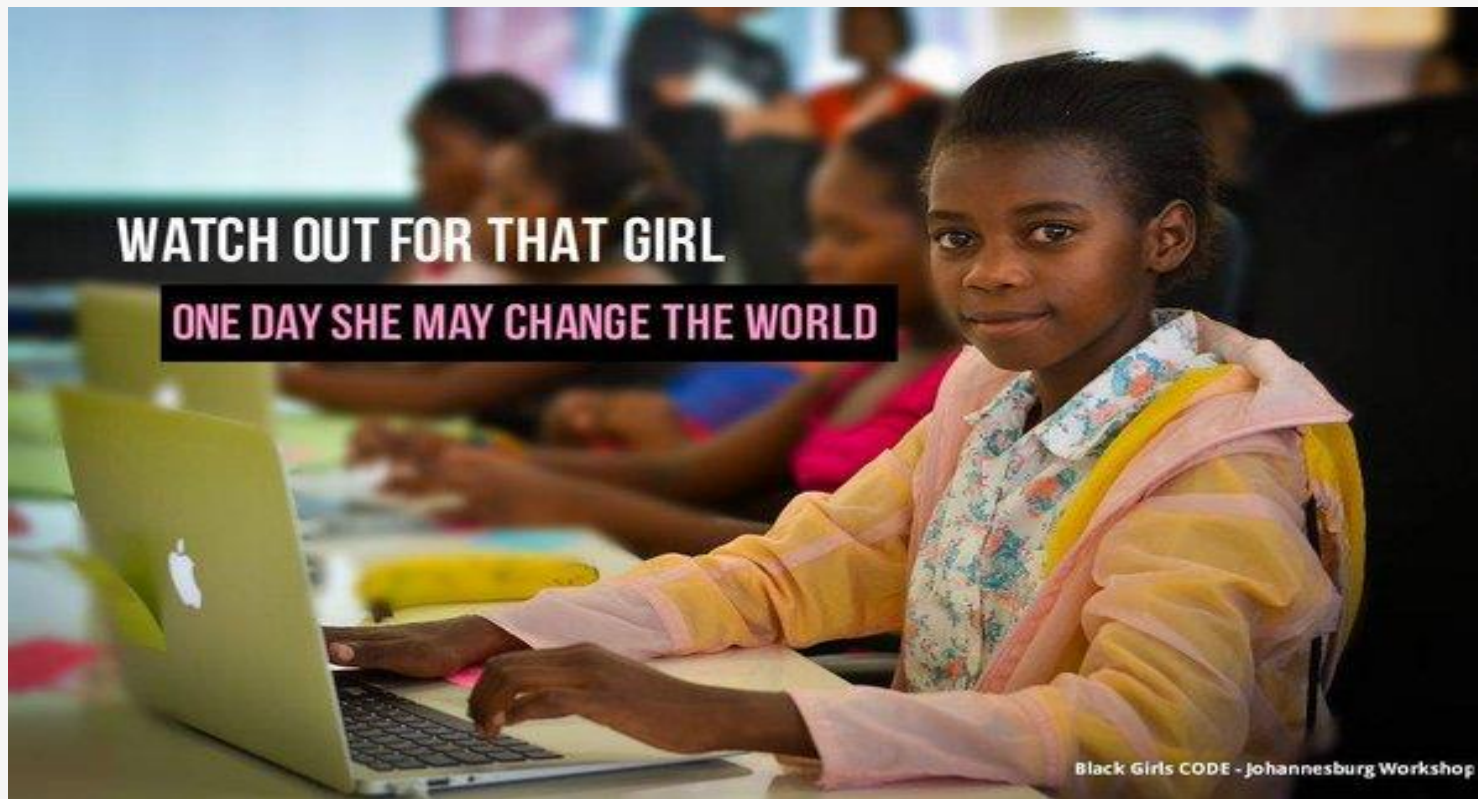


Source: <http://www.tiffaniestanard.com/news-events/new-partnership-with-girls-who-code/>

#BlackGirlsCode



TOWSON
UNIVERSITY™



Source: <https://twitter.com/search?q=%23blackgirlscode>

#WomenInTech



TOWSON
UNIVERSITY™



Source: <https://www.semrush.com/blog/ladies-and-gents-the-pipeline-is-not-the-problem-womenintech/>

#WOCinSTEM



TOWSON
UNIVERSITY™

VANGUARD

Conversations with Women of Color(WoC) in STEM

Source: <http://vanguardstem.com/category/vanguard-stem/>

#BlackWomenSTEM



TOWSON
UNIVERSITY™

- Black Girls Matter!
 - AntiBlackness as a historical scientific paradigm
 - Fungibility and Standing Reserves
- Praxis is IMPORTANT
 - Social location
 - Inclusivity not Assimilation
- Intergenerational Teaching
 - How to survive STEM
 - Specific programs



#diversityinstem



TOWSON
UNIVERSITY™



Source: <https://pbs.twimg.com/media/CeZodARUMAADIRg.jpg>

#BlackandSTEM



TOWSON
UNIVERSITY™

**THEY ALL SHARE
SOMETHING IN COMMON**



THEY'RE ALL ASTRONAUTS

SOCIAL MEDIA PRACTICE



TOWSON
UNIVERSITY™

Learn more about each social media platform

Aji:

- Twitter
- Storify

Ruth:

- Film

Monica:

- Pinterest
- Instagram

Korey:

- Blogs
- Twitter
- Instagram



TOWSON
UNIVERSITY™

WHAT DO YOU WANT TO DO?

QUESTIONS???



TOWSON
UNIVERSITY™


Jameta N. Barlow, PhD, MPH
Assistant Professor of Women and Health
Department of Women and Gender Studies
College of Liberal Arts
Towson University
jbarlow@towson.edu
410.704.5453
www.jametabarlow.com
[@allaboutafya](#)

Ajibola Bakare, BS
Graduate Student
Dept of Women and Gender Studies
abakar1@students.towson.edu

Ruth Addisu
Undergraduate Student
Depts of Electronic, Film and Media and Journalism
raddis1@students.towson.edu

Monica Short, BA
Graduate Student
Dept of Women and Gender Studies
mshort4@students.towson.edu

Korey Johnson
Undergraduate Student
Depts of Communication/Political Science
kjohns69@students.towson.edu



Creating Environments Where Women Faculty of Color Can Thrive

Yvette Huet, PhD
University of North Carolina, Charlotte

Robbin Chapman, PhD
Wellesley College

Twitter:
@DrRNChapman

Women of Color in the Academy Conference
April 29 – May 1, 2016

Women of Color in the Academy



My mission in life is not merely to survive, but to thrive; and to do so with some passion, some compassion, some humour and some style

- Maya Angelou

Honoring Your Cultural Capital



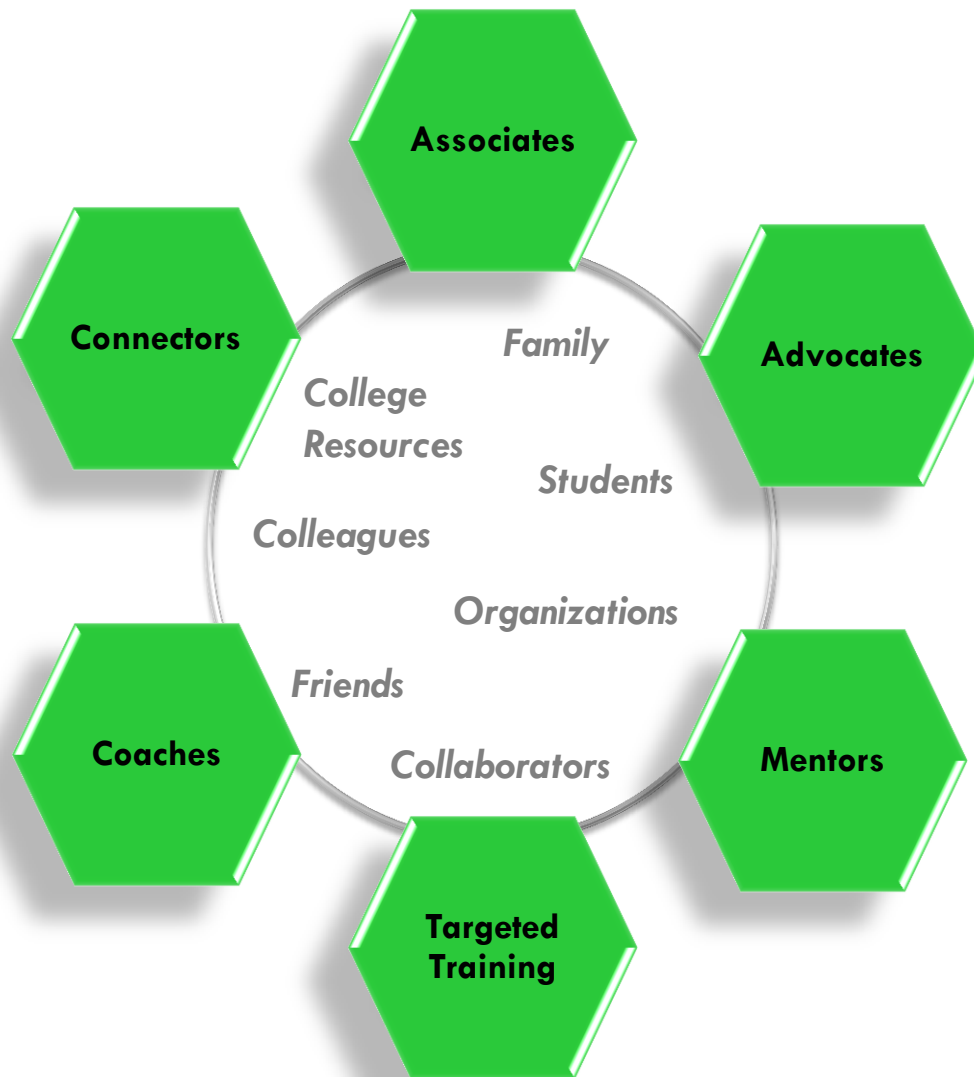
- Position culture as a resource
- Adds capital to existing academic spaces
- Aspirational, navigational, familial, social, resistant, and linguistic capital
- Establish strategic pathways

Thrive Mosaic Elements



- Essential elements of engagement
- Aspirational pathways for your passions and career goals
- Strategic development of your cultural capital portfolio
- Context and content sensitive

Strategic and Intentional



Associate

Post-Doc

Assistant

Lecturer

Emeritus

Full

**Academic
Leader**

Sr. Lecturer

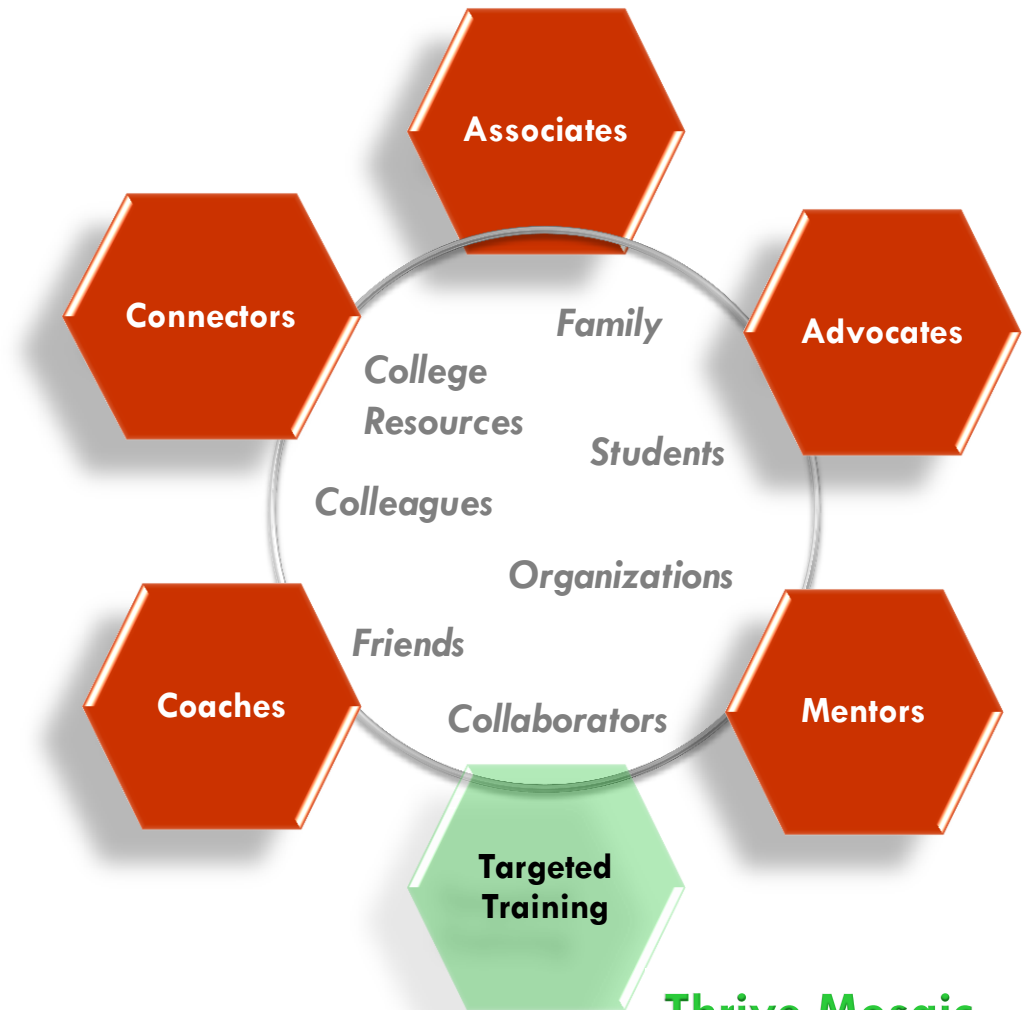
PhD Student

Thrive Mosaic

© 2009 Robbin Chapman, PhD

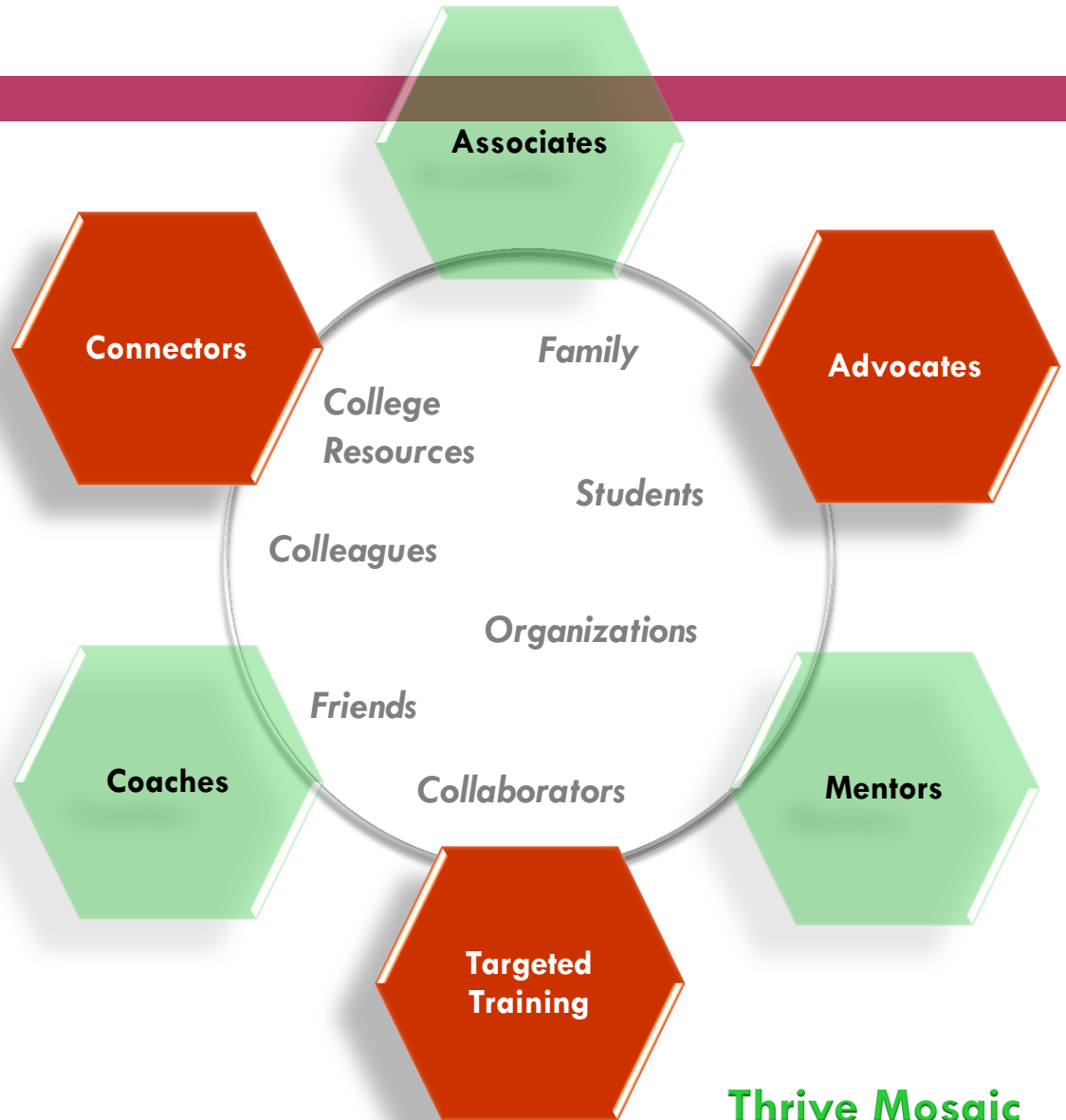
Assistant Professor / Lecturer

- Coaches
- Connectors
- Mentors
- Advocates
- Associates



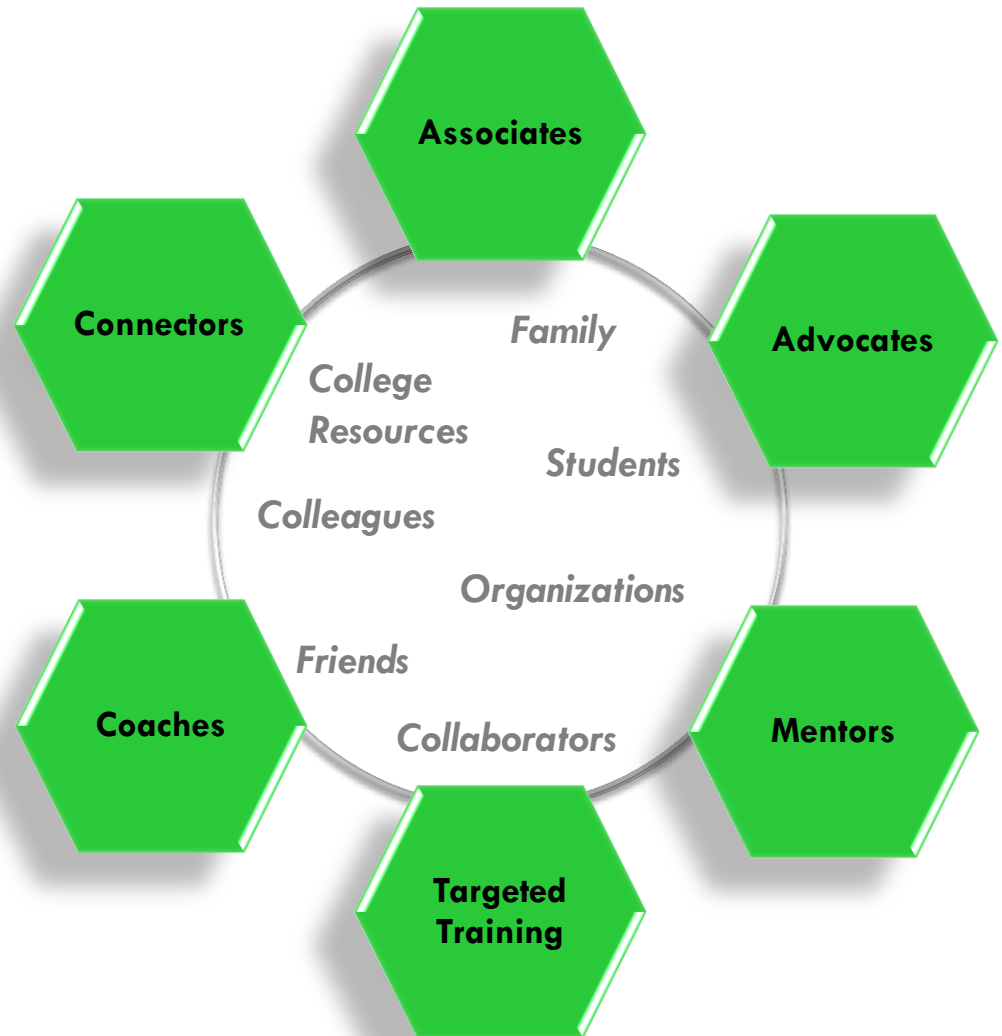
Full Professor / Senior Lecturer

- Advocates: appointments and nominations
- Targeted Training: fundraising, organizational leadership



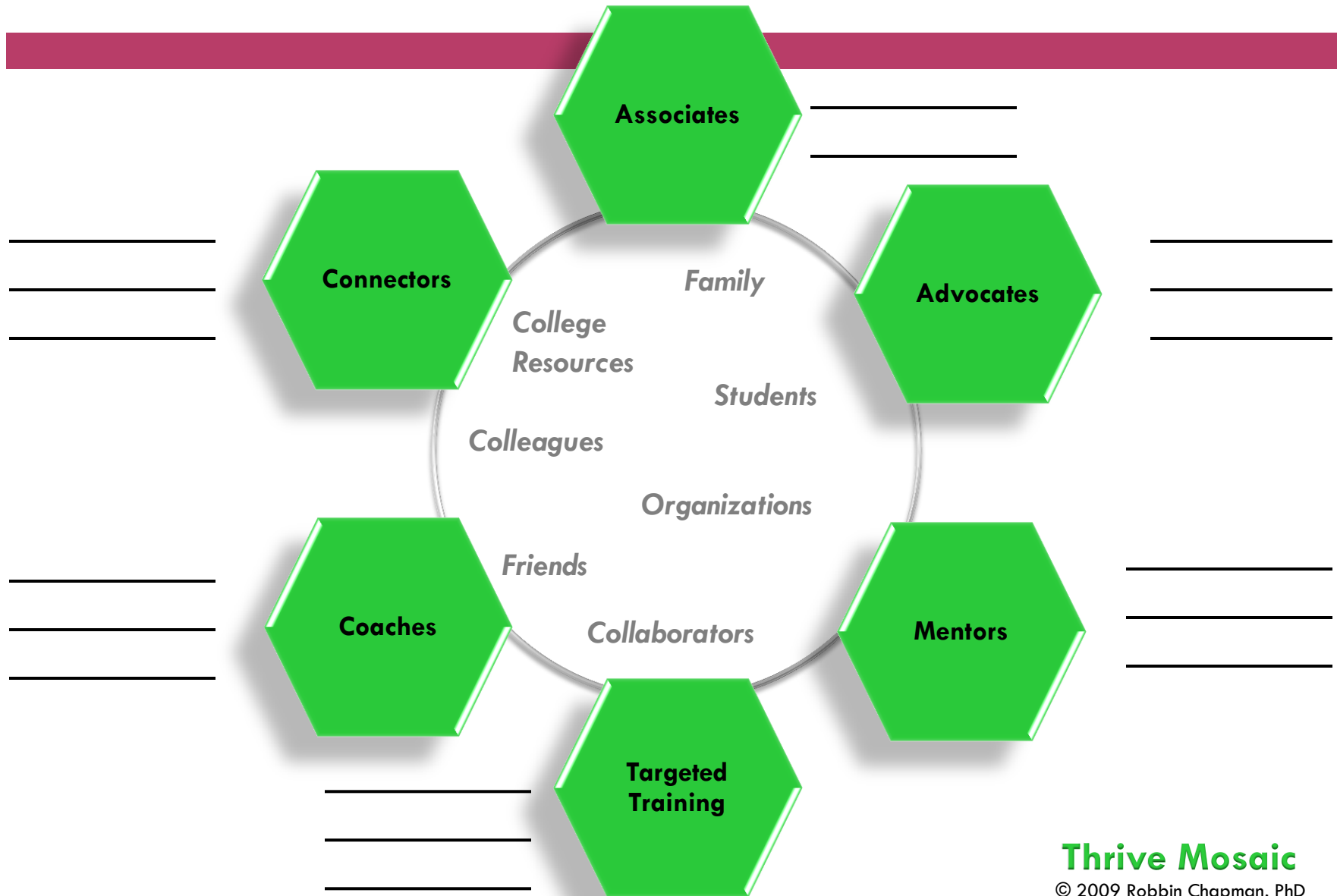
The Resilient Scholar

- Strategic utilization
- Meta-development
- Culturally relevant



Thrive Mosaic Worksheet

ASPIRATION(S):



Sophia and Praxis Roundtable



My mission in life is not merely to survive, but to thrive; and to do so with some passion, some compassion, some humour and some style

- Maya Angelou

Diversifying the Faculty in Sociology and Other STEM Disciplines

John W. Curtis
Director of Research
American Sociological Association



Women of Color in the Academy Conference
U Delaware-ADVANCE, April 30, 2016

Objectives



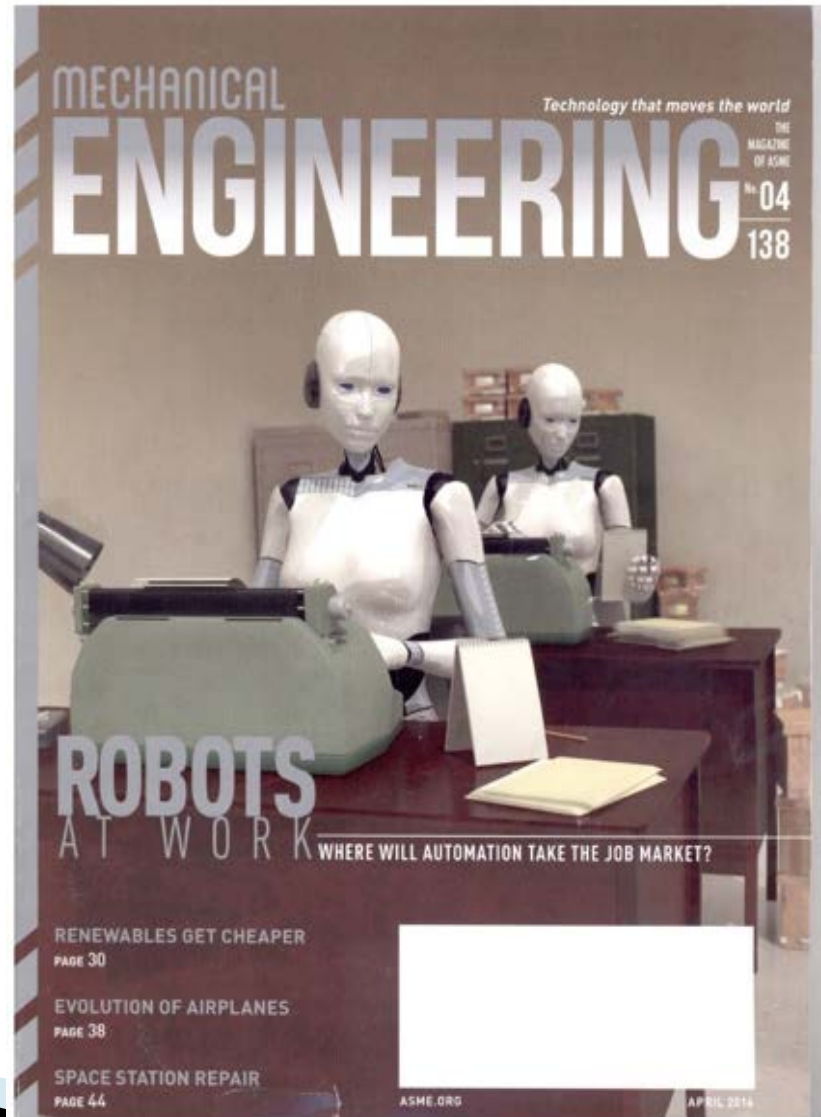
- ▶ To compile disaggregated national figures on progression through faculty ranks for women, as a complement to case studies and individual narratives
 - By specific discipline, comparing sociology to other social sciences and other STEM disciplines
 - By disaggregated race and ethnicity categories
 - Progression to full professor
 - Examining different institutional contexts
 - This is a work in progress!

Challenges



- ▶ **Disaggregated data are not readily available**
 - Combination of specific discipline; gender, race/ethnicity; faculty rank; and institutional category
 - Requires restricted-access data licenses
 - Small Ns for complex categories
 - Importance of examining trends over time—but data categories and availability change
- ▶ **Racial and ethnic categories are problematic**
 - Women (and persons) of color (including Asian)
 - Underrepresented minority women (without Asian)
 - “Other,” unknown, multi-racial identities
 - International (non-US citizen) faculty members

Sociology? No problem!



Pipeline?

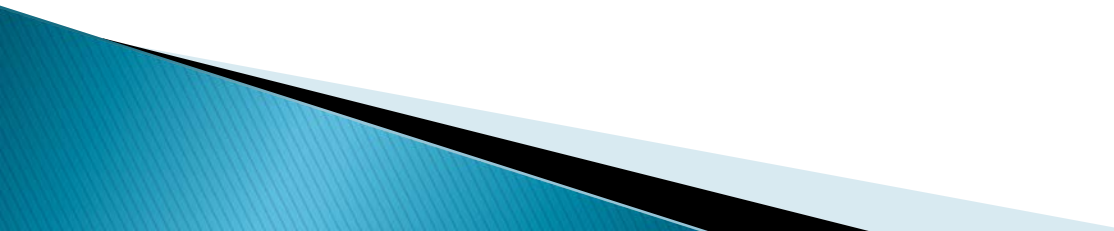
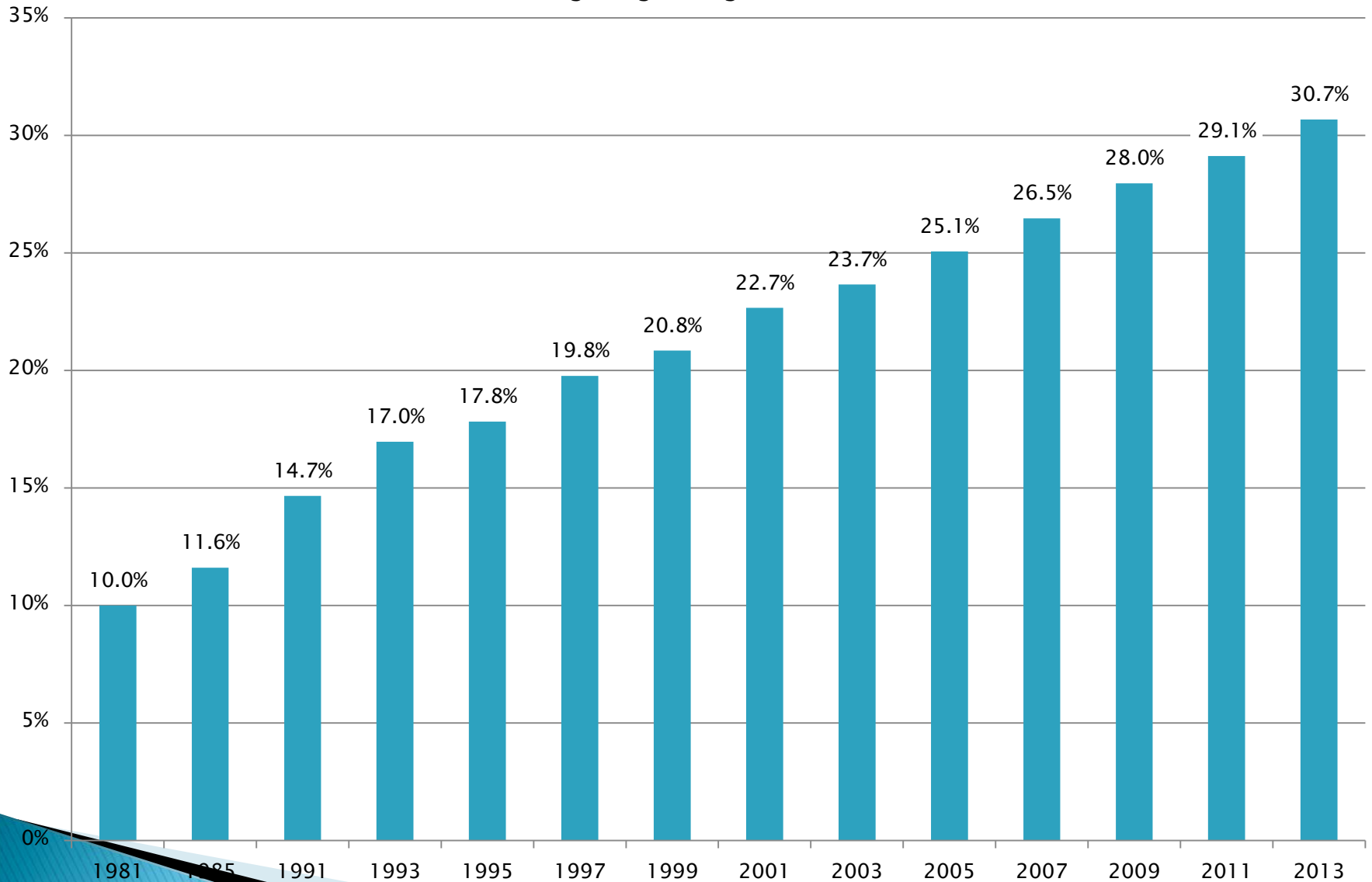
- ▶ Pipeline: Mary Ann Mason and colleagues, *Do Babies Matter?* (2002–2013)
 - ▶ Demos, Berheide, Segal (eds.) *Gender Transformation in the Academy* (2014)
 - ▶ Enobong Hannah Branch (ed.) *Pathways, Potholes, and the Persistence of Women in Science: Reconsidering the Pipeline* (2016)
- 

Figure 1. Full Professors Who Are Women, 1981–2013

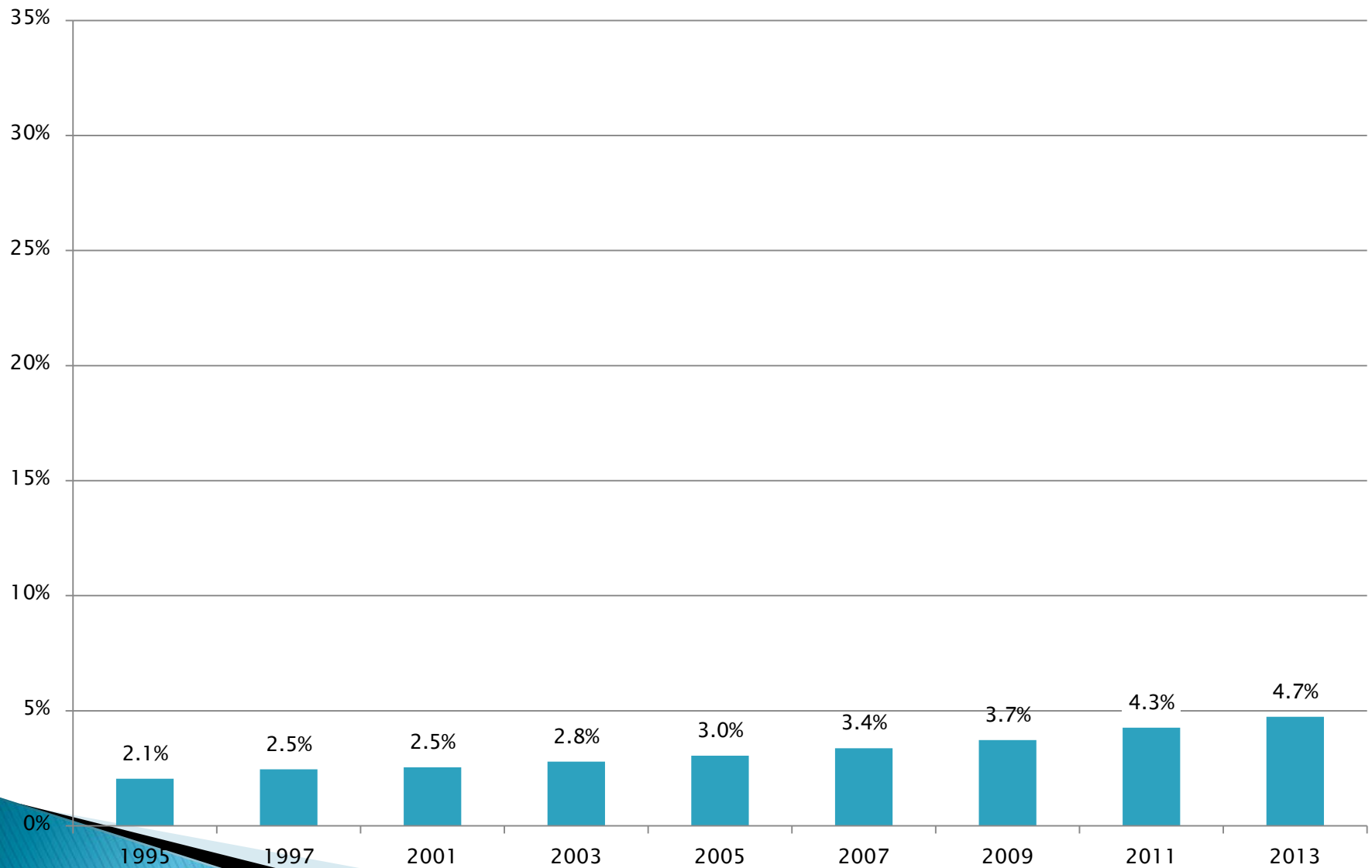
All degree-granting institutions



Source: US Dept of Education, *Digest of Education Statistics* and "Fall Staff in Higher Education Institutions," various years.

Figure 2. Full Professors Who Are Women of Color, 1995–2013

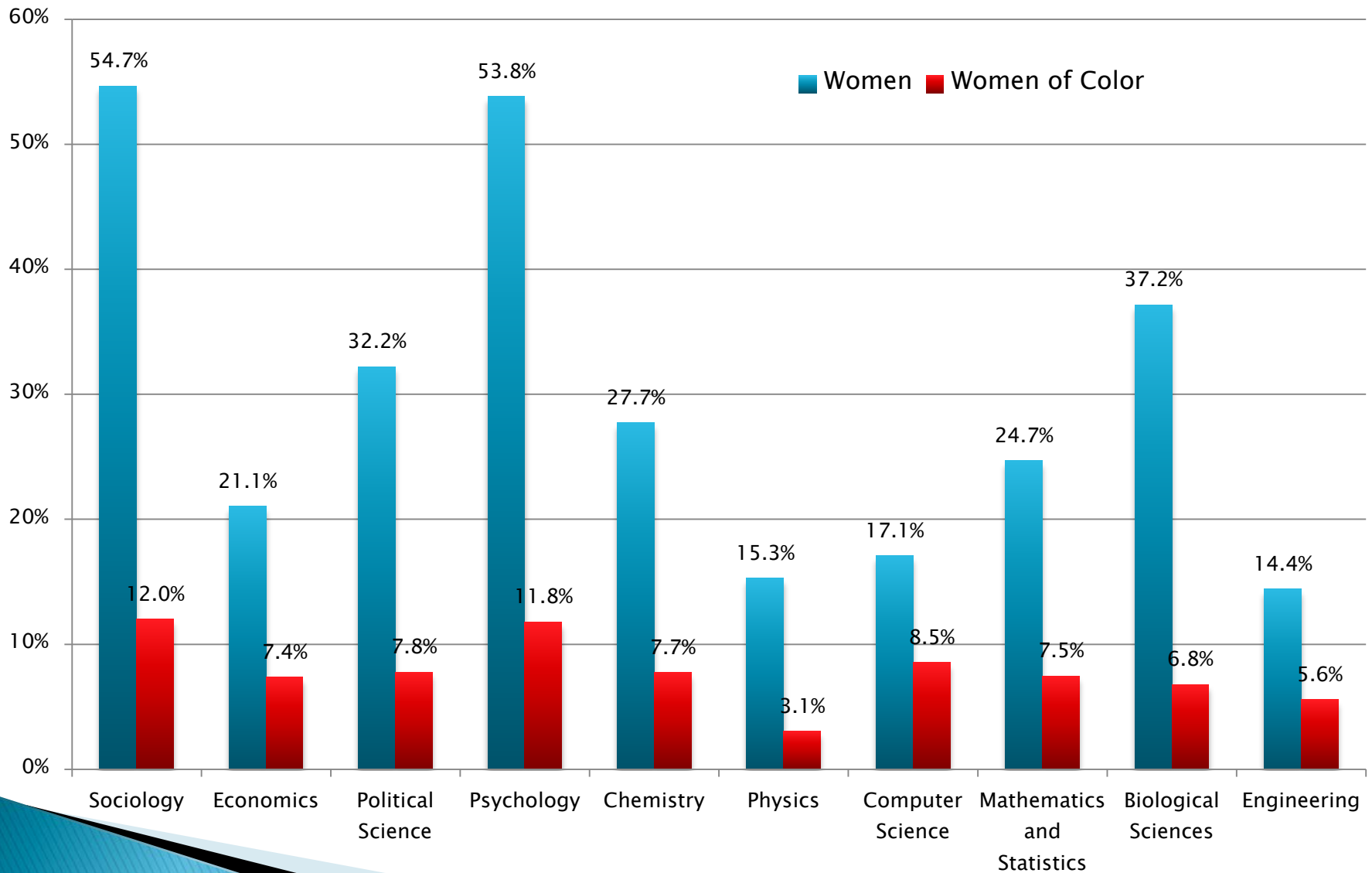
All degree-granting institutions



Source: US Dept of Education, *Digest of Education Statistics*, various years.

Figure 3. Faculty members by discipline, gender, race and ethnicity, 2013

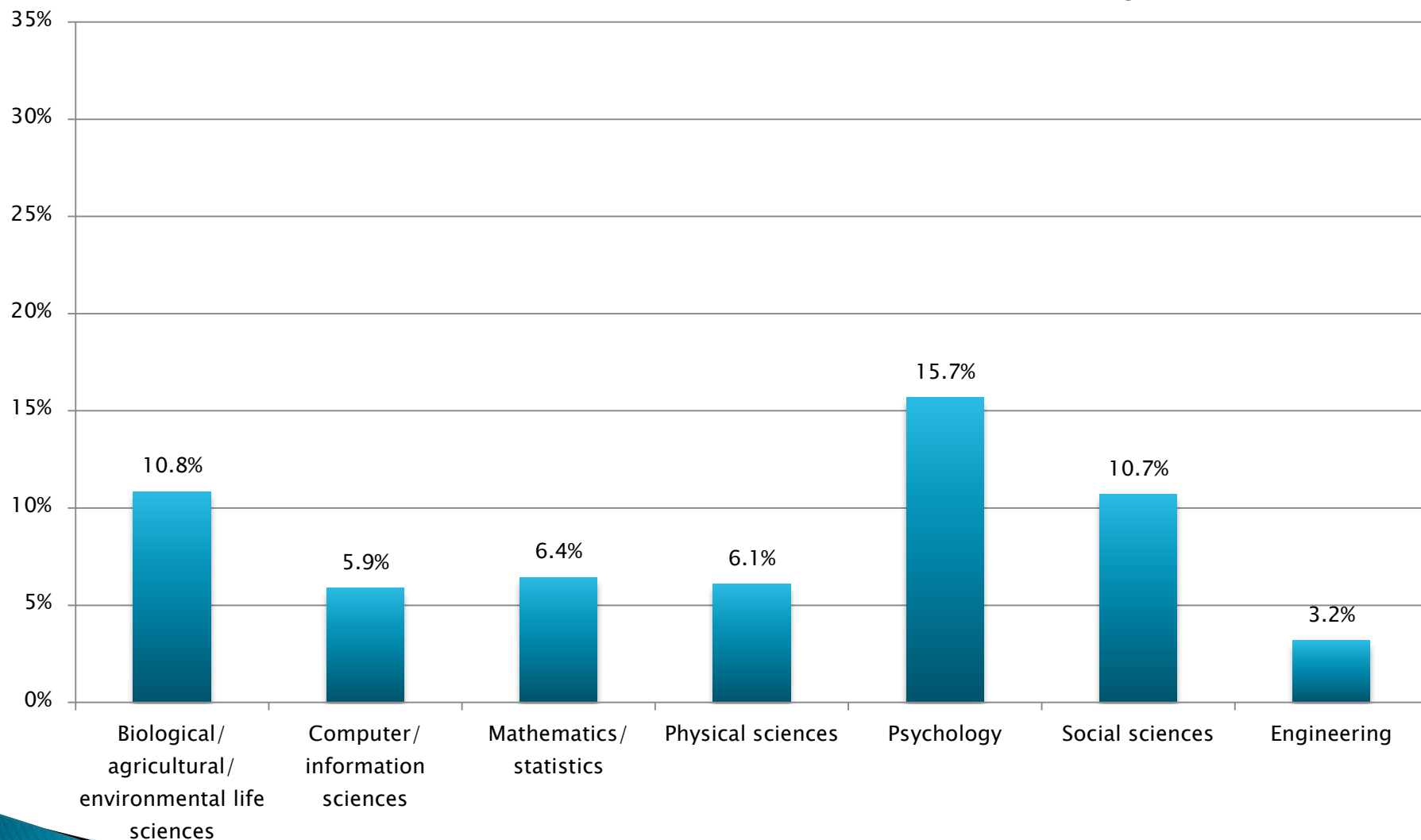
All postsecondary institutions. Doctorate recipients only, by current occupation.



Source: National Science Foundation, Survey of Doctorate Recipients 2013, data table 37.

Figure 4. Full professors who are women, by discipline cluster, 2013

Four-year institutions. Doctorate recipients only, by broad field of degree.



Source: National Science Foundation, Survey of Doctorate Recipients 2013, data table 17.

Figure 5: Representation Index for All Women, by Discipline, Degrees Awarded, and Faculty Rank, 2010

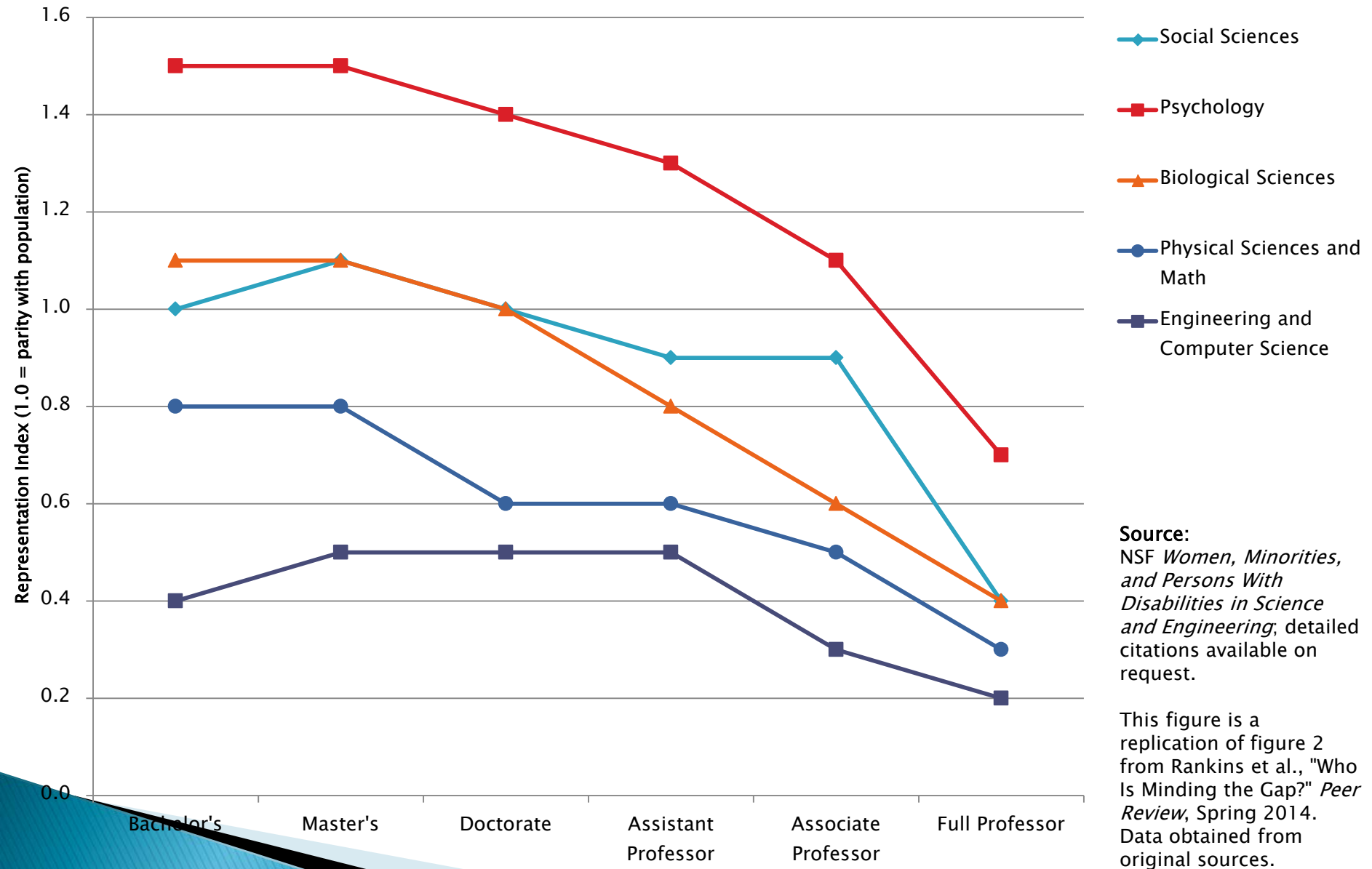


Figure 6: Representation Index for Underrepresented Minority Women, by Discipline, Degrees Awarded, and Faculty Rank, 2010

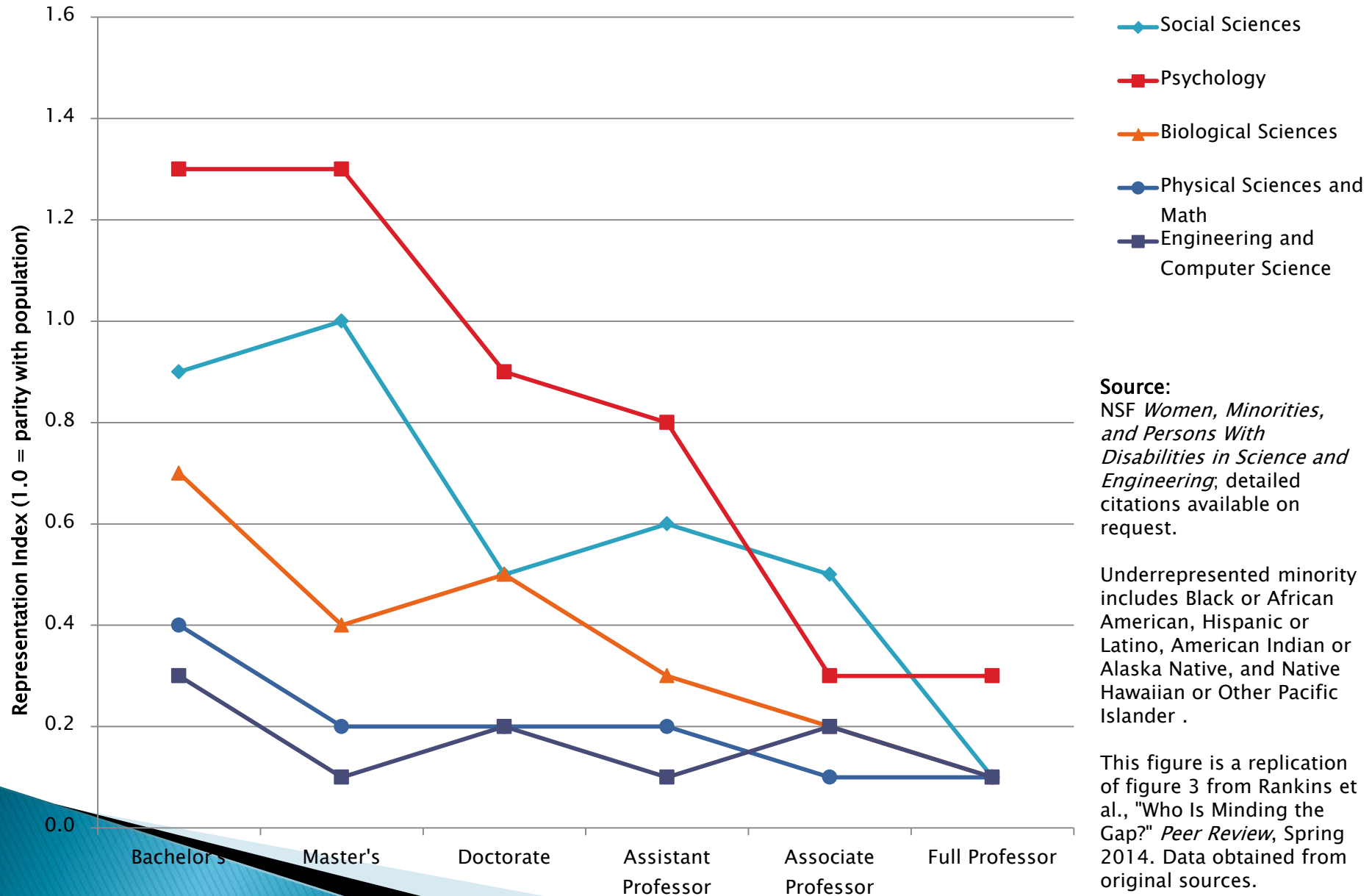


Figure 7: Representation Index for All Women, by Discipline, Degrees Awarded, and Faculty Rank, 2008

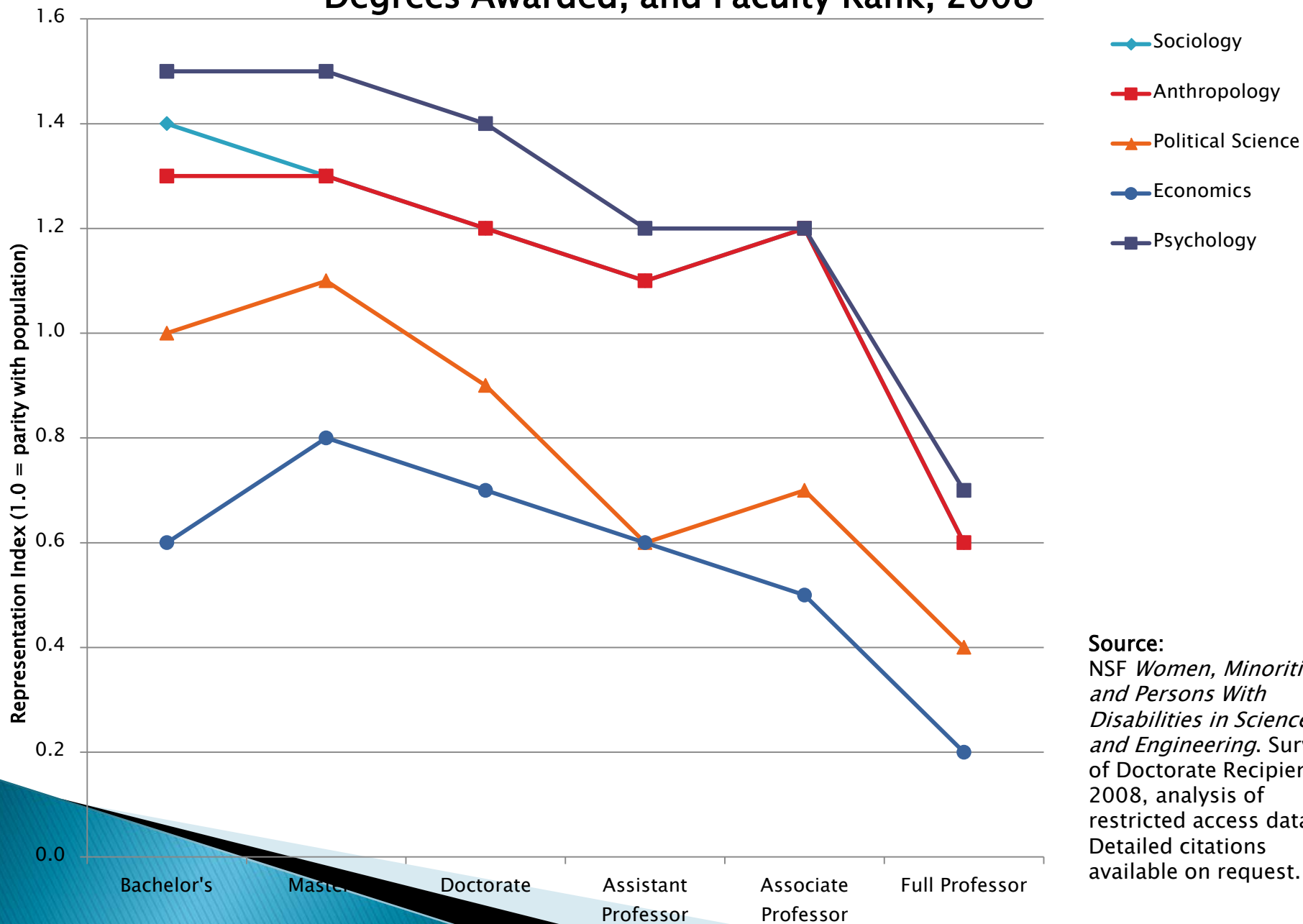


Figure 8: Representation Index for Underrepresented Minority Women, by Discipline, Degrees Awarded, and Faculty Rank, 2008

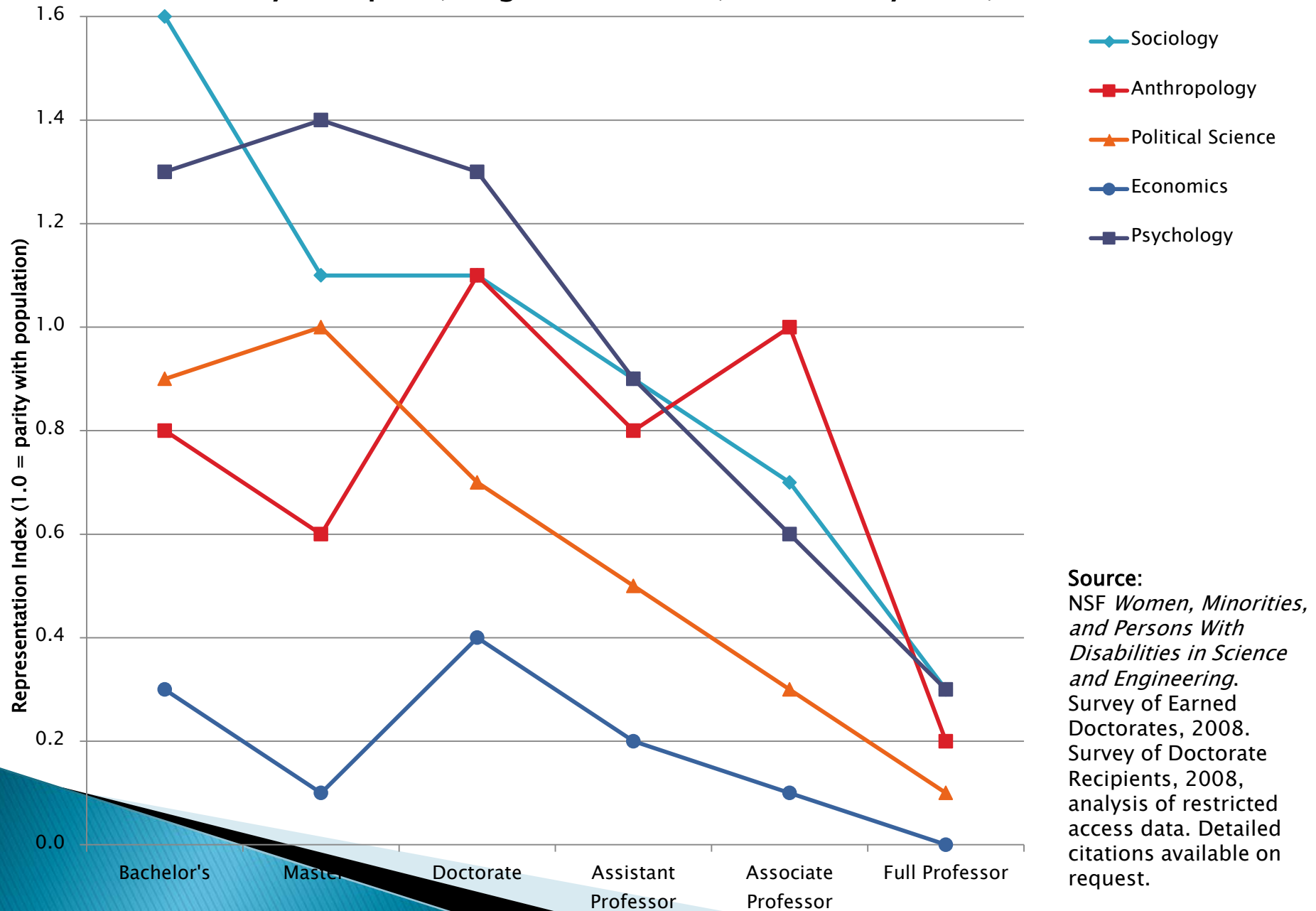


Figure 9: Representation Index for Women of Color, by Discipline, Degrees Awarded, and Faculty Rank, 2008

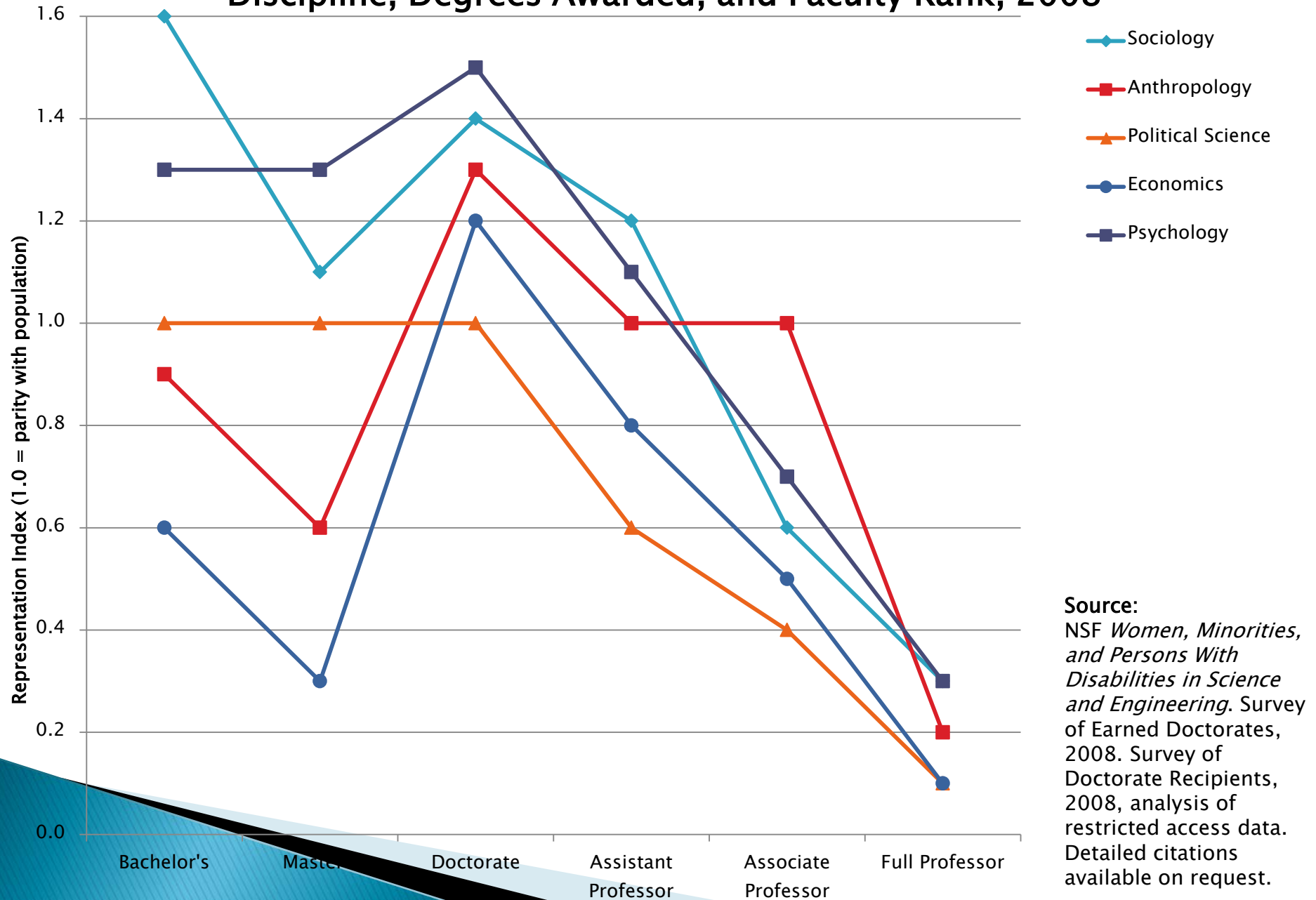
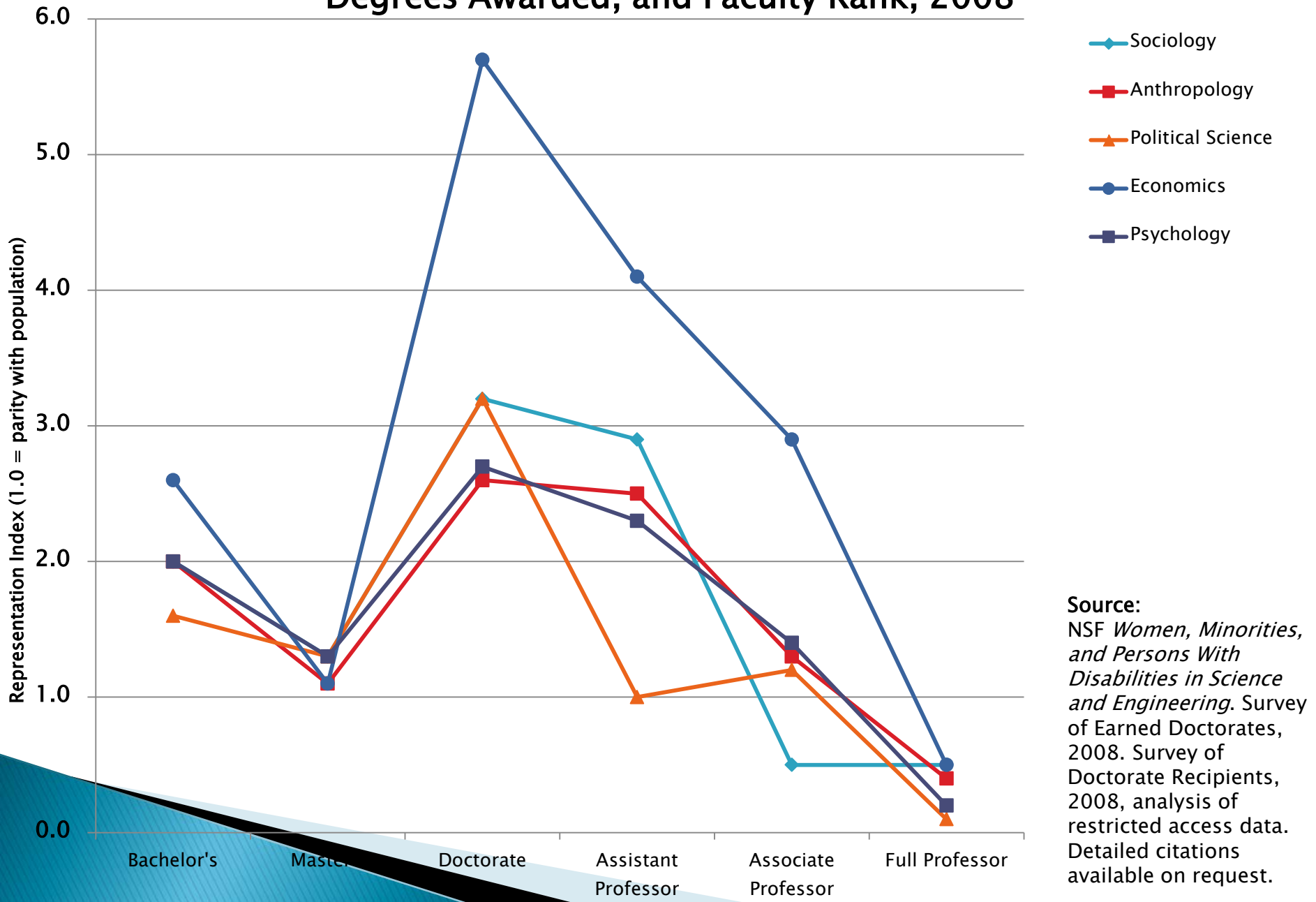


Figure 10: Representation Index for Asian Women, by Discipline, Degrees Awarded, and Faculty Rank, 2008



Change

- ▶ American Sociological Association (ASA)
 - Minority Fellowship Program (MFP): doctoral completion, since 1974
 - Mentoring for Success in Research (pilot): early-career faculty, originally proposed for NRMN (NIH)
 - Career Trajectories in Sociology and Economics (NSF-funded research)
 - ADVANCE Plan D proposal 2014, not funded
- ▶ Mentoring programs
 - ASA sections
 - Sociologists for Women in Society (SWS)

To be continued...

John Curtis, ASA Director of Research
E-mail: jcurtis@asanet.org



Women of Color in the Academy Conference
U Delaware-ADVANCE, April 30, 2016

LIVED MENTORING EXPERIENCES WITH WOMEN OF COLOR: *THE AFRICAN ATLANTIC RESEARCH TEAM*

**National Research Conference
University of Delaware, Newark, Delaware,
“Women of Color in the Academy: What’s Next?”
April 29—May 1, 2016**

**Jualynne E. Dodson
African Atlantic Research Team
Michigan State University**
(C)jdodson/2016

MAJOR CONCEPTS

CAREER: *An arena of life-work in which a person surrounds herself and in which she is sustained through all aspects and phases of her living. This is beyond a ‘job’ though ‘job’ is usually part of career.*

MENTORING: *Guidance, advice, and recommendations on social and political details of a career arena. Sees pursuing the academic PhD as beyond acquiring particular curricula, training, and skills. Definitely includes systematic introduction of mentee to people, places, attitudes, materials, and opportunities that are career ‘stepping stones.’*

SOCIAL CAPITAL: *The idea that through accumulating knowledge, particularly knowledge of social interaction, humans accumulate the ability to successfully move among groups other than those in which they were raised.* (C)jdodson/2016

ANOTHER ITERATION



(C)jdodson/2016

MEMBERS TRAVEL

Relaxing in Cuba



Marcus Garvey Site Cuba

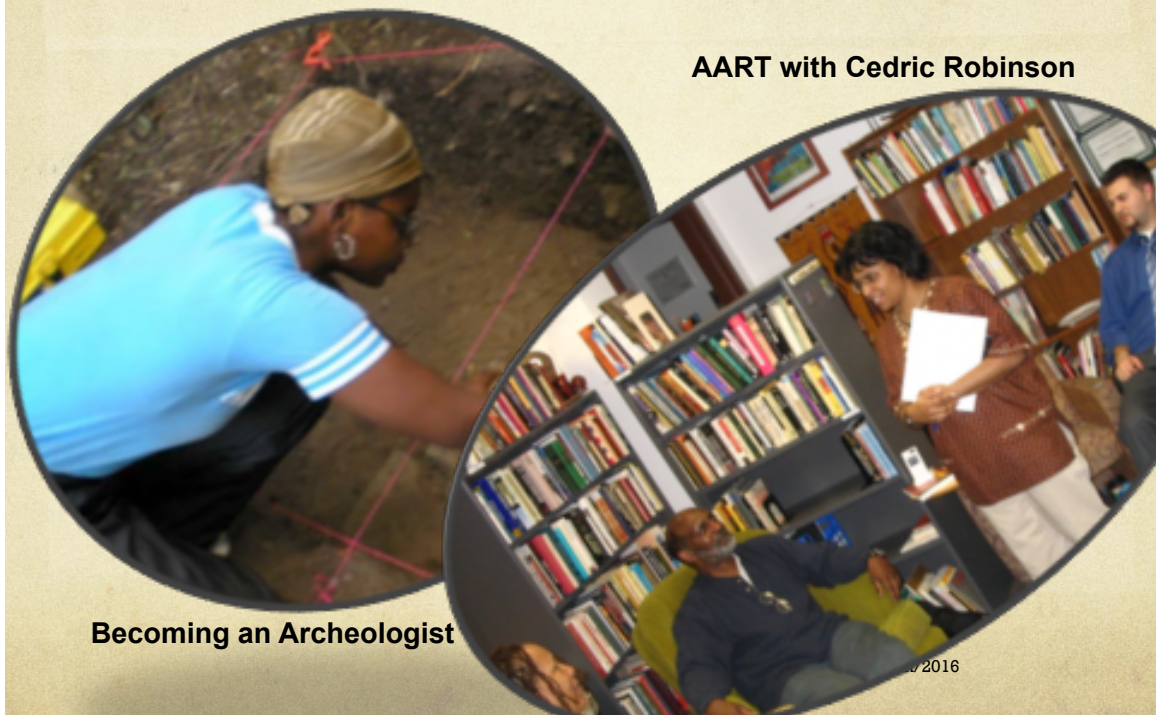


In Spain



(C)jdodson/2016

PRACTICING AND CONVERSING



SOME LESSONS

***MENTORING IS A HUMAN ACTIVITY AND BEGINS
BEST AMONG FOLK WHO SHARE FOOD AND
OVERLAPPING INTERESTS.***

***LIKE IT OR NOT, YOU CAN'T INCLUDE
EVERYONE.***

***SUCCESSFUL MENTORING FOR ACADEMIC PHD
IS INTENSE IN TIME, ENERGY, AND RESOURCES
AND IS A LONG-TERM COLLABORATION.***

CITATION FOR PRESENTATION

Montgomery, BL, Dodson, JE, and Johnson, SM (2014).

Guiding the Way: Mentoring Graduate Students and Junior Faculty for Sustainable Academic Careers. SAGE Open (October-December), doi: 10.1177/2158244014558043.

(C)jdodson/2016



Scholarly Productivity Over Time: *Implications for the Retention of Women and URM Women in STEM*

Stacie Furst-Holloway, PhD

April 30, 2016

Acknowledgements: Hannah Douglas and Steven Howe assisted in the development of this presentation



empowering
WOMEN
in STEM

UCLEAF

Leadership
Empowerment
Advancement for Women STEM
Faculty



Objective 1: Improve pathways for women faculty, including underrepresented faculty, in STEM by broadening recruitment, improving hiring, increasing retention, and promoting advancement.

Overview

❖ Current Problem

- ❖ Underrepresentation of women in STEM at UC; retention > recruitment

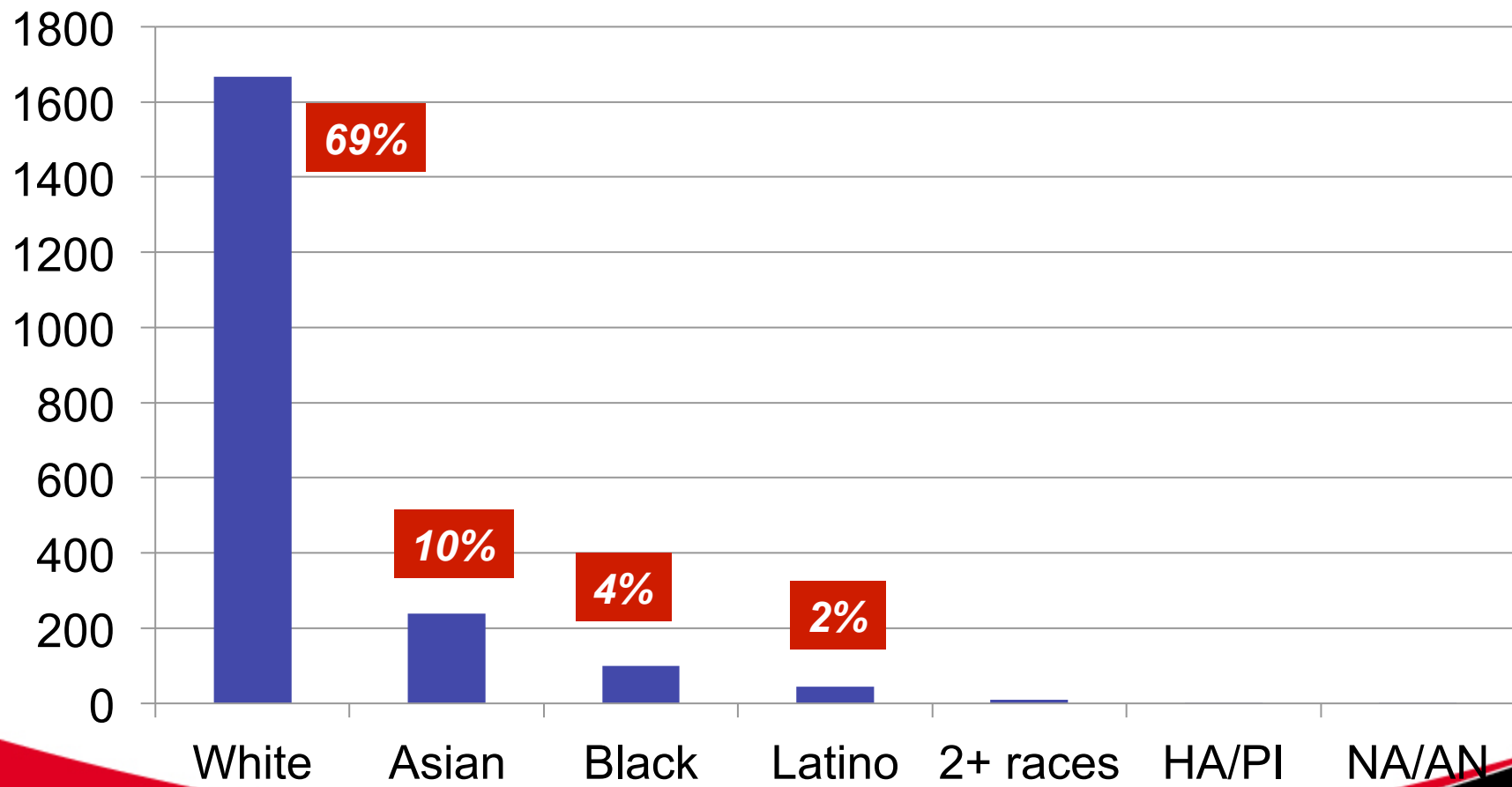
- ❖ *Most research on attrition focuses on diversity climate, access to resources, and other job characteristics (soft measures)*

❖ Productivity analysis

❖ Discussion and Implications

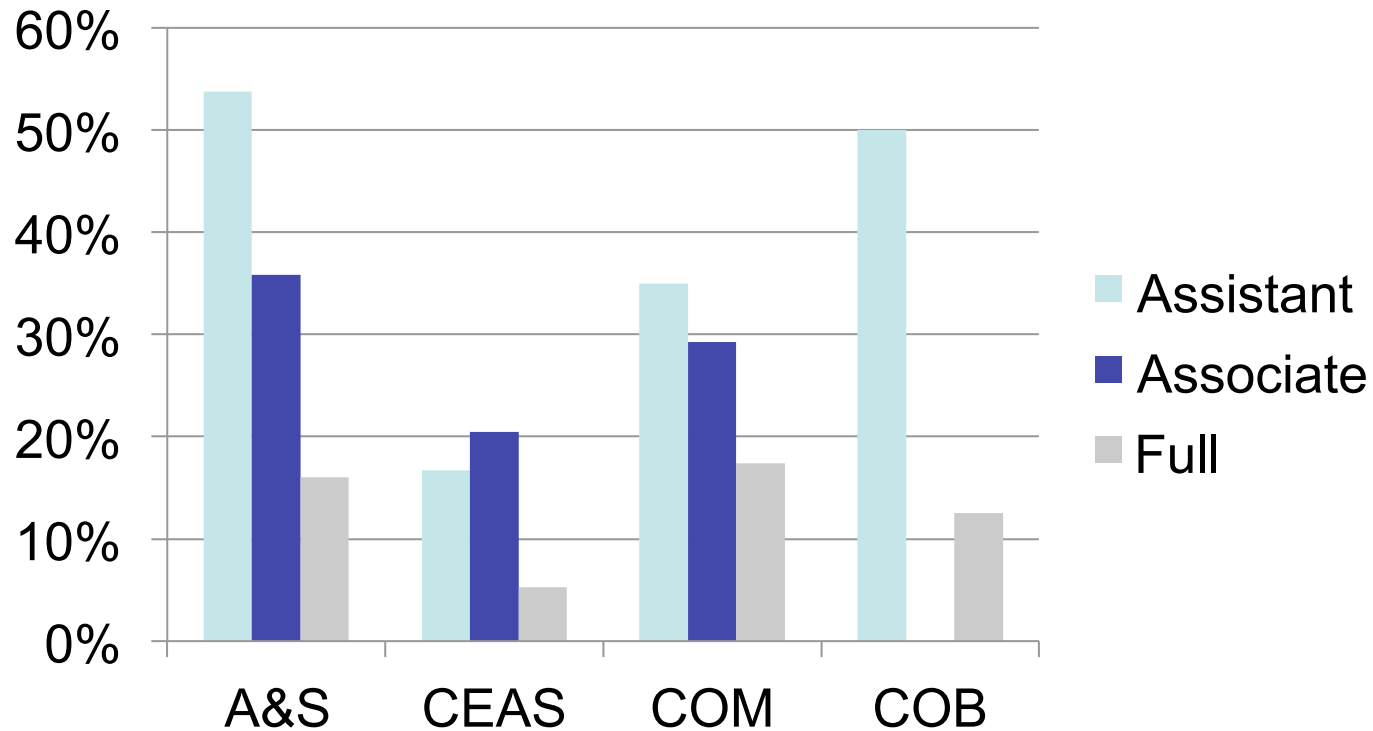
State of Affairs at UC

2015 Racial/Ethnic Breakdown of all UC Faculty Members



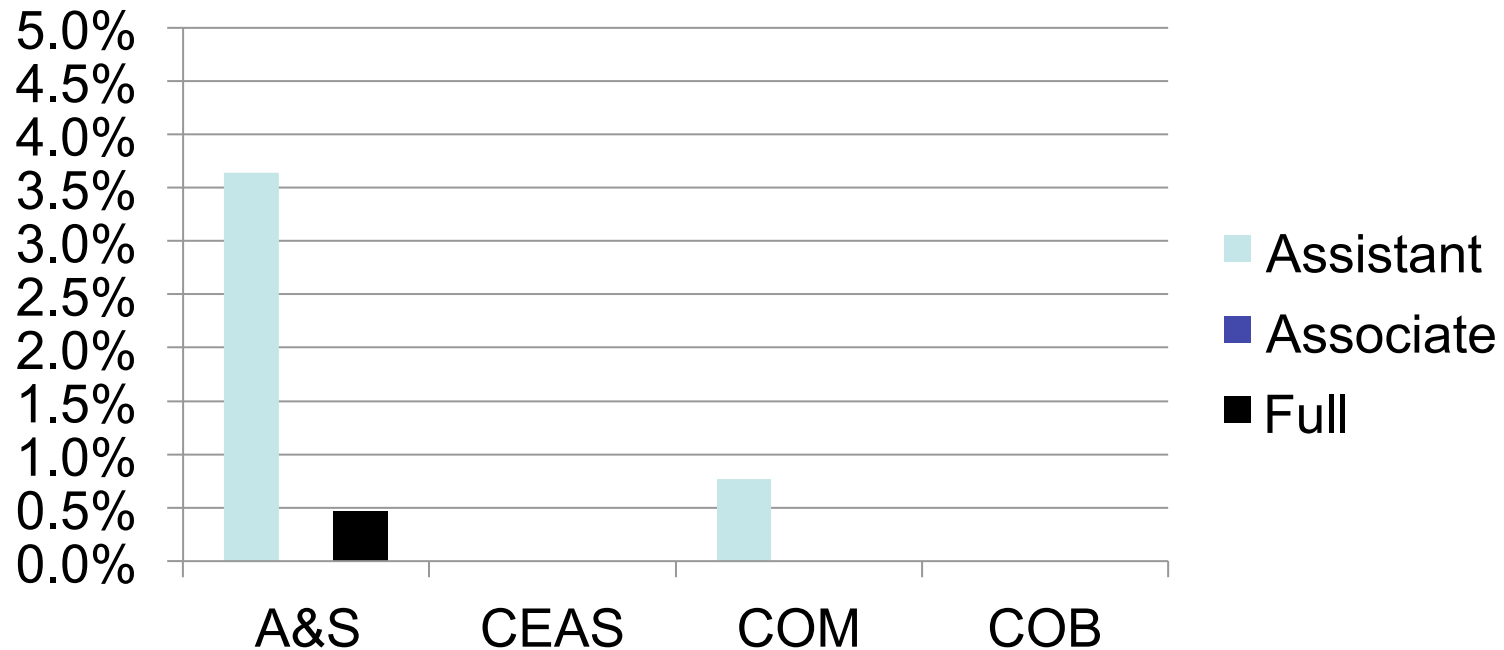
Women in STEM: A UC Perspective (2014)

% of Women Faculty in STEM

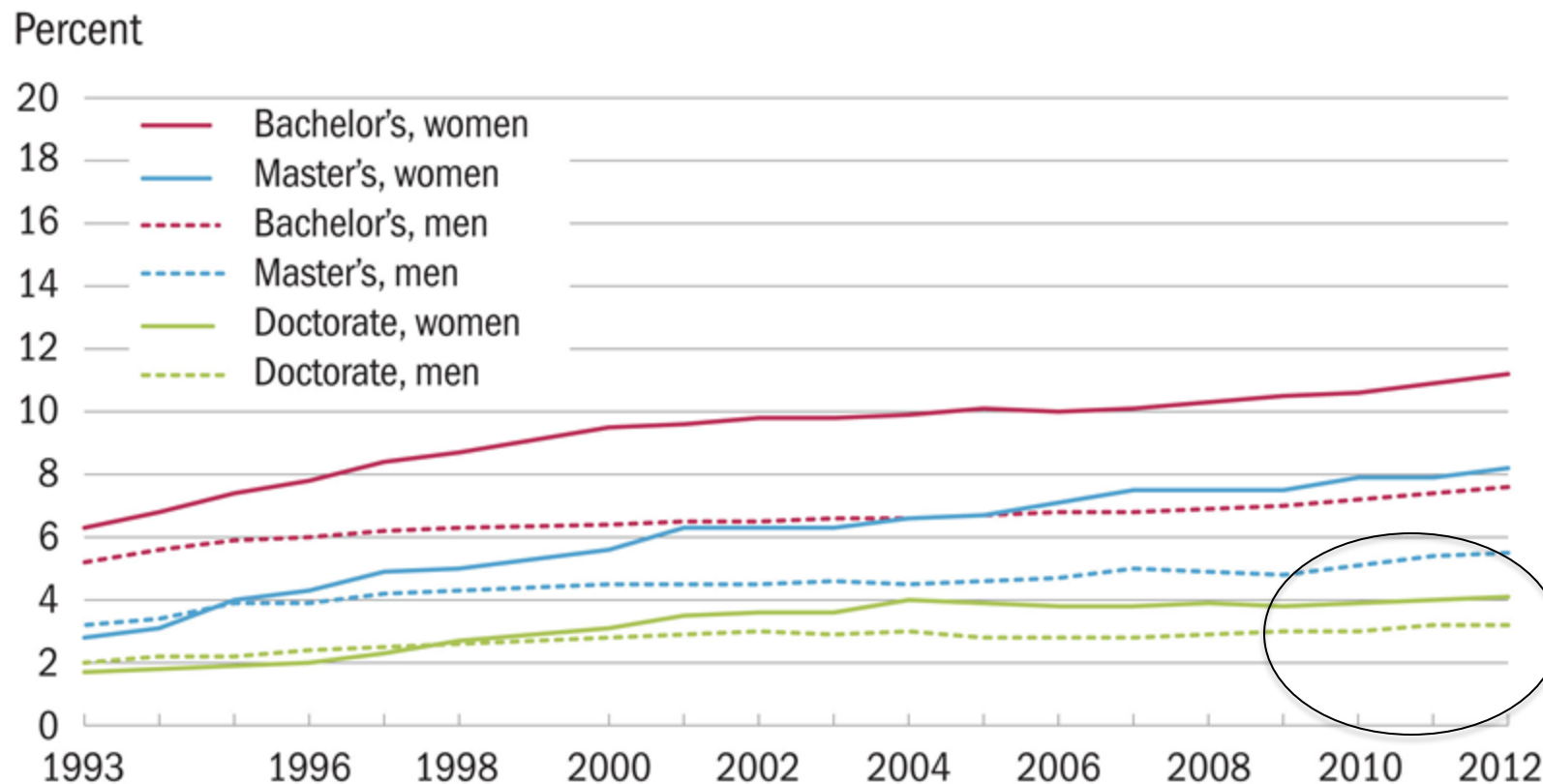


Women of Color in STEM: A UC Perspective (2014)

% of URM Women Faculty in STEM



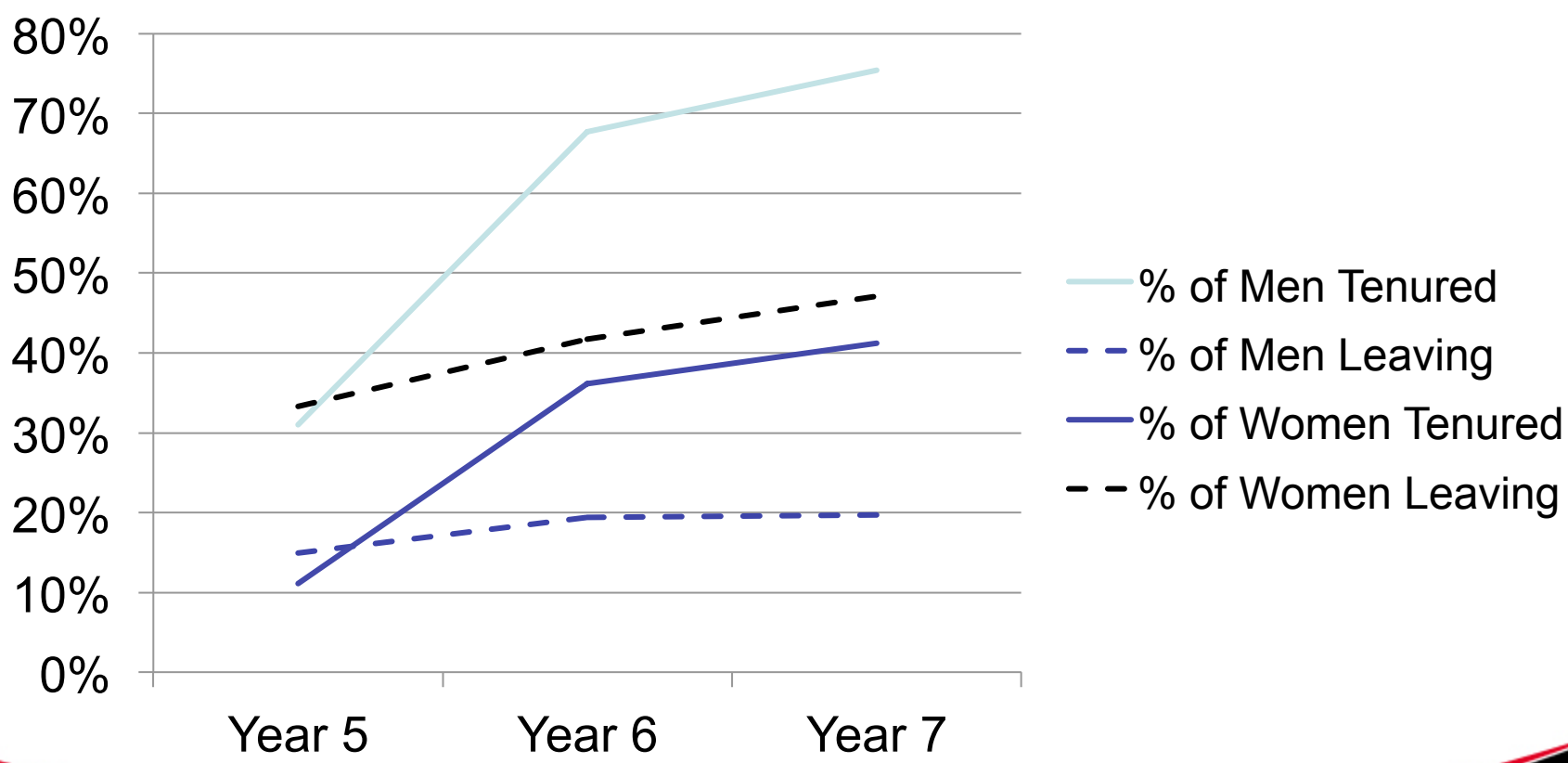
Science and engineering degrees earned by underrepresented minority women and men: 1993–2012



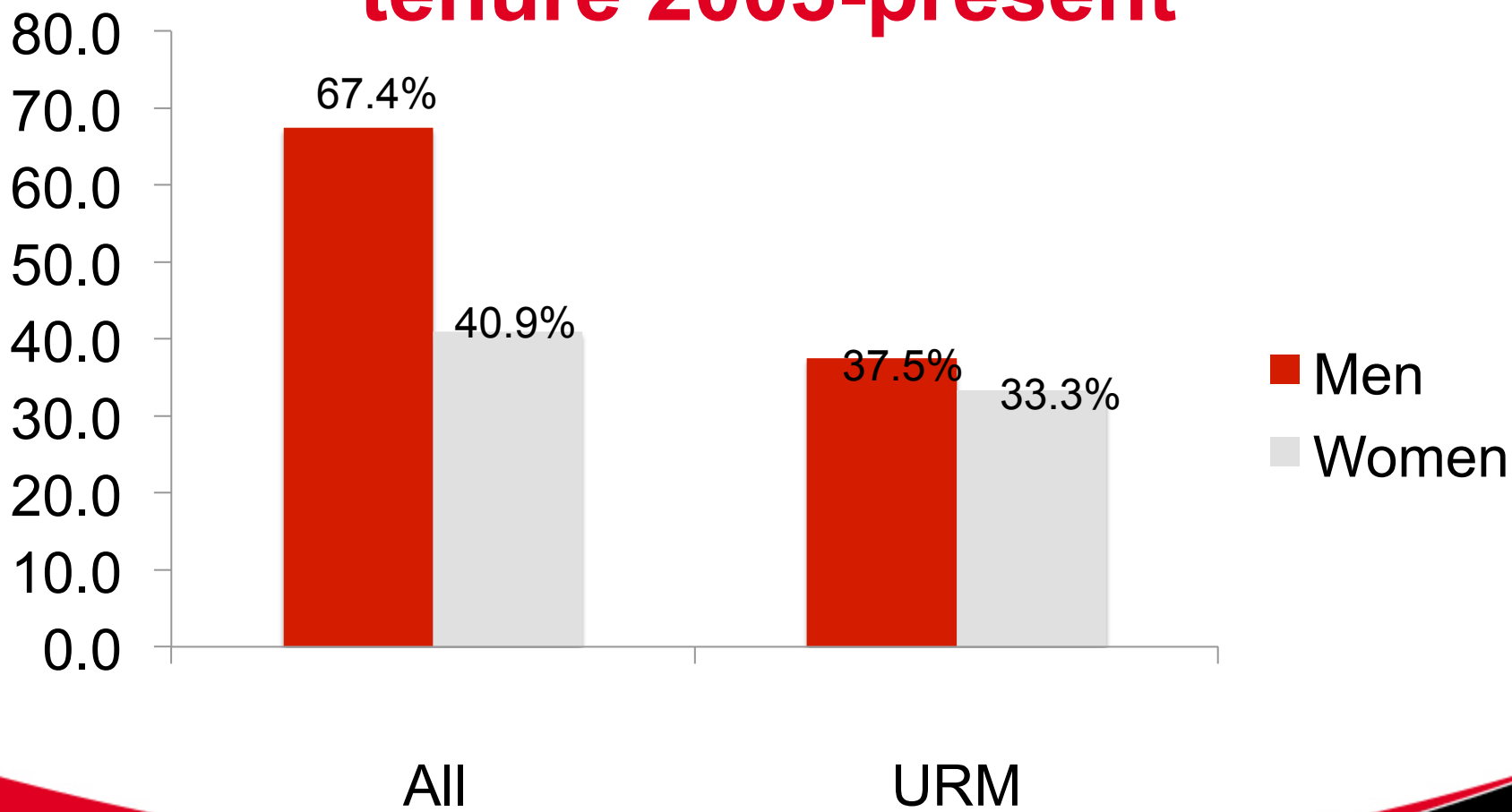
NOTE: Data not available for 1999.



Tenure vs. Retention Rates for STEM Faculty (2005-2015)



Percentage of STEM faculty up for tenure 2003-present



Question at Hand

- ❖ What is happening at hire, after hire, and in the early years of TT appointments to impact RPT outcomes?
- ❖ Effects of climate, access to resources, and work-life balance are well documented, but less is known about productivity at various stages of employment
- ❖ Productivity: Defined by number of publications and times cited

Research Questions

❖ *Research Question #1*

- Are male assistant professors hired with more experience (stronger publication records) compared to women?

❖ *Research Question #2*

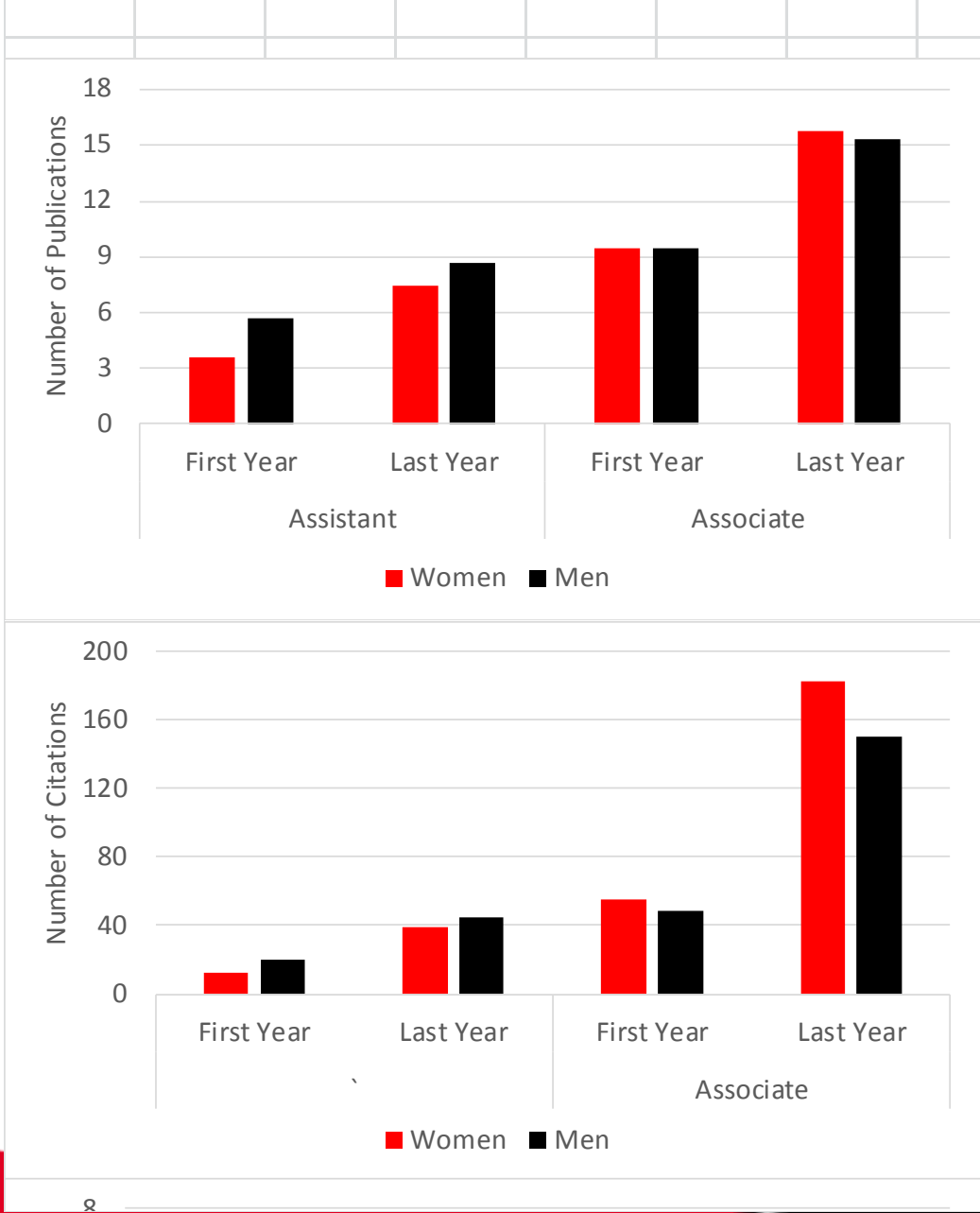
- Are women assistant professors more productive than men when going up for tenure?

Method

- ❖ Data were collected by downloading citation reports produced by SCOPUS for 6 STEM departments (all within A&S)
- ❖ Inclusion criteria:
 - Hired at UC since 2001
 - Hired at either the assistant or associate level
 - Hired on the tenure-track or already tenured
- ❖ Total $N = 135$

Results

Figure 2: Gender Differences in Productivity from First to Last Year in Rank



Productivity Rates for URM Faculty

(n=18 assistant professor hires)

	Women		Men	
	At Hire	Year 6	At Hire	Year 6
Publications	4	9	9	27
Citations	48	124	80	505
H-Index	2	3	4	10

Limitations

- ❖ Scopus's scope is limited to journal articles
- ❖ Does not provide clear picture for fields where books and chapters are more common

Despite of these limitations, what are your reactions to these data?

Reasons for Leaving UC

- ❖ URM faculty more likely than majority faculty to cite the following as a “very” or “critically” important factor in their decisions to leave:
 - Burnout
 - Departmental politics
 - Lack of collaborators
 - Too much service

Discussion

- ❖ Women (both URM and non-URM) faculty enter the professoriate with fewer publications and citations on their vitas than their male peers
 - **Graduate school and post doc experiences vary, producing systemic differences**
 - **Yet, the timeline to tenure is the same**
- ❖ Early departures may signal women faculty are using UC as a “post doc” of sorts, to build their pipelines and then leave for another position with a fresh clock.
 - **Or, potentially leaving because of burnout during attempts to “catch up”**

Implications for Policy and Practice

- ❖ Search committee training to understand systemic sources of bias that may contribute to lower productivity during graduate training
- ❖ Development of post-doc pathways or career development plans to enhance pipeline prior to Year 1 on tenure track

Implications for Policy and Practice

- ❖ Intentional building of collaboration networks with established faculty
- ❖ The Kerry Ann O'Meara Effect
 - Reconsideration of RPT criteria to consider alternative forms of scholarship and impact beyond counts and H-indices
 - Consideration after hire of quantifying informal advising and mentoring responsibilities
 - ***See Dr. Lindsay Johnson's Data***

Contact Us

- ❖ Valerie Hardcastle, Executive Director
 - Valerie.Hardcastle@uc.edu
- ❖ Stacie Furst-Holloway, Co-Director
 - Stacie.Furst-Holloway@uc.edu
- ❖ Jessica Donovan, Program Director
 - Jessica.Donovan@uc.edu

Values Differentials

- ❖ Basic Science
- ❖ Research for Practice
- ❖ Publishing
- ❖ Presenting at Conferences
- ❖ Mentoring Graduate Students
- ❖ Mentoring UGs
- ❖ Teaching Excellence
- ❖ Funding
- ❖ Informal Mentoring
- ❖ Availability outside of Class
- ❖ Serve Department
- ❖ Serve UC
- ❖ Serve Community
- ❖ Serve Profession
- ❖ Recruit Students

URM versus Non-URM

Activity	What is Important to Me?		Faculty Diff
	URM	Non-URM	URM - Non-URM
Research/Basic Science	5.3	2.8	2.4
Publishing	4.6	3.8	0.8
Teaching Excellence	5.5	5.1	0.4
Mentoring Graduate Students	5.9	6.1	-0.2
Funding	10.1	7.4	2.8
Research that Servces Practice	7.3	7.5	-0.2
Presentations/Dissemination	7.9	7.8	0.1
Out of Class Availability	10.4	8.8	1.6
Informal Mentoring	7.4	9.8	-2.4
Filling Seats	12.3	10.6	1.7
Serving Department	14.9	13.5	1.4
Serving Community	11.4	16.2	-4.8
Serving UC	16.1	14.3	1.8
Serving Profession	11.4	12.8	-1.4
Recruiting Students	12.5	15.4	-2.9

Departmental Differences

Activity	What is Important to Me?		Department Differential	
	URM	Non-URM	URM	Non-URM
Research/Basic Science	5.3	2.8	-2.8	-0.3
Publishing	4.6	3.8	-4.7	0.7
Teaching Excellence	5.5	5.1	-6.3	-2.4
Mentoring Graduate Students	5.9	6.1	-2.7	0.0
Funding	10.1	7.4	7.2	2.7
Research that Servces Practice	7.3	7.5	-1.0	-0.3
Presentations/Dissemination	7.9	7.8	-2.8	0.4
Out of Class Availability	10.4	8.8	0.2	-2.0
Informal Mentoring	7.4	9.8	-7.7	-3.0
Filling Seats	12.3	10.6	7.2	3.9
Serving Department	14.9	13.5	9.0	2.0
Serving Community	11.4	16.2	-8.0	-1.7
Serving UC	16.1	14.3	4.8	-0.1
Serving Profession	11.4	12.8	-4.5	-1.4
Recruiting Students	12.5	15.4	3.7	0.5

RETHINKING PROMOTION AND TENURE: aligning policies and practice with activities

VALERIE GRAY HARDCASTLE

EXECUTIVE DIRECTOR, UC LEAF (an NSF advance it project)

UNIVERSITY OF CINCINNATI

OUTLINE

What UC LEAF is

Promotion data from University of Cincinnati

21st century faculty roles

Academic realities for URM faculty (in STEM)

21st century reporting expectations

Promotion and tenure guidelines, policies, and expectations

UC LEAF

UC LEAF (Leadership, Empowerment, and Advancement for Faculty) is a university initiative funded by a National Science Foundation (NSF) ADVANCE Institutional Transformation Grant. The goal of NSF's ADVANCE program is to develop systemic approaches to increasing the representation and advancement of women in academic STEM careers. UC LEAF's mission is to ensure the university provides an environment that promotes the advancement of women and underrepresented minority faculty in the STEM disciplines on UC's main campus.

BACKGROUND DATA

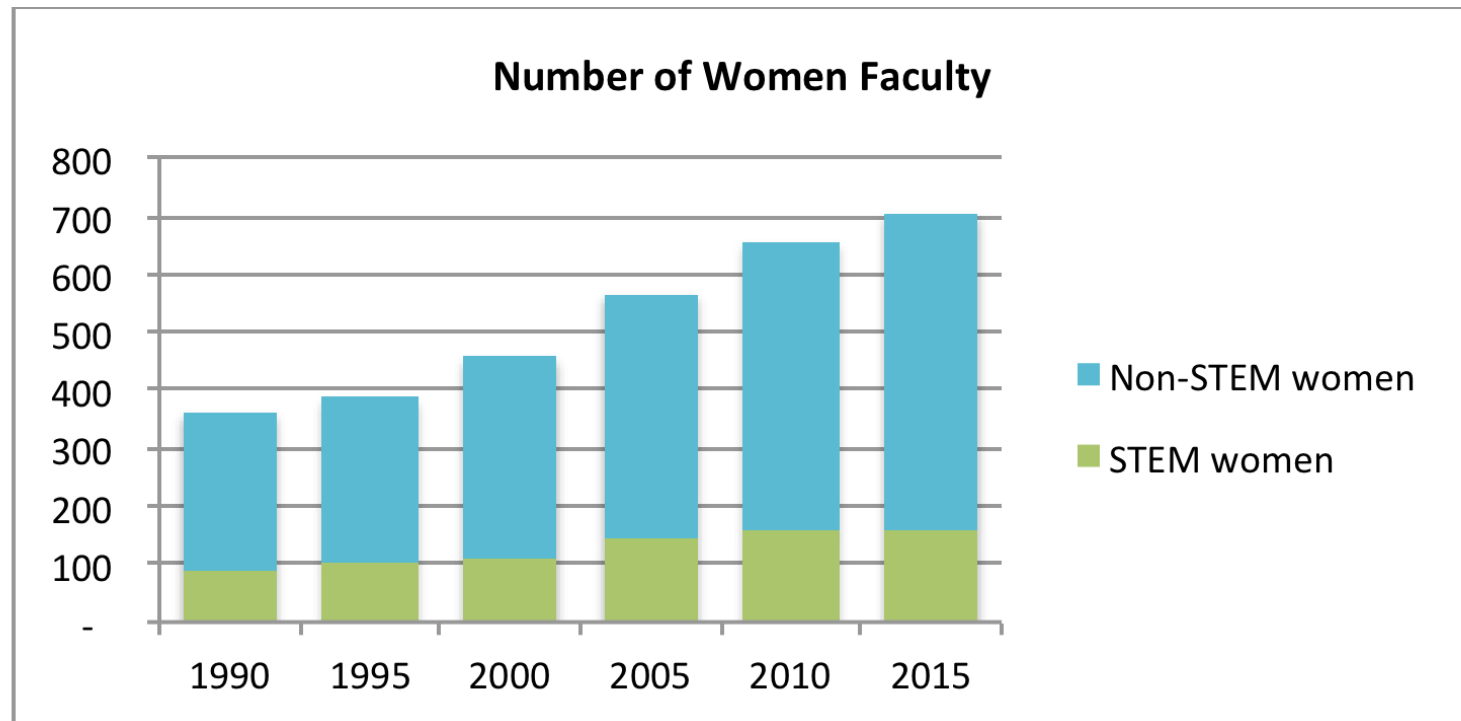
UC STEM Women: Power Differentials

- Teach more undergraduate courses
- Serve/chair fewer Reappointment, Promotion, and Tenure committees
- Serve on more search committees
- Hold fewer leadership positions

STEM WOMEN FACULTY

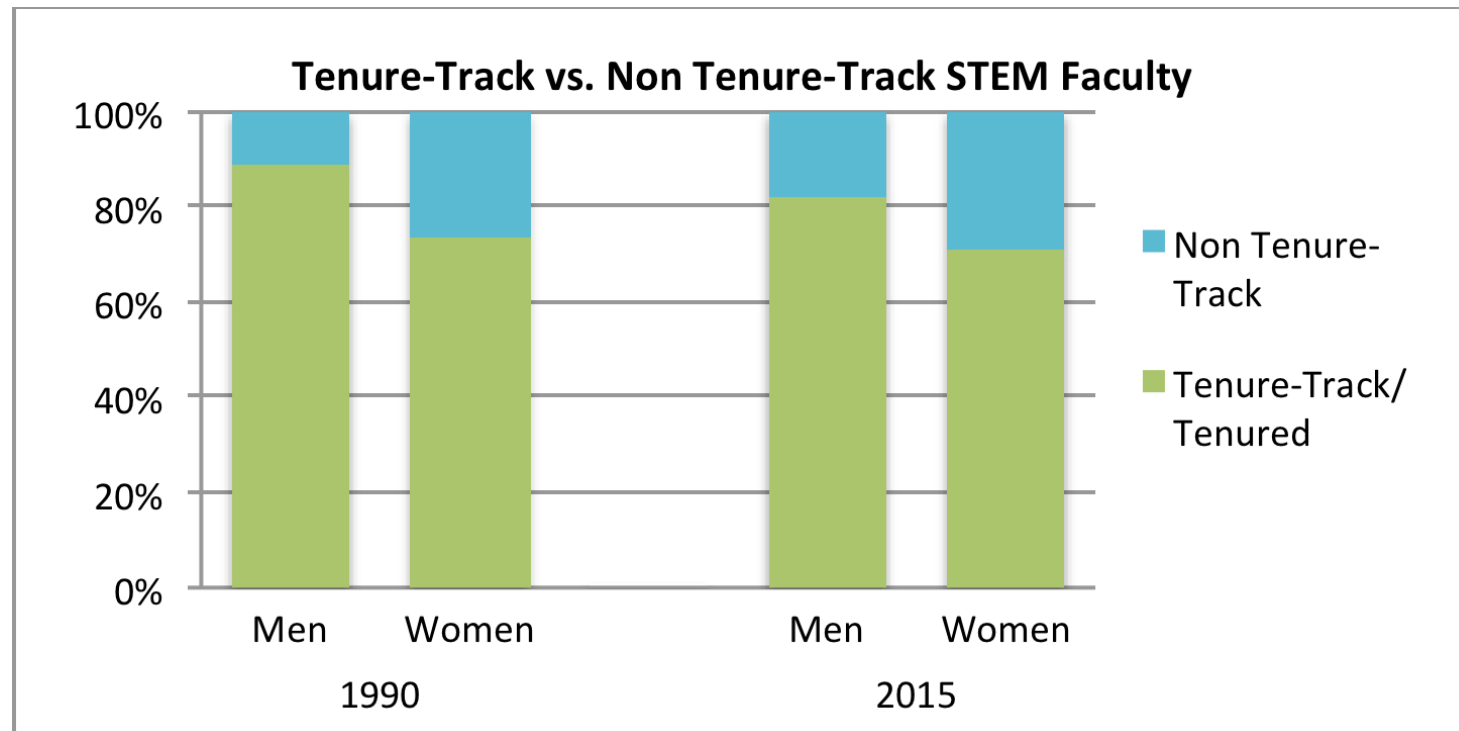
STEM female faculty comprised 25% of all female faculty in 1990, but only 22% in 2015.

- Data do not include non-AAUP faculty from COM



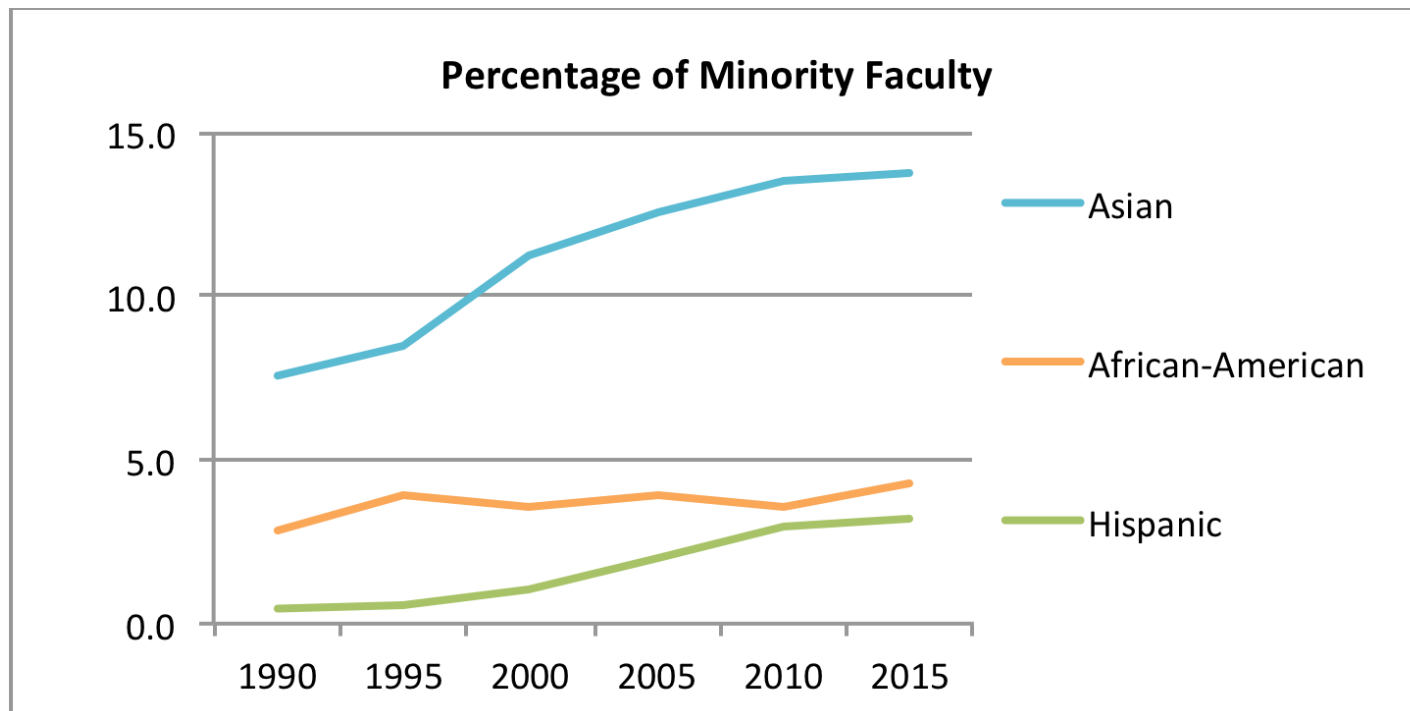
WOMEN AND THE TENURE TRACK

STEM and non-STEM women are disproportionately less likely than men to be on the tenure track.



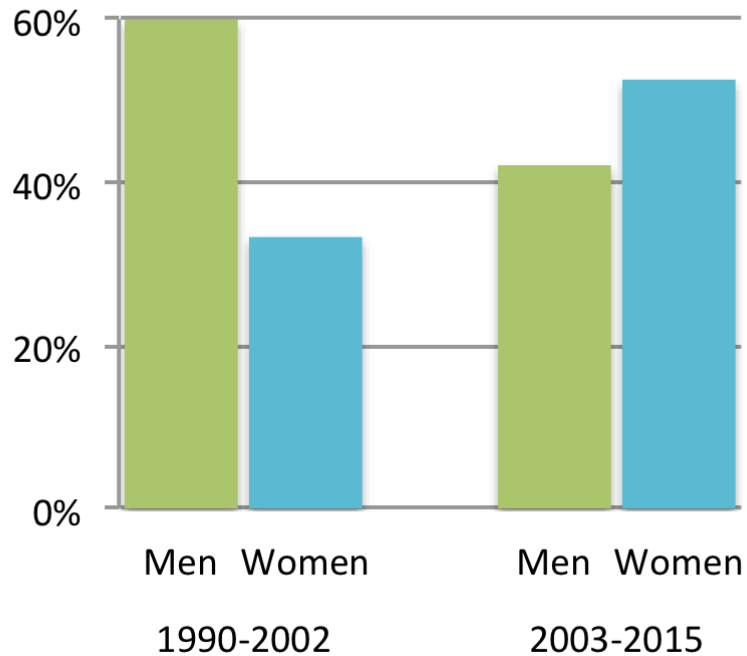
MINORITY FACULTY

Percentage of URM faculty at UC, both campus-wide and in the STEM disciplines, has remained virtually unchanged over the past 25 years

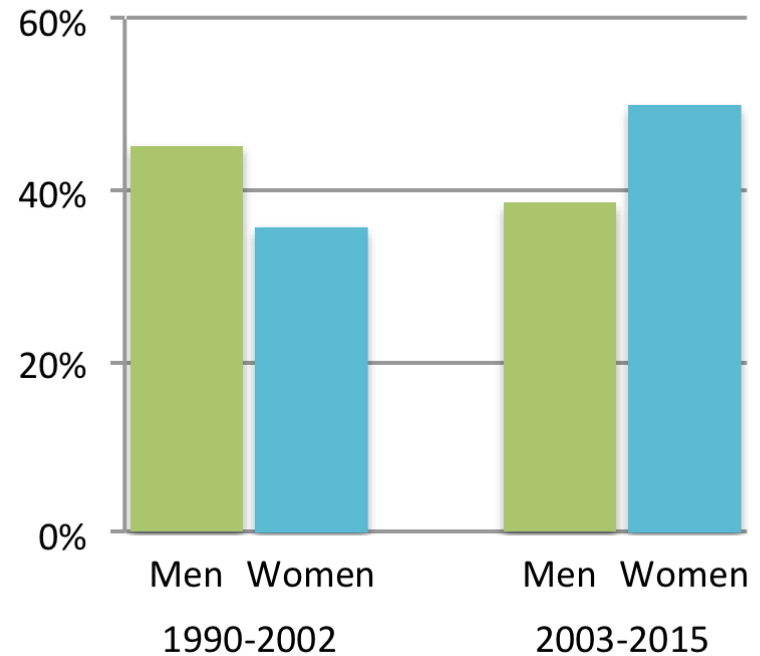


URM PROMOTION RATES

URM Faculty Promotion From Assistant to Associate



URM Faculty Promotion From Associate to Full

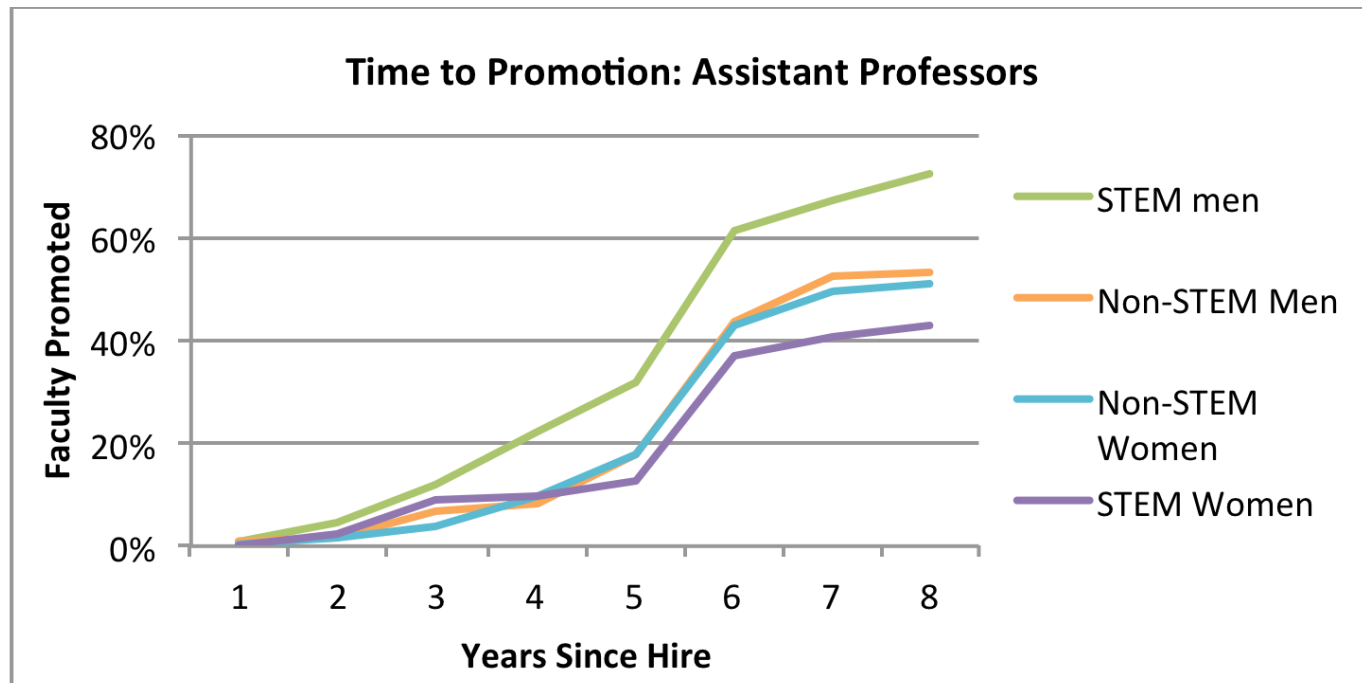


TIME TO PROMOTION

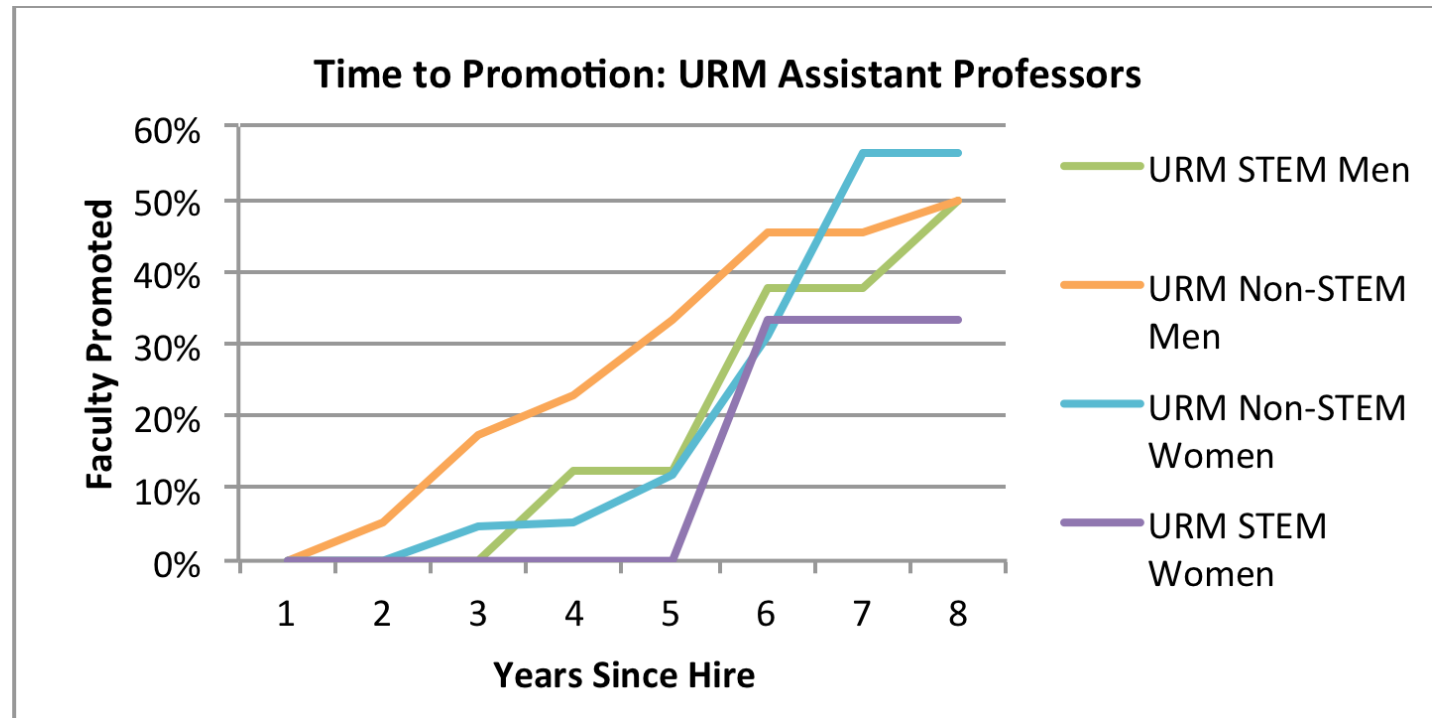
STEM women are promoted the slowest.

57% of STEM women hires do not get tenure

- Either leave or are denied tenure
- Leave at roughly 3x's the rate of men



URM PROMOTION RATES



21ST CENTURY FACULTY LIVES

- Increased mentoring obligations
- More diverse student body
- Increased expectations for community involvement
- Increased expectations for collaboration and interdisciplinary work

These new obligations are not evenly divided among faculty.

These new obligations are not fully integrated into university policies and reward structure.

21ST CENTURY POLICIES AND PROCEDURES

Develop reporting expectations for

- Diversity work
- Mentoring
- Community engagement

→ *These are shared faculty obligations*

Create time and impact rubrics for measuring

- Student mentoring
- Service contributions
- Community work

→ *We can reward what we can measure.*

HELPFUL FOR FACULTY

Know what university values most in its new expectations

Helps to promote most effective and efficient practices

Allows discussion and training for improvement

Shifts “burden” to faculty as a whole

URM WOMEN FACULTY ACTIVITIES

- Larger service load
- Informal student mentoring
- Community engagement

Often do not directly align with P&T or workload policies and expectations

No rubrics for measuring contributions or impact

ADDITIONAL CHALLENGES

Discomfort with using family-friendly policies

- Parental or family leave
- Stop-the-Clock
- Special leaves

Difficulty asking for assistance or clarification

- Sparse networks that do not include university leadership
- “Cinderella” syndrome

Both expected to engage and discouraged from engaging in the additional activities

NOT ALL FACULTY JOBS ARE THE SAME

Build differential time commitments into workload assignments and expectations

- *Reward people for the reasons you hired them*
 - Reduce teaching/course load in exchange for increased mentoring or service work
 - Special service sabbaticals for overburdened URM faculty to focus on research

Create leadership positions for the work

- Director of [URM] Student Mentoring
- Diversity and Inclusion Liaison
 - *Promotes networking and sharing*
 - *Brings work out of the shadows and into the light*

POLICIES SHOULD REFLECT VALUES

Sample language in P&T documents

- A candidate's race, color, national or ethnic origin, ancestry, age, religion or religious creed, disability or handicap, sex or gender, sexual orientation, military or veteran status, or medical history may not be used in assessments or P&T decisions.
- Faculty who stopped their tenure clock shall be held to the same standards and evaluated in the same way as faculty who do not.
 - We value a diverse faculty and are dedicated to supporting work-life integration for its faculty. Consistent with this philosophy, the department affirms that any individual who has received a tenure period extension or has requested and received time off under the family leave policy must be held to the same standard - not a higher or more stringent one - to which other candidates without such an extension or leave are held. Additionally, those eligible to take a leave who choose *not* to take such leave will not be evaluated more favorably than those who *did* elect to seek an extension.

MORE SAMPLE LANGUAGE: MENTORING

Activities that will be considered in evaluating the candidate's teaching include ... advising and mentoring. The candidate is encouraged to provide as many sources of evidence of effectiveness as possible. For advising and mentoring:

- A description of advising and mentoring activities, with outcomes where applicable.
- Letters from advisees or mentees.
- Placement record of advisees or mentees.
- Description of initiatives to support student retention and success.

MORE SAMPLE LANGUAGE: RESEARCH

In evaluating candidates for promotion or tenure, excellence in research shall be assessed relative to scholars in similar areas of research *and* at similar stages of their careers.

- We understand that some of our tenure-track faculty are practicing in subfields in which it is not traditional to disseminate their research primarily in peer-reviewed journals. In these situations, the candidate must offer evidence in the dossier of 1) what the standard of research excellence is in the subfield and 2) how this standard has been met.
- We are concerned with the impact the candidate's research has had, regardless of whether the impact was theoretical, methodological, or applied.

Career–Life Balance for Women of Color

Experiences in Science and Engineering Academia

Apriel K Hodari

Maria Ong

Lily T Ko

Rachel Kachchaf

Overview

- Context of Our Work
 - Theoretical Framework
 - Data and Methods
 - Participants
 - Data Sources
 - Analytical Approach
 - Trustworthiness and Positionality
 - Findings
 - Jessica
 - Laura
 - Yvette
 - Implications
-

Intersections of Race, Gender & Science



[Race and gender] are not separate. Because they aren't separate in me. I am always Black and female. I can't say, "Well, that was just a sexist remark" without wondering would he have made the same sexist remark to a White woman. So, does that make it a racist, sexist remark? You know, I don't know. And that takes a lot of energy to be constantly trying to figure out which one it is.

Ideal Worker Norm

- In U.S. workforce, ideal is male
- Persists in academic environments, especially male-dominated STEM departments
- Commitment, expressed as long hours, unbroken career trajectories, constant availability, visibility
- Normal for scientists, often explicit expectation
- Implicit assumption of gendered separation between paid work and family life
- Disadvantages men *and* women with competing familial and financial needs
- The need for women to work harder for recognition means that “successful women will need to be the most ideal of all ideal workers”

Cumulative Disadvantage

- WOC, because of multiple marginalities and the isolation of being one/one of few, feel far from ideal worker norm
- Institutional tokenism and structural inequalities
 - ❑ WOC more visible, more isolated, more excluded, more likely to confront race/ethnicity and gender inequality
 - ❑ Examples: disproportionately more committee assignments than colleagues
- Virginia Valian

[L]ike interest on capital, advantages accrue, and . . . like interest on debt, disadvantages also accumulate. Very small differences in treatment can, as they pile up, result in large disparities in salary, promotion and prestige. It is unfair to neglect even minor instances of group-based bias, because they add up to major inequalities.

Our Participants

Jessica

- Black postdoctoral fellow, mathematics-based science, private research university

Laura

- Latina midcareer physicist, working in industry

Yvette

- Black engineering professor, large public university

Data Sources

Interviews

- Semi-structured, open-ended, ~ 1.5 hours each
- Academic background and interests
- Current academic or work situation
- A challenging time and how they overcame it
- Feelings of acceptance in their field
- Aspirations for the future
- Advice for institutions and individuals

No specific questions about career-life balance were included in the protocol; these findings emerged from 65% of women in the larger study

Analytical Approach

Narrative Analysis

- Treat these sources as data, the unit of analysis is the story
- Develop broader patterns across the full life story of each woman
- Develops emerging codes and groups these codes into themes
- Particularly effective for understanding the experiences of traditionally marginalized groups in STEM, such as people of color, women, and gays and lesbians

Methodological Context

Trustworthiness

- Transcript cleaning
- Multiple coders, consensus building, regular calibrations
- Member checking

Positionality

- Researchers *and* advocates for increasing WOC in STEM
- Two of us have researched WOC for over a decade
- All women: Asian American, Black and White
- Early and mid-career, varying family configurations
- Advanced degrees in STEM and education, extensive experience in academia

Jessica

“A Choice Between Family and Career”

- Relocation and rebuilding social/professional networks
- Expectations to prioritize work
- Lack of relatable role models
- Making choices

Lack of Relatable Role Models

In one perhaps extreme example, Jessica's advisor chose to carry out routine data collection rather than attend the birth of his child. She described being “stunned” to hear him talk about this choice “as if it’s an okay thing.” Jessica recognized that her advisor’s behavior was extreme, but experienced it as a disadvantage—she couldn’t obtain support from her direct superior because of the disparity in their priorities. This disparity continued to manifest when Jessica described to her advisor her desire to move closer to her family for her next job, and he replied that it would be better for her career for her to move to Europe instead.

Making Choices

I feel like there's sort of like this pressure, "Oh, she quit academia to go have a family." Or, you know, "She doesn't want to be a scientist because she wanted to be a mom." [A]nd I feel like those things that I work on and strive to have equity for in the general population, especially [for] women or women of color in science, I feel like I might have taken too personally all of those issues. . . . I feel like a lot of pressure. Like, I'm supposed to be a role model. Role models don't quit.

Laura

Allowing for Reality

- Feeling different
- Getting to graduation
- Career choice: Industry science versus ideal science
- Financial security and caring for family

Feeling Different

Being a woman and being a minority have not been my major constraints. . . . I can deal with not being accepted, I can deal with not being the norm. For me, my major concern has always been that . . . my family's poor. . . . It's very common that minorities are of less buying power.

It's a community that you can't have a mother, you can't be needy. Or you can't have an economic status that is too low, because then you don't have the freedom to just sit and think about the atom or the electron. . . . So it's a field that, by itself, doesn't allow reality.

Career Choice: Industry vs Ideal Science

I will not be excellent in teaching, excellent in research, excellent in life all at once because it's not possible and I don't want to put that constraint on my system. . . . I had a miserable life [in graduate school]. . . . I'm not going to do anything close to that again.

As a scientist, for a scientific career, I think it's okay. It's not the best and it's not the worst. [T]he best way to do scientific work would be to completely be independent and not tied up to any [company], right? . . . [My current work is] basically tied to an instrument and not to a scientific goal. So from that point of view, maybe being in a company is not the best place to continue scientific life.

Yvette

“Never Working Hard Enough”

- Assumptions about work ethic
- Hidden pregnancy
- Unacknowledged accomplishments and the pursuit of tenure
- Balance and advancement

Assumptions About Work Ethic

If he came by your office and didn't see you in there, he would accuse [you] of not having been to work that day. . . . All you have to do is knock, or send an email, or whatever—I'm right in there, or in the library or something, as many faculty would do . . . I would have to put Post it notes on my door saying "back in 10 minutes" when I went to the bathroom—just to sort of head him off at the pass.

Hidden Pregnancy

He said, “I haven’t seen you around much. And your maternity leave doesn’t start until next fall” . . . And I remember just everything welled up in me. . . . Just anger. I said, “I don’t mean to be crass, I don’t mean to be rude, but I’m going to be very blunt with you. Do you realize that I was back in this office when I was still dropping blood? I was in here, doing my work, continuing my research, and had done so ever since. There should be no question as to what I am doing at this time” . . . And he just seemed to look like—I guess the blood kind of knocked him a little bit.

What Can Be Done

Policy and Practice

- Nurture environments that embrace activities and identities beyond STEM
- Train faculty and peers in culturally competent mentoring
- Fully honor family leave policies
- Enforce zero tolerance policy on discrimination

Topics for further research

- Expectations that STEM work is prioritize work over all other facets of life
 - The dearth of mentors and culturally competent advisory support
 - Social exclusion by peers who embody the ideal worker norm, resulting in a lack of social and professional network support
 - Assumptions on the impact of financial status on the pursuit of STEM
 - Implicit discouragement of use of family leave policies
 - Questioning of competence and dedication to science based on race/ethnicity, gender, and/or parental status
-

Acknowledgements



Maria Ong



Lily Ko



Rachel Kachchaf

We are grateful to Angela Johnson, John Matsui and Jodi Asbell-Clarke for their feedback, to Jennifer Haley for her critically important editing, and to Irene Liefshitz and Jodut Hasmi for their contributions to data collection and analysis. This material is based upon work supported by the National Science Foundation, under grants DRL-0909762, CNS-1240768 and CNS-1451341. Any opinions, findings and conclusions, or recommendations expressed in this materials are those of the authors and do not necessarily reflect the views of NSF.

Questions

Apriel K Hodari, PhD
Principal Investigator
Eureka Scientific, Inc
akhodari@gmail.com

Women of Color as STEM Researchers:



Lived Experiences

Andrea F. Lobo
Professor of Computer Science
Rowan University

lobo@rowan.edu

Panel at UD ADVANCE Conference
Women of Color: What's Next?

May 1st, 2016
Newark, Delaware

Ethnicity in Computer Science

- **The 2014 Taulbee Survey[1] by Computing Research Association**
 - **181 respondents**
 - ✱ **143 CS departments in the US**
 - ✱ **38 CE/I/Canadian departments**
- **PhDs awarded in Computer Science by ethnicity**
 - **0.9% Hispanic**
 - **1.1% Black or African American**
 - **0.6% American Indian or Alaska Native, Native Hawaiian/Pacific Islander, or Multiracial Non-Hispanic**
 - **60.1% Nonresident alien and 29.1% White**

Women in Computer Science

- **PhDs awarded by gender: Female**
 - **17.6% Computer Science**
 - **18.9% all of computing**
- **Of the PhDs in CS awarded to women**
 - **1% Hispanic**
 - **2% Black or African American**
 - **1% other minorities: American Indian or Alaska Native, Native Hawaiian/Pacific Islander, or Multiracial Non-Hispanic**

A more representative future?

	% PhDs awarded	% PhD enrollment
Hispanic	0.9	1.7
Black or African American	1.1	1.3
Other minority	0.6	0.9

% PhDs awarded to women	% PhD enrollment that is female
17.6	18.7

My personal experience



- **Chose Computer Science major by elimination and based on two 5-minute chats with faculty**
- **Enjoyed Computer Science at University of Costa Rica**
 - **Research Assistant starting freshman year**
 - **Teaching Assistant for several faculty and courses**
 - **Got to know faculty who seemed happy**
 - **Enjoyed academic work**
- **Left Costa Rica at 19 years old to pursue PhD in CS**
- **Fully funded**
- **First time living away from home, in the US**

My personal experience



- **Graduate school was not difficult academically but emotionally exhausting**
- **I visited my family often and took every chance to teach**
- **My advisor was patient**
- **In retrospect, working in a large lab for my dissertation might have been less lonely**
- **After my defense, I married a friend from grad school and went to work as a Scientist at a research lab**
 - **Work hours were long but the work was exciting**
- **Seeking a healthier balance between work and family, accepted faculty position at primarily teaching institution**

My personal experience



- **Collaborative environment of small department suited me**
- **Initially invited to serve on so many committees**
 - **perhaps as a double minority?**
- **The primarily teaching college has evolved into a university with two new medical schools and an engineering college, aiming to be a research university**
- **So I**
 - **teach 6 sections of 4-5 courses per year, without a TA**
 - **am PI of an NSF grant**
 - **am PI of a collaboration with industry**
 - **funding 9 students this year**

My personal experience



- **Challenges**

- **Difficult to secure funding for research in networks**
 - * **shift to CS education and industry applications**
- **Healthy balance of work and everything else**
- **Isolation for someone who works best in a group**
 - * **not easy to be the only woman/Hispanic in the room**
 - * **some will misunderstand**
 - * **some might try to take advantage**

My personal experience

- **Lucky breaks and lessons learned**
 - **Early role models that resonated with me**
 - * **Undergraduate years were I felt I belonged**
 - **Hard-working and relatively smart, led to good performance, led to opportunities that interested me**
 - * **Success breeds success**
 - **Sufficient tolerance for risk to accept opportunities**
 - **Flexibility to attempt new things and take advise**
 - **Messed up many times but haven't been too hard on myself and have gotten many second chances**
 - * **Build a reputation of trying to carry your own weight in good faith, and you only need to try your best**

References



- **[1] Stuart Zweben and Betsy Bizot. 2014 Taulbee Survey.**
<http://cra.org/wp-content/uploads/2015/06/2014-Taulbee-Survey.pdf>. Accessed 2016/04/26.

“Steer Your Own Ship: Using Metacognition for Reflective Self-Mentoring”



Saundra Yancy McGuire, Ph.D.

Retired Asst. Vice Chancellor & Professor of Chemistry
Director Emerita, Center for Academic Success
Louisiana State University

Desired outcomes

- We will understand the importance of structured self-mentoring
- We will understand the role of metacognition in self-mentoring
- We will understand the importance of self-understanding, self-talk, and cognitive restructuring in self-mentoring
- We will have specific strategies for effective self-mentoring
- We will have greater confidence and more control over our destinies

Reflection Questions

- Who has been the most important mentor in your academic/professional life?
- What was the most impactful advice s/he ever provided you?
- Has there ever been an instance where you needed a mentor but none was available?
- Have you ever received advice from a mentor, but realized at the time, or found out later, that it was not the best advice for you?

What is Self-Mentoring?

A type of mentoring in which an individual **cultivates his or her own professional growth** through self-tutoring activities and resource-finding techniques. Self-mentoring requires the individual to be highly motivated and self-disciplined. The individual **increases job effectiveness and augments professional talents by building a body of knowledge and skills without the aid of other people.**

Things a Mentor Can Offer...

that you can provide for yourself!

- **Information about the culture of an institution/organization**

Observe and discern the rules/norms/mores

- **Tools and strategies for success**

Observe and talk to others who have advanced

- **Information about resources**

Google it!

- **Encouragement & Inspiration**

Encourage yourself by reflecting on past successes!

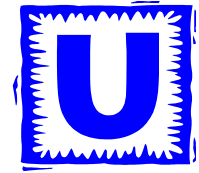
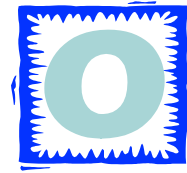
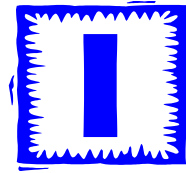
Metacognition: A *Very* Useful Tool

The ability to:

- think about your own thinking
- be consciously aware of yourself as a problem solver
- monitor, plan, and control your mental processing (e.g. “Am I *understanding* this material, or just *memorizing* it?”)
- accurately judge your level of learning
- know what you know and what you don’t know

Flavell, J. H. (1976). Metacognitive aspects of problem solving. In L. B. Resnick (Ed.), *The nature of intelligence* (pp.231-236). Hillsdale, NJ: Erlbaum

Counting Vowels in 45 seconds



How accurate are you?

*Count all the vowels
in the words on the next slide.*

Dollar Bill

Dice

Tricycle

Four-leaf Clover

Hand

Six-Pack

Seven-Up

Octopus

Cat Lives

Bowling Pins

Football Team

Dozen Eggs

Unlucky Friday

Valentine's Day

Quarter Hour

How many *words* or *phrases*
do you remember?

Let's look at the words again...

**What are they arranged
according to?**

Dollar Bill

Dice

Tricycle

Four-leaf Clover

Hand

Six-Pack

Seven-Up

Octopus

Cat Lives

Bowling Pins

Football Team

Dozen Eggs

Unlucky Friday

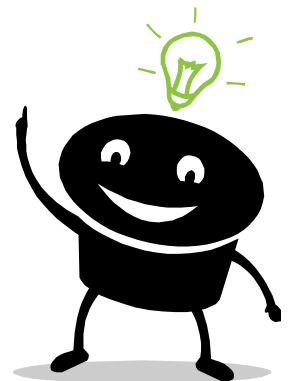
Valentine's Day

Quarter Hour

NOW, how many words or
phrases do you remember?

What were two major *differences* between the two attempts?

1. We knew what the task was
2. We knew how the information was organized



Strategies for “Self-Mentoring”

- **Use critical thinking** to discern the rules and culture of the institution. (e.g. vowels vs. words)
- **Understand yourself** and others (personality, mindset, etc.)
- **Talk with others** who have succeeded to find out how *they* did it.
- **Encourage yourself by using positive self-talk** and constantly reminding yourself that the talents that brought you to this point will lead you to future success.

You must know yourself and others

- **What are your personal characteristics?**
 - Personality style (MBTI)*
 - Learning style preference (VARK)*
 - Job interests
 - Mindset (Fixed vs. Growth Intelligence)
- **What are the personal characteristics of those with whom you work?**

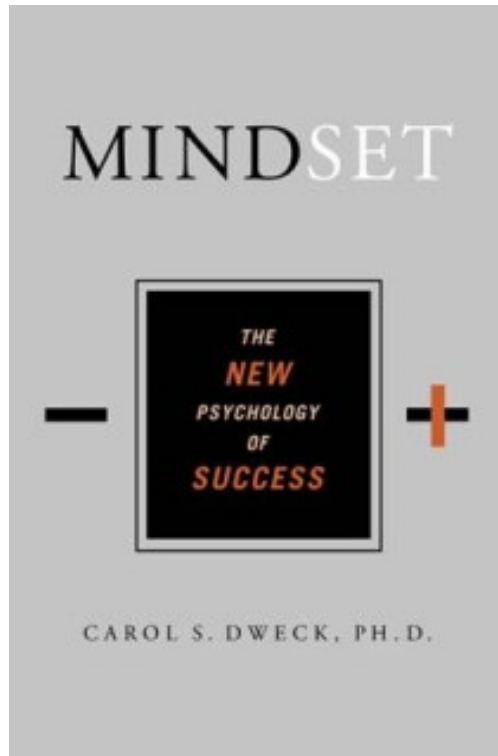
What is your MBTI personality type?

- Extrovert or Introvert
- Sensing or Intuitive
- Thinking or Feeling
- Judging or Perceiving

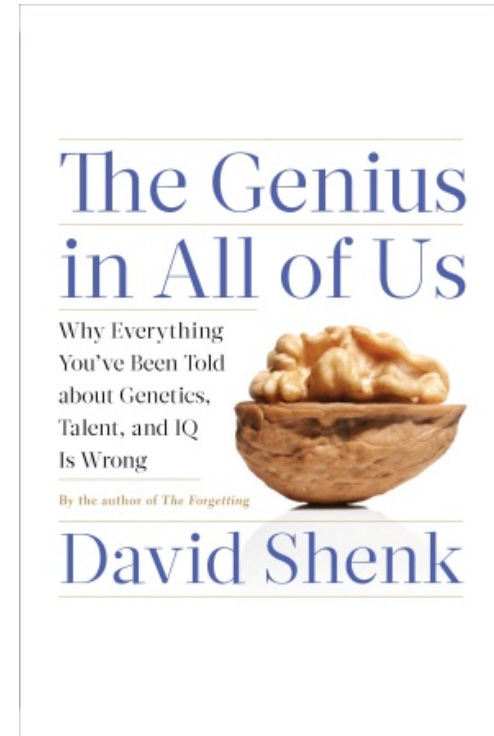
How does your style impact your interaction with others?

<http://www.myersbriggs.org/my-mbti-personality-type/mbti-basics/>

Develop the *Right Mindset*



Dweck, Carol, 2006.
Mindset: The New Psychology of Success. New York: Random House Publishing



Shenk, David, 2010. *The Genius in All of Us: Why Everything You've Been Told About Genetics, Talent, and IQ Is Wrong*. New York: Doubleday

Mindset* is Important!



- **Fixed Intelligence Mindset**
Intelligence is static
You have a certain amount of it
- **Growth Intelligence Mindset**
Intelligence can be developed
You can grow it with actions

Dweck, Carol (2006) *Mindset: The New Psychology of Success*.
New York: Random House Publishing

Responses to *Many* Situations are Based on Mindset

	Fixed Intelligence Mindset Response	Growth Intelligence Mindset Response
Challenges	<i>Avoid</i>	<i>Embrace</i>
Obstacles	<i>Give up easily</i>	<i>Persist</i>
Tasks requiring effort	<i>Fruitless to Try</i>	<i>Path to mastery</i>
Criticism	<i>Ignore it</i>	<i>Learn from it</i>
Success of Others	<i>Threatening</i>	<i>Inspirational</i>

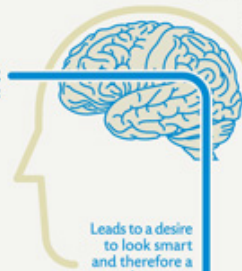
TWO MINDSETS

CAROL S. DWECK, Ph.D.

Graphic by
Nigel Holmes

Fixed Mindset

Intelligence is static



Leads to a desire
to look smart
and therefore a
tendency to...

CHALLENGES

...avoid
challenges

OBSTACLES

...give up
easily

EFFORT

...see effort as
fruitless or worse

CRITICISM

...ignore useful
negative feedback

SUCCESS OF OTHERS

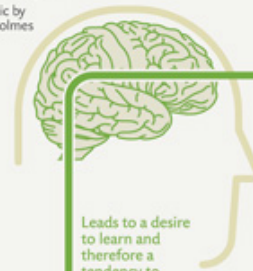
...feel threatened
by the success
of others

As a result, they may plateau early
and achieve less than their full potential.

All this confirms a **deterministic view of the world.**

Growth Mindset

Intelligence can be developed



Leads to a desire
to learn and
therefore a
tendency to...

...embrace
challenges

...persist in the
face of setbacks

...see effort as
the path to mastery

...learn from
criticism

...find lessons and
inspiration in the
success of others

As a result, they reach ever-higher levels of achievement.

All this gives them a **greater sense of free will.**

What mindset do you think *most* faculty have about intelligence?

**FIXED OR
GROWTH
MINDSET?**

Meet the family that helped me develop
a growth mindset...



I CAN DO ALL
THINGS THROUGH
CHRIST WHO
STRENGTHENS ME.

My Dad, Robert E. Yancy, Jr.



My Mom,

Delsie Melba Moore Yancy



***Stephen
McGuire,
Ph.D.***



Professor and past chair (1999 – 2009) of the department of physics at Southern University.

Elected a fellow of the American Physical Society in 2008 “for his leadership in exploring new ways for research physicists, traditional educators and museum professionals to work together to engage students and the public, particularly under-represented groups, in the excitement of physics.”

Co-author of 2016 gravitational wave observation paper (Phys. Rev. Lett. **116**, 061102 – Published 11 February 2016)



EXPERIMENTAL PSYCHOLOGY
ZOOLOGY

***Carla
McGuire
Davis,
M.D.***



Pediatrician and Pediatric Allergist and Immunologist,
Clinical Assoc. Professor, Baylor College of
Medicine

B.S., summa cum laude, Chem E, Howard Univ.
M.D., Duke University
Residency, Baylor College of Medicine
Research Fellowship, Baylor College of Medicine

**Stephanie
McGuire,
D. Phil.
Neuroscience**

**M.M.
Opera
Performance**



As herself in Stephanie McGuire: Mezzo Laid Bare, Marcellina in The Marriage of Figaro, and Dinah in Trouble in Tahiti

Mezzo Soprano

S.B., Biology, Marshall Scholar, MIT

M.Sc., Neuroscience,

D.Phil., Psychoacoustics, The University of Oxford

M.Mus., Longy Conservatory

Has appeared with the Boston Pops, New York City Opera in Lincoln Center and at Carnegie Hall

Monitor Your Self-Talk: What are you saying to yourself?

Be careful
how you
are talking
to yourself
because you
are listening.
~Lisa M. Hayes

- *“I can’t do this work, it is too much.”*
- *“I’m not as good as the others.”*
- *“I remember the last time I tried this and failed.”*
- *“I must be an idiot. What makes me think I can do this?”*
- *“I’ll never learn to master this.”*

The Antidote to Negative Self Talk: *Positive Self-Talk!*



- Turning negative, destructive thoughts into positive, constructive thoughts
- Facilitated by objectively evaluating the validity of negative thoughts
- Forces the adoption of a different perspective
- Reflection and journaling can be important tools

How Can We Rephrase the Negative Thoughts into Positive Thoughts? ?

Be careful
how you
are talking
to yourself
because you
are listening.
~Lisa M. Hayes

- *“I can’t do this work, it is too much”*
- *“I’m not as good as the others”*
- *“I remember the last time I tried this and failed.*
- *“I must be an idiot. What makes me think I can do this?”*
- *“I’ll never learn to master this”*

Time for a Cognitive Restructuring: Attitude Adjustment



- Turning negative, destructive thoughts into positive, constructive thoughts
- Facilitated by objectively evaluating the validity of negative thoughts
- Forces the adoption of a different perspective (not obstacle, opportunity)
- Reflection and journaling can be important tools

Self-Mentoring Strategies*

- Write down your goals to avoid being sucked into other people's agendas.
- Prepare, prepare, prepare more!
- Ask questions and listen carefully to the experts in your field of interest.
- Observe people in leadership positions. Notice the different styles of leadership and which are effective.
- Brainstorm with yourself!
- Form support groups with other faculty, within and outside of your discipline.
- Carefully monitor your self-talk and mindset.

*the source for some of the strategies presented in this slide and the next is www.quartermaster.army.mil/oqmg/warrant_officer_proponency/mentorship_program/GUIDE/Chapter_VIII.htm

More Self-Mentoring Strategies

- Leave complaints and judgements at the door.
- When there is more than one way to interpret an action, choose the more charitable one.
- Recognize that a little paranoia is not always bad.
- Try not to take criticisms personally; learn from them.
- Read and research materials in the field.
- Attend and present papers at conferences and other educational programs.
- Seek out new opportunities. Volunteer for projects or join professional organizations – but not too many!
- Get the perspective of trusted family members

Expect Obstacles

Remember that stumbling blocks and stepping stones may look identical
YOU determine which role they will play!



Metacognitive Self Mentoring



A tool that works beautifully!

Additional References

- Barker, Kathy (2002). *At the Helm: A Laboratory Navigator*. Cold Spring Harbor, NY: Cold Spring Harbor Laboratory Press.
- Bransford, J.D., Brown, A.L., Cocking, R.R. (Eds.). (2000). *How people learn: Brain, Mind, Experience, and School*. Washington, DC: National Academy Press.
- Feibelman, P. J. *A Ph.D. is Not Enough!* New York: Basic Books
- McGuire, S.Y. (2015). *Teach Students How to Learn: Strategies You Can Incorporate into Any Course to Improve Student Metacognition, Study Skills, and Motivation*. Sterling, VA: Stylus
- Murray, M. and Owen, M. (1991). *Beyond the Myths of Mentoring*. San Francisco, CA: Josey-Bass.
- Peddy, S. (2001). *The Art of Mentoring: Lead, Follow, or Get Out of the Way*. Houston, TX: Bullion Books.

Useful Websites

- <http://acswebinars.org/>
- www.cas.lsu.edu
- www.vark-learn.com
- www.mentornet.net
- Searches on www.google.com

ADVANCING Faculty Diversity: The Role of Peer Networks

Dr. Nicole A. LaRonde, *Department of Chemistry,*

Dr. Willow Lung Amam, *Department of Urban Studies & Planning Program,*

Dr. Tara Brown, *Department of Teaching and Learning, Policy and Leadership,*

Dr. Mary Alice Garza, *Department of Behavioral & Community Health,*

Dr. Typhanye Dyer, *Department of Epidemiology & Biostatistics,*

Dr. Zita Cristina Nunes, *Department of English,*

Dr. Kumea Shorter-Gooden, *Chief Diversity Officer and Associate Vice President, &*

Dr. KerryAnn O'Meara, *Department of Higher Education and Director, UMD ADVANCE Program,
University of Maryland, College Park*



Isolated

Presumed
Incompetent



Invisible, yet
under the
microscope

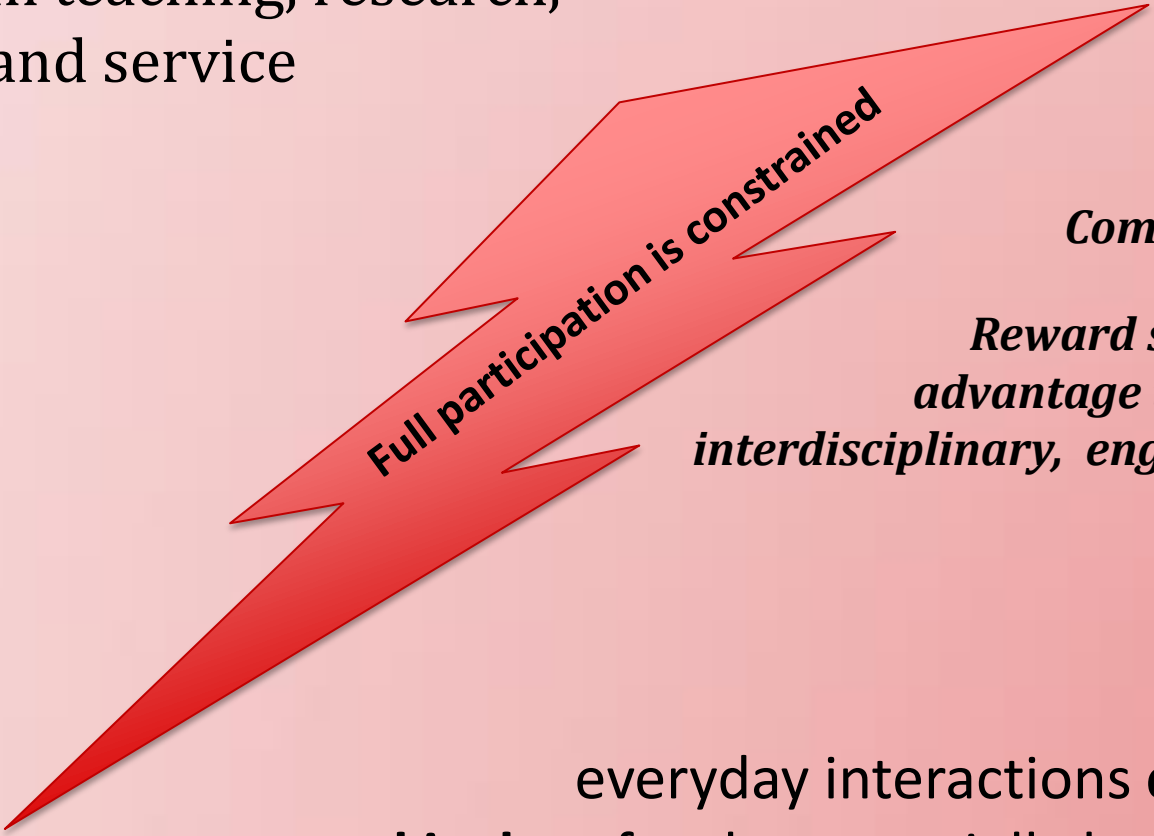
“Only one”

**Racial and ethnic minority faculty
at predominantly White
research-intensive universities**

ADVANCE

Context

AAU institutions strive to create a culture of **diversity and inclusive excellence** in teaching, research, and service



Full participation is constrained

Institutional and disciplinary rankism

Competitive individualism

Reward structure: competitive advantage to research that is not interdisciplinary, engaged or collaborative

(O'Meara, 2011, 2014)

Conditions where everyday interactions **exclude, diminish, and isolate** faculty, especially by race and ethnicity

(Acker, 2006; Turner, 2002; Umbach, 2006)

History of discrimination based on race, gender, and history in U.S.

ADVANCE

Advancing Faculty Diversity Peer Network at UMD

- **Year-long peer network** for women and men assistant and associate faculty members of color
- Partnership of ADVANCE program, Office of Diversity & Inclusion, Office of Faculty Affairs, 2 distinguished faculty leaders (Thomas and Espy-Wilson)



Created in response to institutional data showing **differential retention, advancement, and satisfaction** between underrepresented minority and White faculty members

- **Purpose:**
 - To retain and advance individual faculty members of color
 - To make UMD a more inclusive place
 - To advance **full participation** (Sturm, 2007)
- Focus on **retention and advancement!**
- Program objectives were informed by literature on:
 - faculty members' professional growth and agency
 - challenges experienced by faculty members of color in predominantly White research universities
 - the development of prior successful ADVANCE peer networks for women and mentoring for faculty members of color

Full Participation (Sturm, 2007):

- Equal opportunity to participate in the work of the university
- Realize one's capabilities
- Have voice in decision-making

“Architecture for Inclusion”:
organizational structures and conditions that support diverse faculty members and diverse forms of scholarship

Advancing Faculty Diversity Objectives:

1. Improve participant **knowledge** of what matters in the tenure process, and promotion process to Full Professor.
2. Expand participants' **peer support networks** at UMD.
3. Decrease isolation and improve opportunities for **collaboration**.
4. Enhance the **agency** participants' feel about career advancement at UMD.
5. **Advise** the campus on structural and cultural change needed to recruit, retain, and advance underrepresented minority faculty members.

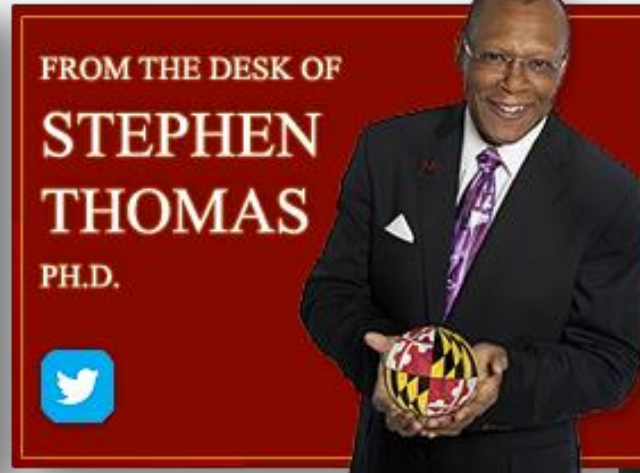
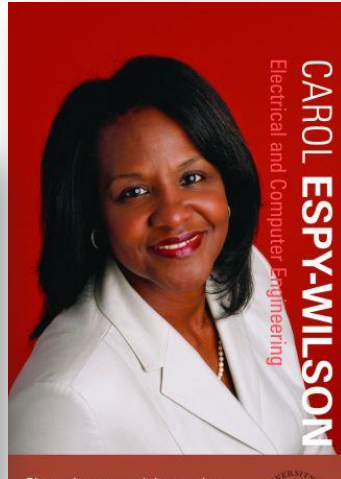
Key role of the program (though not stated early on as explicit goal):

- Lessening the stress and negative effects of **micro-aggressions** and **implicit bias** for faculty members of color





KeryAnn O'Meara
(Education Director
of UMD's ADVANCE):
Curricular and
administrative support



Facilitators **Carol Espy-Wilson**
(Electrical and Computer Engineering)
& **Stephen B. Thomas** (Public Health):

- African American
- Tenured Full Professors
- Role Models



Kumea Shorter-Gooden
(Chief Diversity Officer):
Chief advisor to the program

48 participants: 15 men and 23 women over
3 cohorts (2013/2014, 2014/2015, 2015/2016)

The AFD Peer Network includes:

- Opening reception with UMD President Dr. Wallace Loh
- Monthly meetings on topics related to career advancement
- Communication across a listserv
- Access to an ELMS site with resources





Sample Session Topics:

- Developing Campus-Wide Networks
- Life-Work Integration and Self-Care
- Saying No Versus Not This Time
- Gracious and Strategic Self Promotion
- Writing Retreat and Productivity
- Rankism, Implicit Bias, Micro-aggressions – what they are and strategies for dealing with them
- Making Plans – Career Action Plans and Personnel Narratives
- Getting Published and Funded: Rejection, Resilience, and Getting Good Feedback
- Assuming Leadership Positions: When, Why, and Why Not?
- Becoming Master Mentors



Rigorous Evaluation:

- Participant observations of 80% of the sessions
- Pre- and post-evaluations
- Focus groups
- Informed consent process
- Tracking retention and advancement

Knowledge of
specific aspects of
the advancement
process

Stronger peer
networks on
campus



Greater agency in
career advancement
at UMD

Key to early success of AFD has been:

- a) Creating safe, brave spaces to acknowledge micro-aggressions, bias and the challenges of being a “minority”
- b) Sharing strategies to cope with the stress of such micro-aggressions and bias
- c) Fostering peer recognition, resonance, and affirmation
- d) Providing concrete, career advancement information tailored to issues faculty of color uniquely face

“Brave Space” (Aero & Clemens, 2013):

- Spaces wherein someone could take risks to raise issues that were typically not discussed in academe or with mentors in their departments



Question Posed to AFD Panelists:

What is one challenge you have experienced as a woman of color and academic—and how have peer networks helped you with that challenge?

- For women and men, not only women of color. Pros and Cons....
- Much of what is shared in brave space, confidential—hard to capture and translate to change department culture change
- There are still some faculty struggling—need more than this offers in support....

Higher Education Institutions “under construction”:

- Create **cultures and structures** that do not exclude
- AFD program = **important rest area, feedback and recognition system** for faculty of color
- Impact **retention** and **advancement**
- Relationships between people matter to enacting change (Daly, 2010)



→ build a **better, more inclusive university** for us all

ADVANCE

Conclusion

Discussion & Questions?



- Acker, J. (2006). Inequality regimes: Gender, class, and race in organizations. *Gender and Society*, 20(4), 441-464.
- Antonio, A.L. (2002). Faculty of color reconsidered: Reassessing contributions to scholarship. *The Journal of Higher Education*, 73(5), 581-600.
- Arao, B. & Clemens, K. (2013). From safe spaces to brave spaces: A new way to frame dialogue around diversity and social justice. In L. M. Landreman, *The Art of Effective Facilitation* (pp. 135-150). Sterling, VA: Stylus.
- Daly, A. J. (2010). *Social network theory and educational change*. Cambridge, MA: Harvard Education Press.
- Jayakumar, U. M., Howard, T. C., Allen, W. R., & Han, J. C. (2009). Racial privilege in the professoriate: An exploration of campus climate, retention, and satisfaction. *The Journal of Higher Education*, 80(5), 538-563.
- National Science Foundation (2006). *ADVANCE: Increasing the participation and advancement of women in academic science and engineering careers*. Retrieved from http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5383.
- O'Meara, K. (2011). Inside the Panopticon: Studying academic reward systems. In J.C. Smart, M.B. Paulsen (Eds.), *Higher Education: Handbook of Theory and Research* (pp. 161-220). New York, New York: Springer.
- O'Meara, K. (2014, January 13). Change the Tenure System. *Inside Higher Education*. Retrieved from <http://www.insidehighered.com/advice/2014/01/13/essay-calls-reform-tenure-and-promotion-system>
- Stanley, C. A. (2006). Coloring the academic landscape: Faculty of color breaking the silence in predominantly white colleges and universities. *American Educational Research Journal*, 43(4), 701-736.
- Sturm, S. (2006). The Architecture of Inclusion: Advancing Workplace Equity in Higher Education. *Harvard Journal of Law & Gender*, 29(2), 06-114.
- Sue, D.W., Capodilupo, C., Torino, G, Bucceri, J., Holder, A., Nadal, K., & Equin, M. (2007). Racial Microaggressions in Everyday Life: Implications for Clinical Practice. *The American Psychologist*, 62 (4) 271-286.
- Turner, C. S. V. (2002). Women of color in academe: Living with multiple marginality. *The Journal of Higher Education*, 73(1), 74-93.
- Umbach, P. D. (2006). The contribution of faculty of color to undergraduate education. *Research in Higher Education*, 47(3), 317-345.

Fostering Institutional Mindfulness in Faculty Recruitment: Developing a STRIDE Team at the University of Maryland, Baltimore County



Autumn M. Reed, Ph.D.

University of Maryland, Baltimore County

April 30, 2016



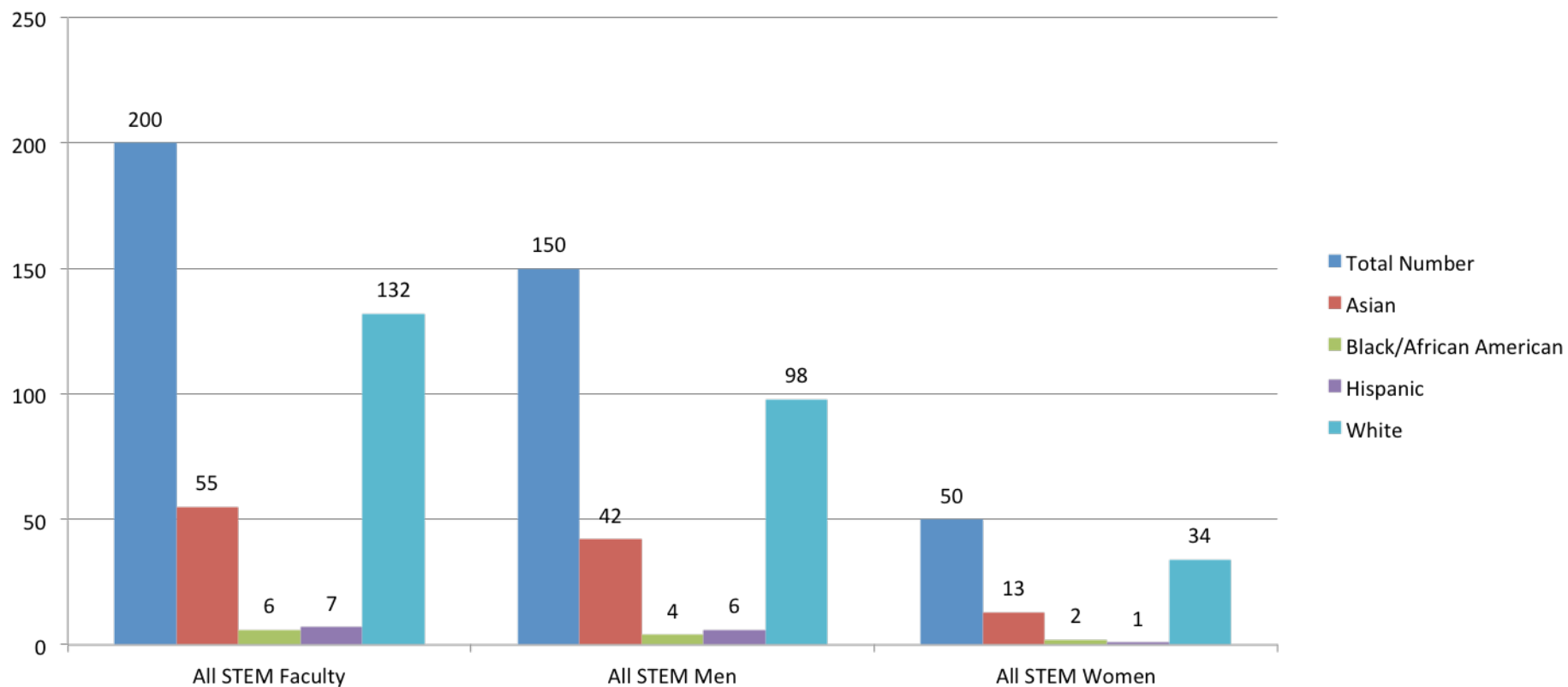
Institutional Background



Public, medium-sized institution
13,839 students, 423 T/TT Faculty
Carnegie High-Research
2003 ADVANCE IT Awardee



UMBC STEM Faculty AY 2015-2016



Diversity Programs at UMBC

[Meyerhoff Scholar's Program](#)

[McNair Scholars Program](#)

[Center for Women in Technology
Scholars Program](#)

[PROMISE: Maryland's AGEP](#)

[UMBC-ADVANCE](#)

[UMBC Faculty Diversity Initiatives](#)

Faculty Diversity Interventions at UMBC

[Interfolio](#)

[Diversity Hiring Plans](#)

[Emerging Scholars](#)

[Postdoctoral Fellowship for Faculty
Diversity](#)

[Community-Based Faculty Groups](#)

[Faculty ADVANCEment Workshops](#)

[Eminent Scholar Mentoring Program](#)

[Southern Regional Education Board
Conference](#)

[ADVANCE and Faculty Diversity
Brochure/Website](#)

Beyond the Pathway Explanation Structural Inequalities

Implicit Bias

&

Departmental Culture/Climate

Committee on Strategies and Tactics for Recruiting to Improve Diversity and Excellence

Background/Structure

- Michigan ADVANCE IT (2001)
- Committee of Respected Faculty
- Peer Education Model



Mission

- Information and advice to search committees on promising practices to 1) identify, 2) recruit, 3) retain, and 4) advance an inclusively excellent professoriate

Activities

- Workshops
- Meetings with chairs, faculty search committees, and departments



UMBC-STRIDE Team



Wayne Lutters
Associate Professor
Information Systems
College of
Engineering and
Information
Technology



Autumn M.
Reed
Director of
STRIDE
Office of the
Provost



Chris Murphy
Professor and
Chair
Psychology
College of Arts,
Humanities, and
Social Sciences



Susan McDonough
Associate
Professor
History
College of Arts,
Humanities, and
Social Sciences



Kevin Omland
Professor
Biological
Sciences
College of
Natural and
Mathematical
Sciences

Theoretical Approaches

- Work as **organizational catalyst** to build an **architecture of inclusion** at UMBC (Strum 2006)
- Foster **institutional citizenship** and **institutional mindfulness** (Strum 2007)
- Adopt a **critical diversity** perspective (Herring and Henderson, 2011)
- Disrupt the arbitrary binary between diversity and excellence

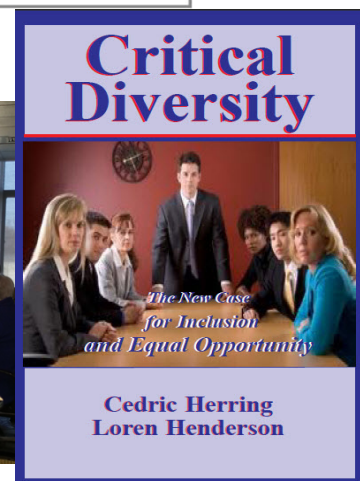
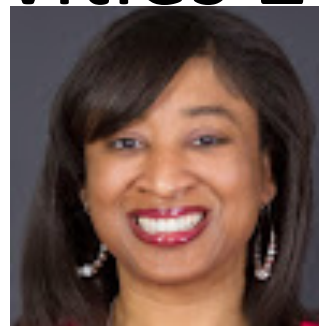
Implementing UMBC-STRIDE Challenges/Opportunities

- Adapting Model to UMBC
- Literature Learning Curve
- Negotiating Role of STRIDE at UMBC
- Working / Coordinating with existing faculty affiliate groups and campus thought leaders on diversity initiatives



UMBC- STRIDE Activities 2015-2016

- On-Site University of Michigan Training
- Literature Immersion and Discussion
- Behind Closed Doors Meetings with UMBC Diversity Thought Leaders
- Focused Conversations with Faculty



Focused Conversation #1

A Focused Conversation on Implicit Bias and Faculty Recruitment and Retention at UMBC

March 7, 2016

12-1pm

Commons 329

- I. Introduction of STRIDE
- II. Definition of Critical Diversity
- III. Group Brainstorm about Benefits of Diversity
- IV. Discussion about Relationship between Diversity and Departmental Rankings
- V. Group Activity: Strengths and Weakness at UMBC
- VI. Implicit Bias Definition and Audience Identification at UMBC
- VII. Initial Presentation of Innovative Solutions





Diversity

Diversity is the
A variety of different
quality of being di
property of being
understanding

Focused Conversation #2

Planning for Your Search:

Creating a Roadmap for Diversity in Your Search

A Focused Conversation with UMBC STRIDE

Wednesday, May 11, 2016

12:00-1:30pm

Commons, Room 331

Lunch Provided

RSVP:

<http://my.umbc.edu/groups/advance/events/39403>

Please join STRIDE for a guided discussion about the initial planning stages of upcoming faculty searches.

Together, we will share and discuss strategies for creating diversity hiring plans, assembling a search committee, crafting the job ad, and developing a recruitment plan. The workshop is designed primarily for individuals who will be search committee chairs or serving on a search committee in the 2016-2017 academic year, but we welcome all faculty to attend.

Next Steps

- Meetings with UMBC community based faculty groups
- Fall Conversations
- Departmental Consultations
- “Just in Time” Workshops

QUESTIONS, COMMENTS, FEEDBACK



Social psychological research on factors shaping the academic climate for women in STEM

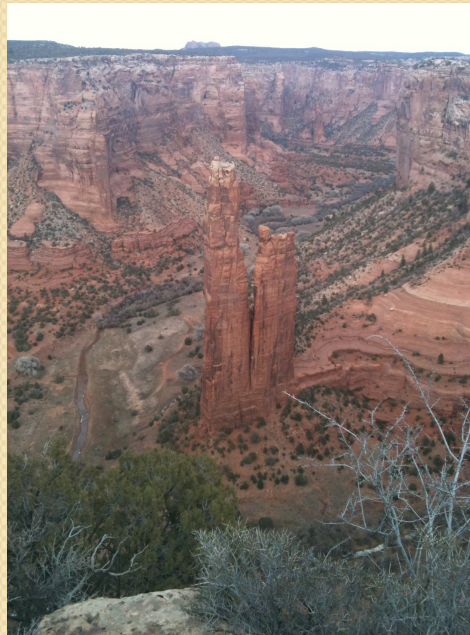
Denise Sekaquaptewa

Department of Psychology – Women's Studies –
ADVANCE

University of Michigan

ABOUT ME...

Canyon de
Chelly, AZ,
Navajo Nation



Hopi
Reservation,
AZ



Tempe, AZ



My former career



My current career





Today's talk

1. Diversity in the academy
2. Stereotyping and implicit bias
3. Being the target of biases
4. Stereotype cues in our environments
5. Toward institutional change



Today's talk

1. Diversity in the academy
2. Stereotyping and implicit bias
3. Being the target of biases
4. Stereotype cues in our environments
5. Toward institutional change

Diversity in the Academy

- In US universities:
 - Asian/Asian American women held 4.8% of tenure-track positions and 2.6% of tenured positions.
 - Black women held 3.7% of tenure-track positions and 2.2% of tenured positions.
 - Latina/Hispanic women held 2.5% of tenure-track positions and 2.3% of tenured positions.
 - Native American women held <1% of tenure-track and tenured positions.

IPEDS, "Full-Time Instructional Staff, by Faculty and Tenure Status, Academic Rank, Race/Ethnicity, and Gender (Degree-granting institutions): Fall 2013," Fall Staff 2013 Survey (2013).

Why should we care about diversity?

- A diverse faculty benefits an increasingly diverse student body.
- Socially and intellectually diverse teams make better decisions.
- Being in the numerical minority can have negative effects on disadvantaged group members.

Carrell, Page, & West (2009). *National Bureau of Economic Research*.(14959), 1-42.

Ely & Thomas (2001). *Administrative Science Quarterly*, 46(2), 229-273.

Page (2007). *The Difference*. Princeton University Press, 6-20.

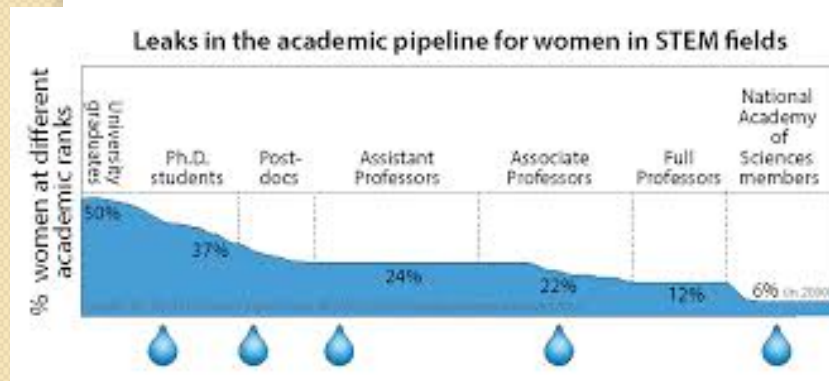
Sommers (2006). *Journal of Personality and Social Psychology*, 90(4), 597-612.

Temm (2008). In Schiebinger (Ed.), *Gendered Innovation in Science and Engineering* (pp 131-149). Stanford, CA: Stanford University Press.

Ellison & Mullin (2014). *Journal of Economics & Management Strategy* 23(2). 465-481.

The “leaky pipeline” in STEM*

*Science, Technology, Engineering, and Mathematics



What accounts for lack of diversity in STEM?

- Internal factors:
 - Interest, choice, performance
- External factors:
 - Features of environments that promote STEM stereotypes and implicit bias





Today's talk

1. Diversity in the academy
2. **Stereotyping and implicit bias**
3. Being the target of biases
4. Stereotype cues in our environments
5. Towards institutional change

STEM Stereotypes

- Our beliefs and assumptions about science and scientists; engineering and engineers; about who is suited for academics...



“Draw a Scientist” <http://ed.fnal.gov/projects/scientists/index.html>



“Boys fix things. Girls need things fixed.”

Schemas: allow for rapid, but sometimes inaccurate, processing of information.

STEM stereotypes are shaped by a lifetime of experiences.



“Boys invent things. Girls use what boys invent.”

Stereotypes influence how we perceive White women and URM's

- Implicit bias reflected in lowered evaluation of stereotyped groups
- Can occur *independently of* whether one personally endorses stereotypes

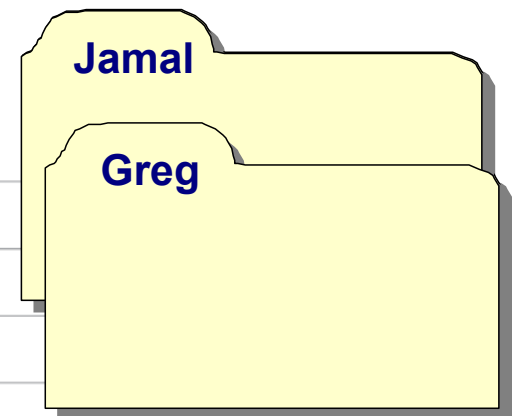
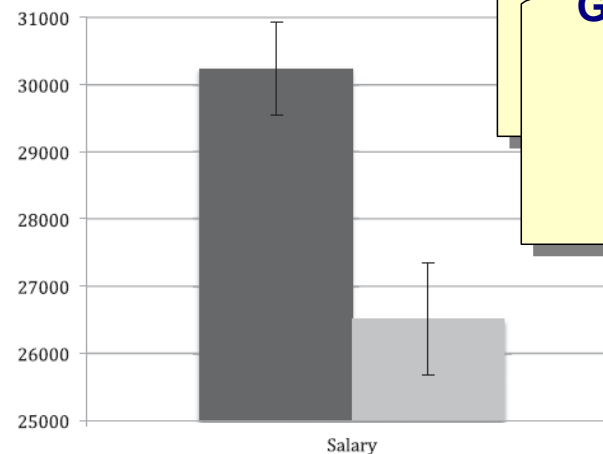
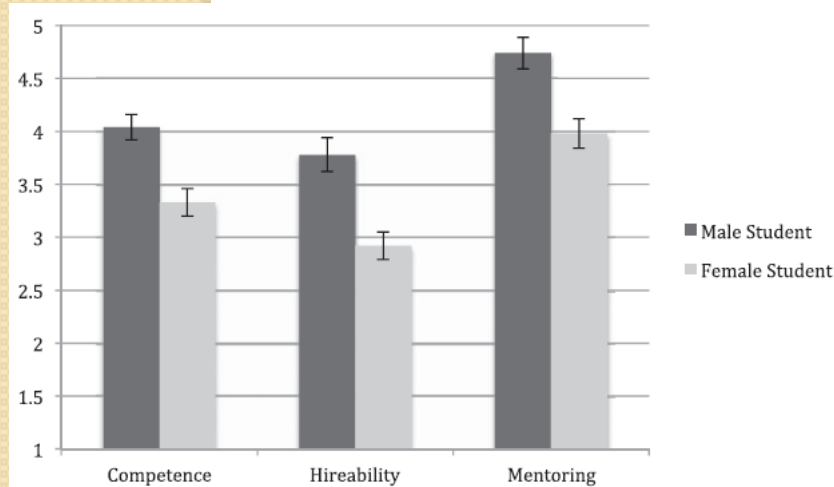


Gender and Race in Hiring

For an undergraduate lab manager position:

- Male and female science professors at R I Universities each rated one application
- Male applicants were rated more competent, more hireable, more suitable for mentoring, and offered them higher salaries.

Application packages differ only in name



Moss-Racusin, et al. (2012). *PNAS* 109(41), 16474-16479.

Bertrand & Mullainathan (2003). *American Economic Review*, 94(1), 991-1013.

Other Social Categories Can Also Affect Evaluation: Sexual Identity

- Pairs of matched resumes sent to 1,769 ads for 5 different occupations in 7 different states
 - Overall, 40% fewer call backs for gay applicants
 - Largest difference in Ohio, Texas, Florida (as compared to California, New York, Nevada and Pennsylvania)

**Treasurer in Gay
Student Organization**

**Treasurer in
Environmental Student
Organization**

Schema Example: Parental Status in Hiring



When evaluating equally qualified same-gender job applicants...

Mothers...

- were rated as **less** competent and **less** committed to paid work than nonmothers.
- were **less** likely to be recommended for hire, promotion, and management, and were offered **lower** starting salaries than nonmothers.

Fathers...

- were rated as **more** committed to paid work than nonfathers.
- were offered **higher** starting salaries than nonfathers.

Correll, et al. (2007). *American Journal of Sociology*, 112(5), 1297-1338.



Today's talk

1. Diversity in the academy
2. Stereotyping and implicit bias
3. **Being the target of biases**
4. Stereotype cues in our environments
5. Towards institutional change



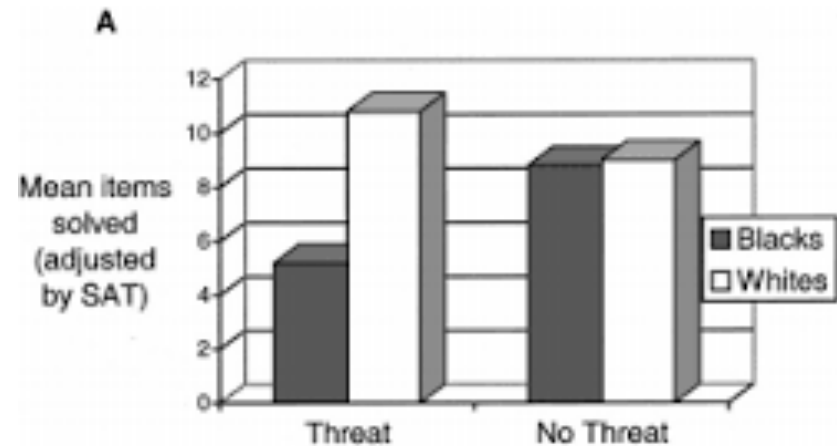
Stereotype threat

- Stereotype threat among targets
 - The situation of becoming aware of the contingencies of one's identity.
 - Just being *aware* of negative stereotypes about one's group can affect outcomes for members of stereotyped groups.

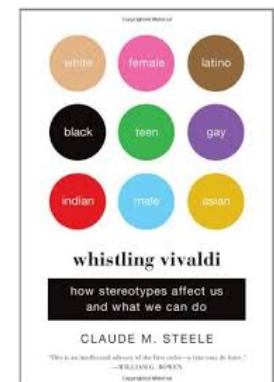
Steele, Spencer, & Aronson (2002). *Advances in Experimental Social Psychology*, 34, 379-440.
Spencer, Steele, & Quinn (1999). *J. Experimental Social Psych*, 35, 4-28.

Stereotype Threat Affects Performance

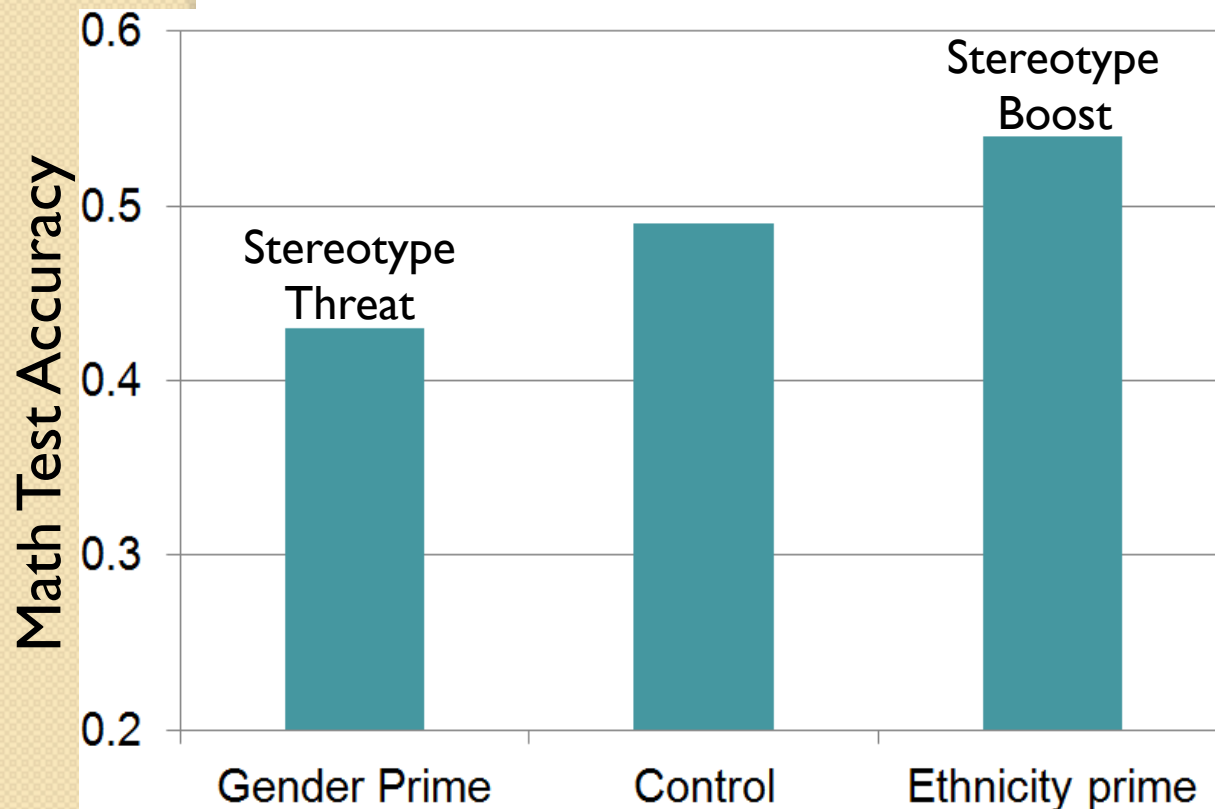
- Stereotype threat acts when a performer is at risk of confirming negative schemas: **Worry consumes cognitive resources.**
- Many studies show that stereotype threat causes underperformance.
- Removing threat reveals true ability.



Steele, C. M. (2010). *Whistling Vivaldi: And other clues to how stereotypes affect us*. New York: Norton.
<http://reducingstereotypethreat.org>



Effects of stereotypes on performance: Asian American women in math




Questionnaire given before test “primes” for a particular identity

What identities are primed in non-diverse performance settings?



Today's talk

1. Diversity in the academy
2. Stereotyping and implicit bias
3. Being the target of biases
4. **Stereotype cues in our environments**
5. Towards institutional change

- 
- Features of STEM settings that increase stereotype salience:
 - Lack of own-group peers and role models
 - *Stereotype Inoculation Model (Dasgupta, 2011, Psych. Inquiry)*
 - “Chilly climate” for women and URM in STEM

Solo status

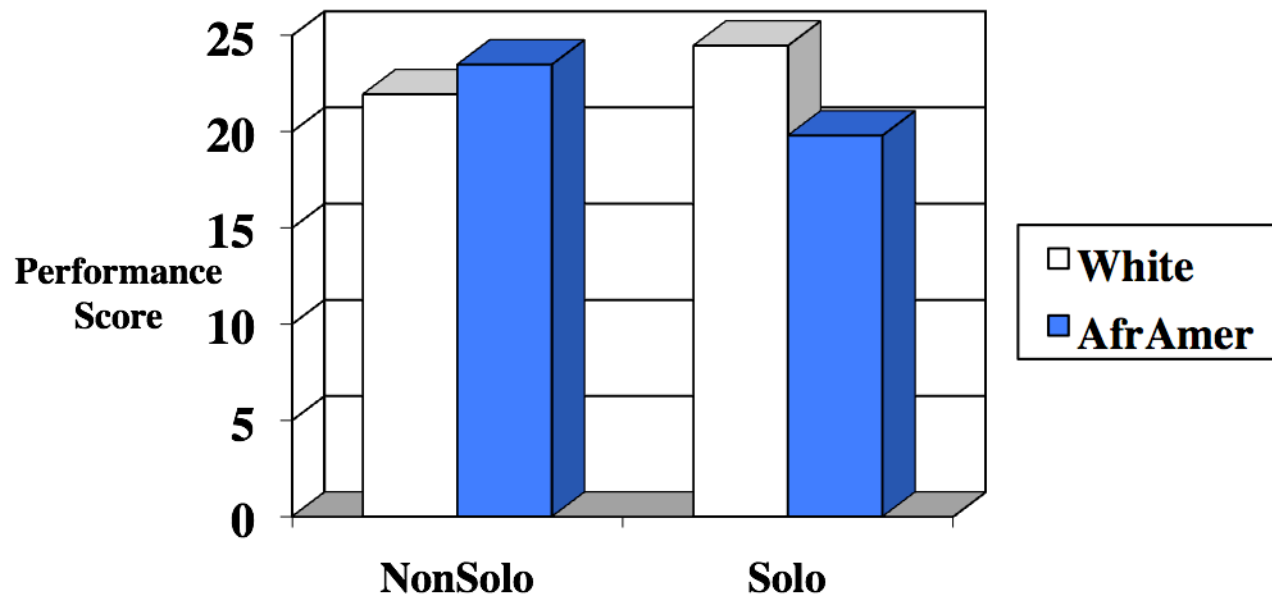
- Black students in race solo status report greater:
 - Race centrality
 - Feelings of being a race representative
 - Performance apprehension
- Female students in gender solo status report:
 - Greater desire to change the group gender composition
 - Lower performance expectations

Sekaquaptewa, Waldman, & Thompson, 2007, *Cult. Div. and Eth. Min. Psychology*
Sekaquaptewa & Thompson, 2003, *J. of Experimental Social Psychology*



Lack of ingroup peers: Race solo status

Effect of race solo status on oral exam performance



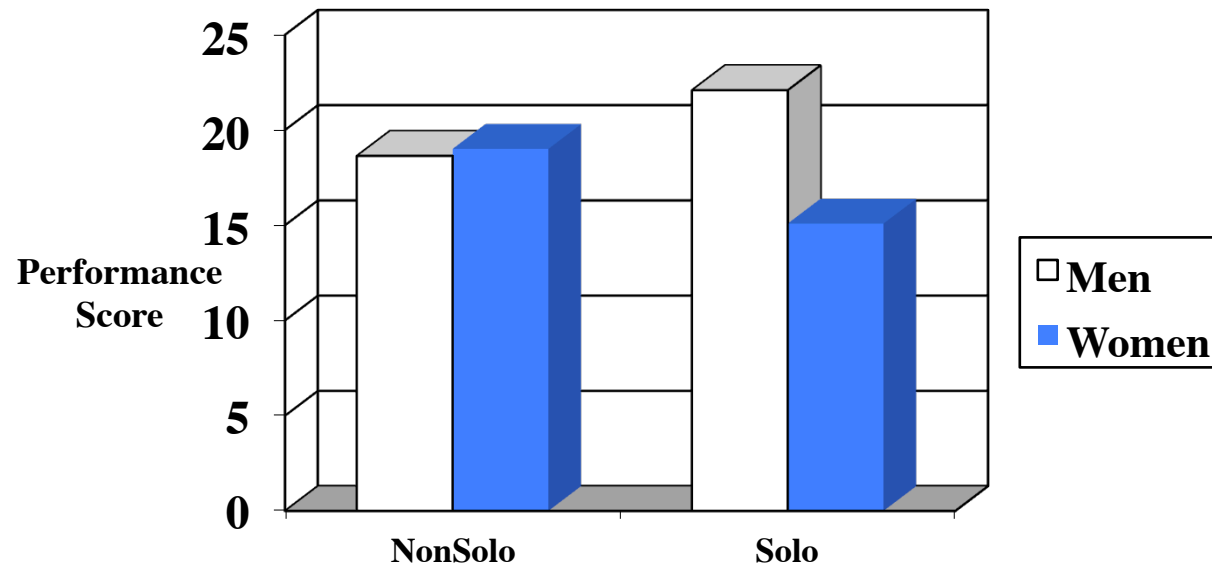
Interaction $F(1, 74) = 5.67, p < .02$

Sekaquaptewa & Thompson (2003). *Journal Exp Soc Psych*, 39, 68-74.

Sekaquaptewa, Waldman, & Thompson (2007). *Cultural Div & Ethnic Minority Psych*, 13, 321-327.

Lack of ingroup peers: Gender solo status

Effect of gender solo status on oral exam performance



Interaction Contrast $t(1, 68) = 2.67, p < .001$

“Chilly climate” for women and URM in STEM

- Explicit discrimination still exists.
- But even unintentional slights (*microaggressions*) can be detrimental.

Just witnessing negative treatment of other women can increase stereotypic processing and reduce persistence.

LaCosse, Sekaquaptewa, & Bennett (2016, *Psychology of Women Quarterly*).





Stereotypes affect faculty experiences: Four Patterns among Women

Prove-it-again: Having to be “twice as good” to be seen as equally competent

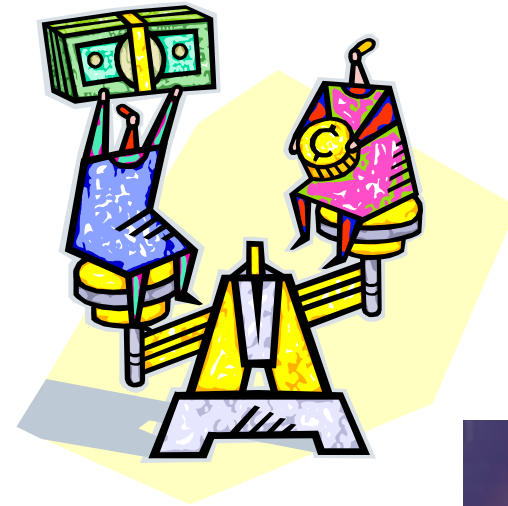
The Tightrope: being seen as too feminine to be competent, or too masculine to be likeable

The Maternal Wall: mothers being perceived as less committed and competent than others

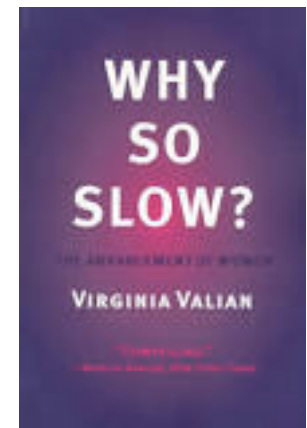
Tug-of-War: Women being biased against women (as a result of experiencing gender bias)

Accumulation of Advantage and Disadvantage...

Because small advantages and disadvantages accrue, they can have significant impacts: “Mountains are molehills piled one on top of the other.” (Valian)



Casadevall & Handelsman (2014). *mBio* 5:1-4.
Merton (1948). *Antioch Review*, 8, 193-210 and (1968).
Science, 159, 56-63.
Valian (1998). *Why So Slow? The Advancement of Women*.
Cambridge: MIT Press, p. 280.



Meet Dan and Maria:

Assistant Professors at the University of Professorial Dreams



Teaching	Assigned to small courses in his specialty	Assigned to introductory level and required core courses
Scholarship	Wins award- Department throws reception	Wins award- Announced via email
Service	Appointed to departmental executive committee	Appointed to many committees

Dan and Maria continue to excel in publishing and teaching



Collegial Relationships	Aggressive in faculty meeting- colleagues appreciate his honesty	Aggressive in faculty meeting- colleagues question her emotions
Mentoring	Mentors a few graduate students that he selects	Asked to mentor female graduate students
Work-life Balance	Partner is having a baby!	Having a baby!

Successfully promoted to Full Professors...
but they achieved equal rank, not equal status



Small differences in treatment accumulate





What can we do?



Today's talk

1. Diversity in the academy
2. Stereotyping and implicit bias
3. Being the target of biases
4. Stereotype cues in our environments
5. Toward institutional change



U-M ADVANCE Program

- The U-M ADVANCE Program began in 2002 to address faculty diversity and excellence
 - **Recruitment** — focuses on development and use of equitable recruiting practices (STRIDE workshops);
 - **Retention** — focuses on preemptive strategies to prevent the loss of valued faculty (Launch program);
 - **Climate** — focuses on improvement of departmental climate; and
 - **Leadership** — focuses both on support for development of leadership skills and opportunities among all faculty, as well as on support for development of skills among all academic leaders to encourage supportive and equitable climates.

STRIDE: Strategies and Tactics for Recruiting to Improve Diversity and Excellence

Number of men and women hired in Pre- and Post-STRIDE years

College	Pre-STRIDE AY1993-2002		STRIDE AY2003-2012	
	Men	Women	Men	Women
Medical School (Basic Sciences)	28	12	39	15
College of Engineering	132	29	117	47
College of LSA (Natural Sciences)	109	24	94	43
Total % Women		19%		30%

TOTAL	269	65	250	105
-------	-----	----	-----	-----

Chi square results (2 x 2):

Degrees of freedom: 1

Chi-square = 9.476

p-value = .0020

The distribution is significant.

Creating welcoming academic environments

- Treat all faculty as valuable scholars and educators, not as representatives of a class.
- Maximize diversity to avoid solo status.
- Consider altering undesirable cues in the environment.





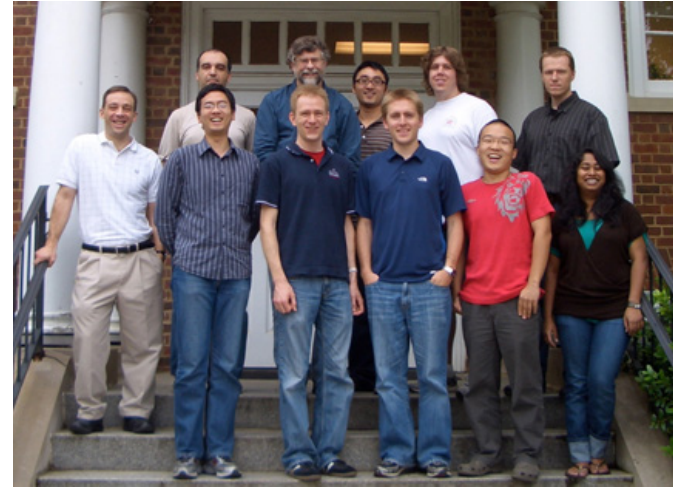
A question for us:

**What stereotype cues may
be present in our academic
settings?**

STEM department websites



Physics Department (home page)



Computer Science (home page)

STEM department student reception area



“Walls of Fame”



Who belongs?



“The Academy recognizes excellence and leadership in engineering...”





Small changes, significant gains?

- Changes in environments that reduce stereotyping and implicit bias may disrupt the processes that lead to negative outcomes and experiences.



What might be the benefits of...

Monitoring our academic settings for stereotype cues?

Recruiting for diversity and excellence?

Integrating the contributions of female and URM scholars into our curriculum?

Replacing our (white male) Walls of Fame?

Cheryan, Plaut, Davies, & Steele, 2009, *J. Personality & Social Psychology*.

Rios, Stewart, & Winter, 2010, *Psychology of Women Quarterly*.

Cundiff, J. L., Matsick, J. L., & Vescio, T. K., 2011, Society for Personality and Social Psychology. San Antonio, Texas.

Who's the Scientist?

Seventh graders describe scientists before and after a visit to Fermilab.

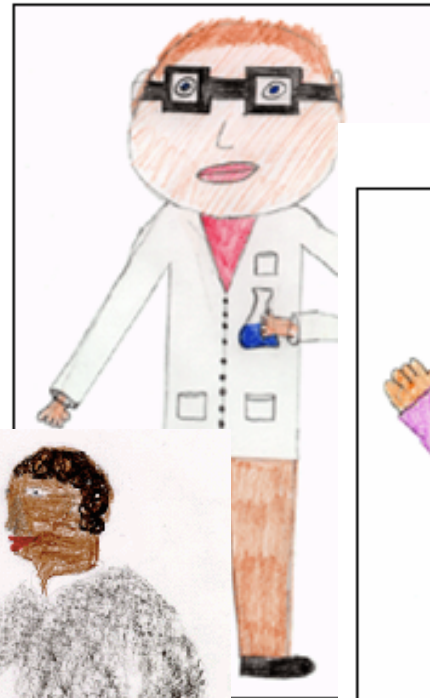
BEFORE



AFTER



BEFORE




AFTER



Beth

l.gov/projects/scientists/index.html

- 
- Making changes that improve the climate for diversity can make educational and work settings more inclusive to all.
 - Learning and talking about implicit bias can promote institutional change.



Thank you.

Contact: dsekaqua@umich.edu

