What’s in YOUR toolbox?

THE APPLICATION OF ADELMAN’S STUDY TO A LOCAL INSTITUTION

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Inspiration

- What this is not
  - Critique
  - Replication

- What it is
  - What if?
  - Verification of milestones
  - Exploration
Difference From Toolbox

- **Datasets**
  - **Adelman**
    - NCES transcript-based grade cohort study
    - Cooperative Institutional Research Project (CIRP)
    - NCES Beginning Postsecondary Students (BPS) Survey
  - **Martinez**
    - State MIS data
    - Local administrative system
    - Local assessment database
    - National Student Clearinghouse

- **Decision rules**
- **Type of regression**
Analytic Steps: Adelman

1. Demographic background
2. High school history
3. Postsecondary entrance
4. 1st postsecondary year history
5. Financial aid
6. Postsecondary attendance patterns
7. Extended postsecondary performance
Analytic Steps: Martinez

1. Demographics
2. High school history
3. 1st semester performance
4. 1st year performance
5. Extended postsecondary performance
6. Continuous enrollment
Population

- First time students (self-reported) in Fall 2002
- Prior enrollments used to verify
Population

- First time students (self-reported) in Fall 2002
- Prior enrollments used to verify
- Age < 20
- High school graduates
Demographics

- Gender
- Ethnicity
  - White
  - Black
  - Latino
- Age
- 1st generation
  - FG2
  - FG4
High School History

- **Placement test scores**
  - English
  - Math/Math test
  - Reading

- **Self-reported high school information**
  - English grade
  - Highest level of math
  - Grade in highest level of math
  - Time since last math class
  - Geometry
  - HS GPA
1st Semester Performance

- Units attempted
- Units earned
- GPA
- Delay
- Time of day
1\textsuperscript{st} Year Performance

- Units attempted
- Units earned
- GPA
- Units earned in transfer level math
- Units earned in transfer level English
Extended Postsecondary Performance

- Overall GPA
- Transfer units
- Developmental education units
- Summer enrollment
- Winter enrollment
- Part-time
- Financial aid
- Withdrawals
- Repeats
Final Step

Continuous enrollment
Completer

- Tracked for 6 years
- 2 year degree or certificate
- 4 year degree
- Transfer to a 4 year school
The Analyses
Step 1: Demographics

What was entered:

- Gender
- Ethnicity
  - White
  - Black
  - Latino
- Age
- 1st generation
  - FG2
  - FG4
Step 1: Demographics

What survived:

- Gender
- Latino
- Black
- Age
- 1st generation
Step 1: Demographics

What survived:

- Gender
- Latino
- Black
- Age
- 1\textsuperscript{st} generation

$R = 0.198$

$R^2 = 0.039$
### Step 2: High School History

<table>
<thead>
<tr>
<th>What was entered:</th>
<th>Followed by:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Gender</td>
<td>• Placement test scores</td>
</tr>
<tr>
<td>• Latino</td>
<td>○ English/Math/Math test/Reading</td>
</tr>
<tr>
<td>• Black</td>
<td>• Self-reported high school information</td>
</tr>
<tr>
<td>• Age</td>
<td>○ English grade</td>
</tr>
<tr>
<td>• 1&lt;sup&gt;st&lt;/sup&gt; generation</td>
<td>○ Highest level of math</td>
</tr>
<tr>
<td></td>
<td>○ Grade in highest level of math</td>
</tr>
<tr>
<td></td>
<td>○ Time since last math class</td>
</tr>
<tr>
<td></td>
<td>○ Geometry</td>
</tr>
<tr>
<td></td>
<td>○ HS GPA</td>
</tr>
</tbody>
</table>
Step 2: High School History

What survived:

- Gender
- Black
- 1\textsuperscript{st} generation
- Placement Test: Reading
- HS: Grade in English
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
Step 2: High School History

What survived:

- Gender
- Black
- 1st generation
- Placement Test: Reading
- HS: Grade in English
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry

$R = 0.332$
$R^2 = 0.110$
Step 3: 1st Semester Performance

What was entered:

- Gender
- Black
- 1st generation
- Placement Test: Reading
- HS: Grade in English
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry

Followed by:

- Units Attempted 1st
- Units Earned 1st
- GPA 1st
- Delay
- Time of day
Step 3: 1st Semester Performance

What survived:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- GPA 1st
Step 3: 1st Semester Performance

What survived:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- GPA 1st

$R = 0.430$

$R^2 = 0.185$
Step 4: 1st Year Performance

What was entered:
- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- GPA 1st

Followed by:
- Units attempted year
- Units earned year
- GPA year
- Units earned in transfer level math
- Units earned in transfer level English
Step 4: 1st Year Performance

What survived:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- GPA 1st
- Transfer level English units
Step 4: 1st Year Performance

What survived:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- GPA 1st
- Transfer level English units

R = 0.442
R² = 0.195
### Step 5: Extended Postsecondary Performance

**What was entered:**
- Gender
- 1\(^{st}\) generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1\(^{st}\)
- GPA 1\(^{st}\)
- Transfer level English units

**Followed by:**
- Overall GPA
- Transfer units
- Developmental education units
- Summer enrollment
- Winter enrollment
- Part-time
- Financial aid
- Withdrawals
- Repeats
Step 5: Extended Postsecondary Performance

What survived:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- Transfer level English units
- Summer enrollment
Step 5: Extended Postsecondary Performance

What survived:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- Transfer level English units
- Summer enrollment

$R = 0.497$

$R^2 = 0.247$
Step 6: Continuous Enrollment

What was entered:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- Transfer level English units
- Summer enrollment
Step 6: Continuous Enrollment

What was entered:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- Transfer level English units
- Summer enrollment

Followed by:

- Continuous enrollment
Step 6: Continuous Enrollment

What survived:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- Transfer level English units
- Summer enrollment
- Continuous enrollment
Step 6: Continuous Enrollment

What survived:

- Gender
- 1st generation
- HS: Highest level of math
- HS: Grade in highest level of math
- HS: Geometry
- Units earned 1st
- Transfer level English units
- Summer enrollment
- Continuous enrollment

\[ R = 0.501 \]
\[ R^2 = 0.251 \]
What Remains

- Demographics
  - Sex
  - 1st generation
- High School Performance
  - Highest level of math
  - Grade in highest level of math
  - Geometry
- Units Earned 1st
- Transfer level English units
- Summer enrollment
- Continuous enrollment
What’s NOT Here

- Ethnicity
- Placement test scores
- Developmental education
- Part-time enrollment
- Financial aid
- Withdrawals
- Repeats
- 20 units milestone
Implications

- Effectiveness of placement tests needs to be examined
- Milestone research may not be applicable to local institutions
- 1st generation data needs to be utilized
Limitations/Future Research

- Not disaggregated by student characteristics
- Measures could be strengthened
- Identify gateway courses and investigate their impact on student achievement