2017

Infographic: Academic and Social Barriers to Black and Latino Male Collegians' Success in Engineering and Related STEM Fields

Terrell Lamont Strayhorn  
*The Ohio State University*

Joseph Allen Kitchen  
*The Ohio State University*

Meg E. Stenz  
*The Ohio State University*

Leroy L. Long III  
*Embry-Riddle Aeronautical University, longl2@erau.edu*

Michael Steven Williams

*See next page for additional authors*

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In order to help AA and LA students overcome “barriers” to their success in STEM, we offer recommendations to educators and practitioners**

<table>
<thead>
<tr>
<th>Participants</th>
<th>Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>64%</td>
</tr>
<tr>
<td>African Americans participated in one-on-one interviews</td>
<td>Increase in U.S. college enrollment rates over the past 3 decades</td>
</tr>
<tr>
<td>22</td>
<td>Under represented minority students continue to lag behind their White counterparts in U.S. college graduation rates</td>
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<tr>
<td>Latino Americans participated in one-on-one interviews</td>
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4 Academic and social barriers

1. Feel alone and invisible
   - “…not that it’s impossible for a minority to succeed in my major, but the conditions in which to succeed aren’t ideal. One because there aren’t as many people that look like you.” (Black male bio-chemistry major)
   - Recommendation: Increase outreach efforts that target AA and LA students to improve the representation of these URM.

2. Lack same race peers and faculty
   - “Sometimes you feel like you may be able to understand things better…” (Hispanic male chemistry major)
   - Recommendation: Make intentional efforts to pair AA and LA students with same-race upperclassmen mentors where possible.

3. Have difficulty applying theory to practice
   - “I just got bored, yeah I know about the topic, I see other people they’re passionate about it… it’s not something where I’m like yeah I’m going to change the whole world.” (Black male environmental science major)
   - Recommendation: Work with industry partners to create real-world design projects and to help faculty understand what skills and competencies are most important for graduates.

4. Lack the pre-college preparation necessary to succeed in STEM fields
   - “A lot of my troubles with class are normally born with mishandling time, mishandling energy as well, and not have the knowledge to study effectively.” (Black male mechanical engineering major)
   - Recommendation: Partner with local K12 schools to increase student exposure to and interest in STEM-related content, and to improve counselor/staff awareness of needed pre-college STEM coursework.

**NOTE: This study is part of a larger, longitudinal study funded by the National Science Foundation. The abbreviation “AA” means African American or Black and “LA” means Latino American or Hispanic.