"Study of access and outcomes from advanced computer science coursework in the Chicago Public Schools" poster in Structured Poster Session CS for All: An intersectional approach to unpacking equity in computer science education

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Study of access and outcomes from advanced placement coursework in the Chicago Public Schools

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### Hypotheses

**Hypothesis 1:** “Most underrepresented AP students cannot benefit from the program.” (because they are not prepared for college level work.)

**Hypothesis 2:** “AP curricula are being ineffectively taught to underrepresented students.”

**Hypothesis 3:** “AP is a component of social reproduction.”


### Equal Preparation? (Prior CS Classes)

<table>
<thead>
<tr>
<th>Race</th>
<th>Prior CS (CSA)</th>
<th>Prior CS (CSP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Caucasian</td>
<td>0.9</td>
<td>0.6</td>
</tr>
<tr>
<td>African American</td>
<td>0.9</td>
<td>0.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.7</td>
<td>0.7</td>
</tr>
</tbody>
</table>

**Prior CS experience is beneficial for CS-A (0.32) but not for CSP**

### Equal Preparation? (GPA)

<table>
<thead>
<tr>
<th>Race</th>
<th>GPA (CSA)</th>
<th>GPA (CSP)</th>
</tr>
</thead>
<tbody>
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<td>Asian</td>
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<td>4.2</td>
</tr>
<tr>
<td>Caucasian</td>
<td>4.3</td>
<td>4.1</td>
</tr>
<tr>
<td>African American</td>
<td>3.7</td>
<td>3.2</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3.7</td>
<td>3.5</td>
</tr>
</tbody>
</table>

**Differences in AP performance by race disappear when controlling for GPA differences, except Hispanic students on the CS-A (-0.26)**

### Equal School Quality? (SQRP)

**Underrepresented students are more likely to be in lower rated schools yet the quality rating of the schools correlated with average AP Score.**

### Conclusions

**Computer Science Principles**
- Within school access is more representative than CSA
- Better accommodates students with no CS experience and low income students than CSA

**Factors Affecting Differences in AP Outcomes**
- Differences in GPA and differences in School Quality

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