Exploring the Latino-White Achievement Gap Across Disability Classifications Over Time

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Abstract

Latino students tend to score lower on standardized tests, on average, than their peers who are White. This poster uses statewide testing data from one Pacific Northwest state to explore achievement trajectories across Grades 3-8 for Latino and non-Latino students with documented disabilities. Results indicate Latino students without a disability have an initial achievement much lower than their White peers, but progress at a marginally faster rate. Within specific disability classifications, the achievement gap was generally less pronounced than for students without a disability, but persisted across Grades 3-8.

Method

Measure. Statewide accountability test from one Pacific Northwest state
• Computer adaptive
• Vertical scale

Sample. Six years of data collected across the 2007-08 to 2012-13 school years.
• One cohort, matched longitudinally
• Data Restrictions:
  • Only records counting for AYP
  • Disability groups with at least 20 Latino and 20 non-Latino students
  • Typical grade-level progressions only
  • Complete demographics only
  • “Wandering” demographics:
    • In some cases, student demographics changed across years
    • Majority rule used
    • Random assignment in case of ties
    • 13% changed disability classifications
    • 3% ties
    • 8% changed race/ethnicity
    • 2% ties

Analytical Sample Demographics

<table>
<thead>
<tr>
<th>Disability</th>
<th>Non-Latino</th>
<th>Latino</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUT</td>
<td>456</td>
<td>11.3</td>
</tr>
<tr>
<td>CD</td>
<td>1,010</td>
<td>2.55</td>
</tr>
<tr>
<td>EM</td>
<td>317</td>
<td>0.80</td>
</tr>
<tr>
<td>HIE</td>
<td>38</td>
<td>0.10</td>
</tr>
<tr>
<td>OHI</td>
<td>837</td>
<td>2.04</td>
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<tr>
<td>SL</td>
<td>2,420</td>
<td>6.12</td>
</tr>
</tbody>
</table>

Results

Latino/White Male Achievement Gap When Disadvantaged

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>d.f.</th>
<th>AIC</th>
<th>LogLik</th>
<th>Deviance</th>
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</thead>
<tbody>
<tr>
<td>Model 1</td>
<td>No Latino/disability interaction</td>
<td>500</td>
<td>50.00</td>
<td>1555308.66</td>
<td>-777604.33</td>
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<tr>
<td>Model 2</td>
<td>Latino and non-White/White predicting intercept</td>
<td>20.00</td>
<td>1562720.03</td>
<td>-781348.02</td>
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<tr>
<td>Model 3</td>
<td>Latino and non-White predicting intercept</td>
<td>32.00</td>
<td>1555366.65</td>
<td>-777651.33</td>
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<td>Model 4</td>
<td>Latino/disability interaction predicting slope</td>
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<td>1555337.64</td>
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<tr>
<td>Model 5</td>
<td>Latino/disability interaction predicting slope</td>
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<td>1555413.13</td>
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<tr>
<td>Model 6</td>
<td>Latino/disability interaction predicting slope</td>
<td>642.00</td>
<td>1555261.64</td>
<td>-777613.08</td>
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</tr>
</tbody>
</table>

Effect sizes

Standardized achievement gap between Latino and White students calculated at each time point by disability classification (including students without a disability)

ES = \frac{\bar{X}_{\text{focal}} - \bar{X}_{\text{reference}}}{\sqrt{\frac{\sigma^2_{\text{focal}} + \sigma^2_{\text{reference}}}{2}}}

Discussion

Overall Findings
• Distributions appear relatively similar for some disability groups, despite mean differences
• Achievement gaps generally lower within disability classifications than for students without a documented disability

Limitations & Future Directions
• Single cohort of students
• Common growth curvature
• All covariates treated as fixed

References