School Racial Socialization and Diversity in STEM

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My work explores how school climate for diversity is associated with outcomes in adolescence.
Using intentional racial socialization can increase diversity in STEM
Blacks/African Americans and Hispanics/Latinx are underrepresented in the STEM workforce

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**Blacks and Hispanics underrepresented across most STEM job clusters**

<table>
<thead>
<tr>
<th>% of employed in each occupational group who are ...</th>
<th>White</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>All employed</td>
<td>65%</td>
<td>61%</td>
<td>12%</td>
<td>16%</td>
</tr>
<tr>
<td>STEM Jobs</td>
<td>69%</td>
<td>13%</td>
<td>9%</td>
<td>7%</td>
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</tbody>
</table>

Among those who work in ____ jobs

| Engineering                                         | 73%   | 12%   | 6%    | 3%       |
| Health-related                                      | 70%   | 9%    | 11%   | 0%       |
| Physical science                                    | 68%   | 16%   | 6%    | 7%       |
| Math                                                | 68%   | 14%   | 9%    | 0%       |
| Life science                                        | 87%   | 19%   | 4%    | 7%       |
| Computer                                            | 65%   | 18%   | 7%    | 7%       |

Note: Based on employed adults ages 25 and older. Whites, blacks and Asians include only non-Hispanics. Hispanics are of any race. Other and mixed race non-Hispanics are not shown. Engineering includes architects. STEM stands for science, technology, engineering and math.

“Women and Men in STEM Often at Odds Over Workplace Equity” 
Pew Research Center
STEM intervention programs provide services and activities targeted at different concerns (Tsui, 2007)

- Skill development
- Career awareness
  - Understanding nature and value of work
- Perceptions of barriers
- Ability to cope with discrimination
- Sense of belonging
- Development of a scientist identity
School racial socialization refers to intentional and unintentional messages schools give about race and culture (Byrd, 2015)

- Cultural socialization
- Promotion of cultural competence
- Critical consciousness socialization
School racial socialization already exists in college in curricular/co-curricular diversity experiences.
Diversity experiences can be incorporated into STEM intervention programs and promote important outcomes

- Cultural socialization
  - Career awareness
  - Sense of belonging
  - Development of a scientist identity

- Promotion of cultural competence
  - Skill development
  - Sense of belonging

- Critical consciousness socialization
  - Perceptions of barriers
  - Ability to cope with discrimination
STEM intervention programs can connect with existing diversity experiences

- Required diversity courses
- Campus cultural centers
- Service learning programs
- Bias workshops and seminars
- Identity-based student organizations for different majors
Diversity experiences help White students, too!
In sum, STEM interventions can incorporate racial socialization practices to improve diversity in STEM