UNDERSTANDING STUDENTS’ RACIAL EXPERIENCES IN PHYSICS

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INTRODUCTIONS
SOME STARTING ASSUMPTIONS

- We acknowledge that we are all likely coming in with different experiences with and comfort levels with talking about race.

- Racial competence (a comfort and skill associated with talking about race) can be learned through practice and critical reflection.

Goal: Recognizing and talking about race as part of social interactions in everyday and classroom experiences.
CONVERSATION NORMS

• Step up/Step back
• Consider asking clarifying questions (at first)
• Remember the complexity and variety of people’s stories who may share a racial identity (i.e. avoid inviting spokespersoning)
• Oops/Ouch
LAST NORM

Try to talk about race

“...A theme from our multi-institution study of campus racial climates is that race and racism were deemed taboo and unspeakable topics. That is, students, faculty, and administrators reportedly adhered to an unwritten code of silence regarding racism, mostly to avoid making others feel uncomfortable.”

(Harper, 2012)
RACE: U.S. CULTURE→STEM CLASSROOMS
WHAT IS RACE?

Race is a fluid, sociopolitical concept invented during the 16th century by White Europeans to categorize human beings

(Shah, 2013)
## US CENSUS & RACE

<table>
<thead>
<tr>
<th>Year</th>
<th>Race</th>
<th>Color or race</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>White, Negro, Indian (Amer.), Japanese, Chinese, Filipino, Hawaiian, Korean, Other (fill in the blank)</td>
<td></td>
</tr>
<tr>
<td>1930</td>
<td><strong>Color or race:</strong> White, Black, Mexican, American Indian, Chinese, Japanese, Filipino, Hindu, Korean, Other (fill in the blank)</td>
<td></td>
</tr>
<tr>
<td>1890</td>
<td><strong>Race:</strong> White, Black, Mulatto, Quadroon, Octoroon, Chinese, Japanese, Indian</td>
<td></td>
</tr>
<tr>
<td>1850</td>
<td><strong>Color:</strong> Whites, Blacks, Mulattos</td>
<td></td>
</tr>
<tr>
<td>1790 - 1840</td>
<td>Free Whites (males/females), All other free persons, Slaves (males/females)</td>
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</tbody>
</table>

*Note.* The 1930 census was pivotal in several ways: 1) “Mulatto” was eliminated, and all people of mixed Black/White heritage were instructed to identify as “Black”; 2) a similar “one-drop rule” went into effect for American Indians, although some exceptions were made where individuals of mixed heritage could identify as White; and 3) “Mexican” was introduced as a racial category.

(Shah, 2013)
“With a scarcity of jobs during the Depression, more than a million people of Mexican descent were sent to Mexico. Author Francisco Balderrama estimates that 60 percent were American citizens.”


RACE: ALSO INTERPERSONAL

Prejudice, bigotry, bias

If you haven’t seen the Harvard Implicit Association Test check it out later… [https://implicit.harvard.edu/implicit/selectatest.html](https://implicit.harvard.edu/implicit/selectatest.html)

Much attention has been paid on how organizations can put structures in place to minimize the impact of implicit bias.

But it is important to remember that implicit biases are NOT “fixable.” Implicit bias is always present subconsciously/unintentionally based on our socialization. We must develop practices of critical reflection to begin to see how it influences our interactions with others.
RACISM

Race prejudice, bias + misuse of power by systems and institutions = RACISM

Racism is NOT the same thing as individual race prejudice & bigotry.
All people are racially prejudiced (regardless of racial/ethnic identity). It is part of the air we breathe. It is socialized into every person. But this does not mean that everyone is racist.

Systemic power turns race prejudice, bias into racism.
Racial prejudice becomes racism when on group’s racial prejudices are enforced by the systems and institutions of a society, giving power and privilege based on race to the group in power, and limiting the power and privilege of the racial groups that are not in power.
EXAMINING RACISM IN DAILY LIFE

Examine excerpt from “True Colors: Racial discrimination in everyday life”
https://www.youtube.com/watch?v=UGI5XYNr-IQ (Diane Sawyer, PrimeTime).

In what ways do we see racial prejudice or bias playing out in these clips?

In what ways can we recognize power differentials present in these encounters? (i.e. How do some of the actors in these encounters have more power within institutions to create, manage, and distribute the resources necessary for life?)
THINK-PAIR

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EXAMINING RACISM ON COLLEGE CAMPUSES
#ITOOAM

What are the kinds of stereotypes students are contesting on college campuses?
I’m not a terrorist because of a turban

Where are you from?

#I, too, am a Terp

#I, too, am a Terp
You don’t “look” like a Math major…

See? NOT the same person…

#I, too, am Princeton
“Pre-med isn’t for Everyone. Maybe Major in something relatable, like African American Studies.”

“You didn’t have to try hard to get in.”

#itooamberkeley
CASE STUDY: STEM CLASSROOM
- Interviews and/or focus groups with 250 underrepresented students (most of whom were STEM majors, many of whom successfully finished undergraduate degrees in STEM, and some of whom are working on their graduate education).

- Overwhelming majority of their sample identify as Black or African American; 65% are male.

- Most are “high-achieving” based on several criteria... enrolled in honors programs, or scholarship/fellowship recipients or GPA of 3.0 or better

- In collaboration with NSBP & NSHP between 2004-2009
FOCAL QUESTIONS FOR CASE STUDY

Be able to explain how the case was racialized. What kinds of experiences did the student have where race played a role?

How did other actors in the account play a role in making the student’s experiences racialized?
PAIR-SHARE

Race at play?

- Amount of eye contact
- Only black student (only woman as well)
- The institution may not be dealing with race
- Lack of time to consider implications

Actors
- Professor
- The rest of the students
- The larger institution
RESPONSES TO JUNE

I am ready for class and everything sitting in the front row and the professor doesn’t look me in the eye… he talks to the class… looking at the other students and he does it again [did not look at her]. I said [to myself] ‘ok well maybe it’s just the first day.’ I go again and he does it again and I was like ‘oh this is very strange’ … even when I… visit him during his office hours, it was a little awkward. It was as if he wasn’t use to being around Black students or I don’t know what it was but that really threw me off. But I guess that was just him.

Imagine June talks to a faculty mentor, tells them this story, and asks, “Is this something I should be worried about?”
EXAMINE THE RESPONSES

• Circle words and/or phrases that stand out to you
• Characterize your reaction to the things that stand out: positive? Problematic? What about the word/phrase strikes you as positive or problematic? Why is it positive? If it is problematic, would another word/phrase help make it better for you?
• Take June’s perspective
  • Consider how June might feel about the various responses
  • Strive to empathize with June’s cultural and racial history, as imperfectly as you will be able to do so.
THINK-PAIR-SHARE

• What was positive or problematic in the mentor responses?

Positive

- Validating
  - "I hear you"
- Pointing students to resources
- There are communities of people
  - Campus resources others struggle with these issues
- Emphasize re-focusing on work
- Providing options to student
  - But understand how the student feels about options

Problematic

- Challenging interpretation
- Taking too much action
  - a careful line about what professors can do
- Paper (?) / Blog (?) feels distant
- Extra burden on students
  - maybe risky for student
- Claiming the experience for oneself
PRINCIPLES AND OPEN QUESTIONS FOR RESPONDING TO STUDENTS AND MENTEES IN STORYTELLING LINKED TO RACE
Principles for Students’ Racialized Experiences

- **Invest time in developing relationships with students/mentees**
  - Take 5 minutes of your early lectures to articulate caring about these issues and students’ broader well-being.

- **Provide space for emotional outlet**
  - Sometimes people need to be upset and express emotional reactions within a low-risk setting

- **Express empathy, avoid being dismissive**
  - Don’t critique or question students’ interpretations of events
Principles for Students’ Racialized Experiences

- **Take it as truth -- race is at play.**
  - It can be isolating to be a victim of bias
  - Be aware of everyone’s implicit biases
  - Don’t try to ‘explain away’ someone else’s behavior

- **Don’t assume action needs to be taken.**
  - Ask for more input from mentee
  - Respect what THEY want to do about an issue
  - Assess risks to your students and yourself
Principles for Students’ Racialized Experiences

- **Educate yourself**
  - Expose yourself to unfamiliar perspectives
  - Know about institutional or community resources that can support students
  - Know about the cultural practices of the community
- **Find people with similar levels of racial competence to practice with**
We welcome your feedback and continued conversations on these topics.

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WHY SHOULD WE CARE ABOUT IMPROVING FACULTY’S INSTRUCTION?

Current U.S. STEM workforce

- White women 18%
- Asian men 13%
- Asian women 5%
- Black men 3%
- Black women 2%
- Hispanic men 4%
- Hispanic women 2%
- Other men 1%
- Other women 1%

Current U.S. Population

- White female 32.3%
- Asian male 2.2%
- Asian female 2.5%
- Black male 5.8%
- Black female 6.4%
- Hispanic male 8.3%
- Hispanic female 8.1%
- Other male 1.5%
- Other female 1.6%

NOTE: Hispanic may be any race. Other includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and multiple race.


Seymour, 2000; Hill, 2009; Johnson,
## UNDER-REPRESENTATION IN PHYSICS

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<tbody>
<tr>
<td>African Americans</td>
<td>12.2%</td>
<td>8.78%</td>
</tr>
<tr>
<td>Hispanic/Latino Americans</td>
<td>14.1%</td>
<td>7.65%</td>
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</thead>
<tbody>
<tr>
<td>African Americans</td>
<td>4%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Hispanic/Latino Americans</td>
<td>4%</td>
<td>3%</td>
<td>3%</td>
</tr>
</tbody>
</table>
WHY SHOULD WE CARE ABOUT IMPROVING FACULTY’S INSTRUCTION?

Under-representation of women in STEM

Under-representation of minorities in STEM

NOTE: Data not available for 1999.
### CULTURAL NARRATIVES AROUND INTELLIGENCE

(Shah, 2013)

**Table 2.**

*Discursive Alignment of Race and of Mathematics Learning in the United States*

<table>
<thead>
<tr>
<th>Dominant Discourse of Race</th>
<th>Foundational Concepts</th>
<th>Dominant Discourse of Mathematics Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some racial groups are superior to others.</td>
<td>Hierarchy</td>
<td>Some people do better at math than other people.</td>
</tr>
<tr>
<td>Race provides an indicator of intellectual capacity.</td>
<td>Intelligence</td>
<td>Being good at math shows that you are smart.</td>
</tr>
<tr>
<td>Race is a genetic trait that people are born with.</td>
<td>Innateness</td>
<td>Math ability is something you are born with.</td>
</tr>
</tbody>
</table>

(Shah, 2013)

Fig. 1. Field-specific ability beliefs and the percentage of female 2011 U.S. Ph.D.’s in (A) STEM and (B) Social Science and Humanities.