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

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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**

**NOTE: This study is part of a larger, longitudinal study titled, Investigating the Critical Barriers: Strategies that Broaden Minority Participation in STEM Fields, funded by the National Science Foundation. The abbreviation “AA” means African American or Black and “LA” means Latino American or Hispanic**

<table>
<thead>
<tr>
<th>Participants</th>
<th>Statistics</th>
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<tbody>
<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>Latino Americans participated in one-on-one interviews</td>
<td>Under represented minority students continue to lag behind their White counterparts in U.S. college graduation rates</td>
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</tbody>
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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 URMs

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 when 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 K-12 schools to increase student exposure to and interest in STEM-related content, and to improve counselor/staff awareness of needed pre-college STEM coursework