A Longitudinal Study of Illinois High School Graduates with Disabilities: A Six-Year Analysis of Postsecondary Enrollment and Completion

AHEAD 2011: Sustainable Access Through Partnership

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Illinois Education Research Council
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What is the Illinois Education Research Council?

- The IERC undertakes independent research and policy analysis, often in collaboration with other researchers, that informs and strengthens Illinois’ commitment to providing a seamless system of educational opportunities for its citizens.
- Through publications, presentations, participation on committees, and an annual research symposium, the IERC brings objective and reliable evidence to the work of state policy makers and practitioners.
- IERC has a legislated responsibility to provide and coordinate research to inform the work of the Illinois P-20 Council.
- Located at Southern Illinois University Edwardsville (St. Louis-Area)
Illinois High School Class of 2002

• Who is included in the cohort
  - 113,135 public high school students who took the Prairie State Achievement Exam (PSAE)/ACT in the Spring of 2001 and indicated that they will be graduating in 2002.

• Who is not included in this cohort
  - Private high school graduates
  - Out-of-State high school graduates who migrated to Illinois higher education institutions
Context of the Current Study

Considerable interest in research on the accessibility of higher education for students with disabilities.

- Practically all medium and large postsecondary institutions (99%) enroll students with disabilities (Raue, 2011)
- Growing rate of postsecondary enrollment for students with disabilities (Newman et al, 2010)
  - Nearly doubled from 1990 to 2005 (26% to 46%)
- A shift in the focus of state and national policy from one of access to degree completion particularly for underserved/underrepresented groups
Initial College Enrollment:
- Two-Year
- Four-Year
- Delay
- Never

Outcome Two-Year¹:
- Certificate
- Associate’s
- Transfer
- None

Outcome Four-Year²:
- Bachelor’s
- None

Four-Year:
- Bachelor’s
- None

¹ Two-year outcomes are not mutually exclusive, so more than one could occur
² For two-year to four-year transfers
Sources of Data

• **ACT**-Prairie State Achievement Examination and the Student Interest Profiler

• **National Student Clearinghouse**-covers 92% of all postsecondary enrollment

• **Illinois High School Report Card**-characteristics of the high schools

• **IPEDS**- characteristics of the postsecondary institutions

• **Illinois Community College System (ICCB)**

• **Illinois Shared Enrollment and Graduation (ISEG)**
Research Questions

1. To what extent do students with disabilities differ from students without disabilities?

2. What are the differences between students with disabilities and students without disabilities in terms of their postsecondary enrollment and degree completion patterns?

3. What are the differences between the students within the various disability subgroups in terms of their postsecondary enrollment and degree completion patterns?
<table>
<thead>
<tr>
<th>Category</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Characteristics</td>
<td>Gender &amp; Race</td>
</tr>
<tr>
<td>Student Academic Characteristics</td>
<td>IERC college readiness, ACT Core curriculum, ACT composite, high school program type, GPA</td>
</tr>
<tr>
<td>Ability to Pay/Financial Aid</td>
<td>Parental income</td>
</tr>
<tr>
<td>High School Characteristics</td>
<td>Teacher academic capital, adjusted per pupil school funding, region</td>
</tr>
</tbody>
</table>
## College Readiness

<table>
<thead>
<tr>
<th>ACT</th>
<th>High School GPA (self-reported)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;= 2.4</td>
<td>2.5 - 2.9</td>
</tr>
<tr>
<td>&lt;20</td>
<td>19.7%</td>
<td>8.0%</td>
</tr>
<tr>
<td>20-22</td>
<td>3.1%</td>
<td>3.5%</td>
</tr>
<tr>
<td>23-25</td>
<td>1.1%</td>
<td>1.7%</td>
</tr>
<tr>
<td>26+</td>
<td>0.4%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>

- Index created by combining ACT and HS GPA.
- Based on the work of Berkner and Chavez (1999)
How Disability was Defined in the Current Study

8. Please respond to this item only if you have a physical or diagnosed learning disability. Mark the one choice that most closely describes your situation.

- Blind or low-vision (not correctable with prescription lenses) ............. 1
- Hearing impairment .................... 2
- Learning disability ..................... 3
- Attention deficit disorder ............ 4
- Other neurological impairment … 5
- Require wheelchair access ....... 6
- Other orthopedic impairment .... 7
- Multiple disabilities .................. 8
- Other disability.......................... 9

Source: ACT Assessment: Student Information 2001-2002
Student Disability Status and the Disability Subgroups

N=113,135

Students without a Disability 93%

Students with Disabilities 7%

Blind/Low-Vision 14%
Hearing Impairment 8%
Learning Disability 24%
ADD 26%
Other Neurological 3%
Wheelchair Access 1%
Other Orthopedic 2%
Multiple 3%

N=7,598
Students with disabilities were more likely to be male.
Students with disabilities were less likely to be white.
A much higher proportion of students with disabilities fell into the lower parental income categories.

Parental Income

- **High**: 17%
- **Mid-High**: 18%
- **Mid-Low**: 27%
- **Low**: 38%

- **Students with Disabilities**: 23%
- **Students without a Disability**: 25%
  - 28%
  - 26%

0% 20% 40% 60% 80% 100%
Students with disabilities tended to be less ready for college.
A much higher proportion of students with disabilities had less than a 3.0 GPA.
Students with disabilities were less likely to be in a college prep program.
Students with disabilities had lower mean ACT composite and sub-test scores.
Students with Disabilities were slightly more likely to be from Chicago and slightly less likely to be from the Northeast Region (Chicago Suburbs).
High School Characteristics

**School Funding Quartile**
- High: 22%
- Mid-High: 25%
- Mid-Low: 25%
- Low: 28%

**ITAC Quartile**
- High: 23%
- Mid-High: 25%
- Mid-Low: 26%
- Low: 25%

**Urbanicity**
- Urban: 48%
- Suburban: 51%
- Town: 11%
- Rural: 13%

- Yellow: Students with Disabilities
- Blue: Students without a Disability
Logistic Regression

In predicting disability status (Y/N) the most significant factors were:

• College readiness
• Gender

And to a lesser extent:

• Parental income
• Completing the core curriculum
*The difference in the likelihood of initial four-year enrollment was significant even after holding everything else constant (Smalley, Lichtenberger, and Brown, 2010).
## Overall College Enrollment

<table>
<thead>
<tr>
<th>Status</th>
<th>N</th>
<th>Not Yet Enrolled</th>
<th>Delayed Enrollment</th>
<th>Initial 2-Year</th>
<th>Initial 4-Year</th>
<th>Total Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall Cohort</strong></td>
<td>113,135</td>
<td>23,629</td>
<td>19,397</td>
<td>28,875</td>
<td>41,234</td>
<td>89,506</td>
</tr>
<tr>
<td><strong>Students without a Disability</strong></td>
<td>105,537</td>
<td>20%</td>
<td>17%</td>
<td>25%</td>
<td>38%</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Students with Disabilities</strong></td>
<td>7,598</td>
<td>34%</td>
<td>20%</td>
<td>27%</td>
<td>18%</td>
<td>66%</td>
</tr>
<tr>
<td><strong>Blind/low-vision</strong></td>
<td>1,073</td>
<td>41%</td>
<td>19%</td>
<td>25%</td>
<td>14%</td>
<td>59%</td>
</tr>
<tr>
<td><strong>Hearing</strong></td>
<td>582</td>
<td>34%</td>
<td>19%</td>
<td>25%</td>
<td>22%</td>
<td>66%</td>
</tr>
<tr>
<td><strong>Learning</strong></td>
<td>1,857</td>
<td>37%</td>
<td>20%</td>
<td>28%</td>
<td>15%</td>
<td>63%</td>
</tr>
<tr>
<td><strong>ADD</strong></td>
<td>1,991</td>
<td>29%</td>
<td>21%</td>
<td>30%</td>
<td>20%</td>
<td>71%</td>
</tr>
<tr>
<td><strong>Other Neurological</strong></td>
<td>232</td>
<td>35%</td>
<td>23%</td>
<td>21%</td>
<td>21%</td>
<td>65%</td>
</tr>
<tr>
<td><strong>Wheelchair Access</strong></td>
<td>69</td>
<td>38%</td>
<td>32%</td>
<td>16%</td>
<td>15%</td>
<td>62%</td>
</tr>
<tr>
<td><strong>Other Orthopedic</strong></td>
<td>179</td>
<td>25%</td>
<td>19%</td>
<td>27%</td>
<td>29%</td>
<td>75%</td>
</tr>
<tr>
<td><strong>Multiple</strong></td>
<td>256</td>
<td>25%</td>
<td>15%</td>
<td>22%</td>
<td>38%</td>
<td>75%</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>1,359</td>
<td>36%</td>
<td>22%</td>
<td>27%</td>
<td>16%</td>
<td>64%</td>
</tr>
</tbody>
</table>
### Disability Status & College Readiness and Basic Enrollment

<table>
<thead>
<tr>
<th></th>
<th>Students without Disabilities</th>
<th>Students with Disabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Most Ready</strong></td>
<td>74.4% (10.2%)</td>
<td>68.7% (14.3%)</td>
</tr>
<tr>
<td><strong>More Ready</strong></td>
<td>55.0% (23.9%)</td>
<td>47.0% (26.1%)</td>
</tr>
<tr>
<td><strong>Somewhat Ready</strong></td>
<td>36.5% (31.9%)</td>
<td>25.2% (33.1%)</td>
</tr>
<tr>
<td><strong>Minimally Ready</strong></td>
<td>20.7% (20.3%)</td>
<td>17.8% (20.9%)</td>
</tr>
<tr>
<td><strong>Not/Least Ready</strong></td>
<td>11.6% (23.1%)</td>
<td>5.6% (23.1%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Four-Year Rate</th>
<th>Two-Year Rate</th>
<th>Delayed Rate</th>
<th>Not Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Most Ready</strong></td>
<td>74.4% (10.2%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>More Ready</strong></td>
<td>55.0% (23.9%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Somewhat Ready</strong></td>
<td>36.5% (31.9%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minimally Ready</strong></td>
<td>20.7% (20.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Not/Least Ready</strong></td>
<td>11.6% (23.1%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Four-Year Rate**: Indicates the percentage of students who completed a bachelor’s degree within four years.
- **Two-Year Rate**: Indicates the percentage of students who completed an associate’s degree or equivalent within two years.
- **Delayed Rate**: Indicates the percentage of students who completed their degree after the expected time.
- **Not Enrolled**: Indicates the percentage of students who did not enroll in any higher education institution.

**Key Observations**

- The highest four-year completion rate is observed in the **Most Ready** group for both students without disabilities (74.4%) and students with disabilities (68.7%).
- The lowest four-year completion rate is observed in the **Not/Least Ready** group for both students without disabilities (11.6%) and students with disabilities (5.6%).

**Circles**

- The red circles highlight the lowest four-year completion rates for both groups, emphasizing the need for targeted interventions to improve college readiness and completion rates among students without disabilities (11.6%) and students with disabilities (5.6%).
**College Sector**

* 97% of in-state two-year enrollment occurs at an Illinois community college.

**Among those enrolling, students with disabilities were:**

- Significantly more likely to enroll at a community college and that rippled through the other sector-based results
Bachelor’s Completion for 2002
Four-Year Starters

*Even after holding other factors at a fixed value, the difference in bachelor’s completion rates was statistically significant.*
### Outcomes for 2002 Four-Year Starters

<table>
<thead>
<tr>
<th></th>
<th>Total Initial 4-Yr Enrollment</th>
<th>Graduated in at Least 6 Years</th>
<th>Enrolled at a 4-Year Institution</th>
<th>Enrolled at a 2-Year Institution</th>
<th>Not Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>N</strong></td>
<td>1,863</td>
<td>2,760</td>
<td>1,300</td>
<td>9,537</td>
<td></td>
</tr>
<tr>
<td><strong>Overall Cohort</strong></td>
<td>41,234</td>
<td>67%</td>
<td>7%</td>
<td>3%</td>
<td>23%</td>
</tr>
<tr>
<td><strong>Students without a Disability</strong></td>
<td>39,861</td>
<td>68%</td>
<td>7%</td>
<td>3%</td>
<td>23%</td>
</tr>
<tr>
<td><strong>Students with Disabilities</strong></td>
<td>1,373</td>
<td>53%</td>
<td>9%</td>
<td>4%</td>
<td>34%</td>
</tr>
<tr>
<td>Blind/low-vision</td>
<td>155</td>
<td>48%</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Hearing</td>
<td>128</td>
<td>60%</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Learning</td>
<td>271</td>
<td>54%</td>
<td>10%</td>
<td>5%</td>
<td>31%</td>
</tr>
<tr>
<td>ADD</td>
<td>399</td>
<td>46%</td>
<td>9%</td>
<td>6%</td>
<td>40%</td>
</tr>
<tr>
<td>Other Neurological</td>
<td>48</td>
<td>35%</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Wheelchair Access</td>
<td>10</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Other Orthopedic</td>
<td>51</td>
<td>69%</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Multiple</td>
<td>97</td>
<td>72%</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Other</td>
<td>214</td>
<td>54%</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

* Indicates cell size of less than 10 or a related cell had a cell size less than 10.
Outcomes for Two-Year Starters by Disability Status

Without Disabilities:
- Transfers: 21.9%
- Associate’s: 48.2%

With Disabilities:
- Transfers: 16.9%
- Associate’s: 63.1%

Legend:
- Brown: Transfer Only
- Light Brown: Transfer and Associate’s
- Dark Brown: Associate’s without Transfer
- Blue: Certificate Only
- Light Blue: No Degree or Transfer
Outcomes for 2002 Two-Year Starters

<table>
<thead>
<tr>
<th></th>
<th>Total Initial 2-Yr Enrollment</th>
<th>2-Yr Outcome Obtained&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Outcome(s) Met&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>14,665</td>
<td>1,712</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7,472</td>
<td>11,046</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14,210</td>
</tr>
<tr>
<td>Overall Cohort</td>
<td>28,875</td>
<td>51%</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26%</td>
<td>38%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>49%</td>
<td></td>
</tr>
<tr>
<td>Students without a Disability</td>
<td>26,803</td>
<td>52%</td>
<td>6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>27%</td>
<td>39%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>Students with Disabilities</td>
<td>2,072</td>
<td>37%</td>
<td>6%</td>
</tr>
<tr>
<td>Blind/low-vision</td>
<td>273</td>
<td>37%</td>
<td>5%</td>
</tr>
<tr>
<td>Hearing</td>
<td>144</td>
<td>44%</td>
<td>9%</td>
</tr>
<tr>
<td>Learning</td>
<td>525</td>
<td>32%</td>
<td>6%</td>
</tr>
<tr>
<td>ADD</td>
<td>597</td>
<td>36%</td>
<td>5%</td>
</tr>
<tr>
<td>Other Neurological</td>
<td>49</td>
<td>37%</td>
<td>*</td>
</tr>
<tr>
<td>Wheelchair Access</td>
<td>11</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Other Orthopedic</td>
<td>49</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Multiple</td>
<td>56</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Other</td>
<td>368</td>
<td>37%</td>
<td>6%</td>
</tr>
</tbody>
</table>

<sup>1</sup>Outcome is earning a certificate or associate’s or transfer to a four-year institution.

<sup>2</sup>Students can achieve more than one outcome, percentage can add up to more than total for two-year outcome obtained.

* Indicates cell size of less than 10 or a related cell had a cell size less than 10.
Bachelor’s Completion for Two-Year to Four-Year Transfers

<table>
<thead>
<tr>
<th>Two-Year to Four-Year Transfer</th>
<th>Graduated in at Least 6 Years</th>
<th>Enrolled at a 4-Year Institution</th>
<th>Enrolled at a 2-Year Institution</th>
<th>Not Enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>44%</td>
<td>26%</td>
<td>5%</td>
<td>26%</td>
</tr>
<tr>
<td></td>
<td>55%</td>
<td>22%</td>
<td>3%</td>
<td>20%</td>
</tr>
</tbody>
</table>

- Students with Disabilities
- Students without a Disability
Students with disabilities had overall characteristics that would suggest a lower likelihood of postsecondary enrollment and degree completion.

- Less likely to be college ready
- More likely to be male
- More likely to be within one of the lower parental income categories
- Less likely to have completed core academic courses during high school
A high proportion of students with disabilities are enrolling in college; however the enrollment patterns differ from that of students without a disability. Students with disabilities who enroll are:

– More likely to utilize the community college system
– More likely to stay in-state
– More likely to utilize public rather than private institutions
– More likely to delay enrollment
– Less likely to enroll at a four-year

* Differences in basic enrollment are less extreme at the top of the college readiness index
There were large differences favoring students without disabilities in terms of bachelor’s completion.

– Students with disabilities were at a much higher risk of dropping out of college
– Students with disabilities took significantly longer to complete a bachelor’s degree
– This was true across all college readiness categories; however as with enrollment, the differences were muted at select points in the college readiness index: more ready and minimally ready
Among those starting at community colleges, students with disabilities were significantly less likely to:

- transfer to a four-year institution
- earn an associate’s degree
- have achieved at least one of the three two-year outcomes defined in this study
- Problematic because initial enrollment for students with disabilities was much more likely to be at a community college
  *rate of certificate completion was the same

Students with disabilities who transferred to a four-year institution:

- were less likely to have earned a bachelor’s degree
- took significantly longer to complete
There were significant differences between the various disability subgroups in terms of the postsecondary outcomes.

- Students with multiple disabilities and those in the other orthopedic category seemed to outperform the other disability subgroups
- This was in terms of basic enrollment, outcome attainment at two-year institutions, and degree completion among four-year starters
- In most measures, these students approximated and in some cases surpassed the completion/outcome attainment rates of students without a disability
- Suggests that the within group differences may be as important as the between group differences
Recommendations for Further Investigation

• Analyze employment outcomes
• Conduct a qualitative study
• Exploring the interaction of institutional and student characteristics
Contact Information

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