Instituting Developmental (Remedial) Education Reform: Challenges and Results in New Jersey, Colorado, and New York

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Remediation in the United States

- Colleges
  - Have traditionally used high-stakes tests to determine if their new freshmen are prepared for college work
  - Conduct assessments for reading, writing, and math
  - Assess about 60% of new freshmen as unprepared
  - Require such students to take remedial courses before they can take college-level courses

Nature and Effect of Remedial Courses

- Remedial courses largely repeat HS material
- The majority of students assigned to these courses either do not take them or do not pass them, most often in math
- Therefore remedial courses have been described as the largest single academic block to college graduation
- At best, remedial courses delay graduation and cost students, colleges, and tax payers extra time and money

Why Are Students Assigned to Traditional Remediation Less Likely to Graduate?

- Are many possible reasons including:
  - Students are incapable of learning material
  - Having to repeat aversive HS material is discouraging
  - Not taking all college-level courses is embarrassing
  - Material is not relevant to other courses/career
  - Graduation seems too distant, too much work
  - More opportunities for life interfering w. completion
  - Financial aid runs out prior to graduation

Who Gets Assigned to Remediation?

- Students from underrepresented groups (Black and Hispanic) are more likely to be assessed as needing remediation
- Therefore traditional remediation appears to contribute significantly to the gap in graduation rates between underrepresented and other students

Evidence-Based Remedial Reforms That Help

- Use multiple measures, especially high school grades, for assessment and placement
- Accelerate remedial education:
  - Decrease the number of opportunities for students to exit a remedial sequence
  - Use corequisite remediation (mainstreaming)
- Align remedial course material with students' majors/careers

Three Presentations and Our Discussant Will Now Describe Research in Support of Such Reforms

Students Assessed as Needing Developmental (Remedial) Algebra Are More Likely to Graduate If They Take College-Level Statistics Instead

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This Presentation

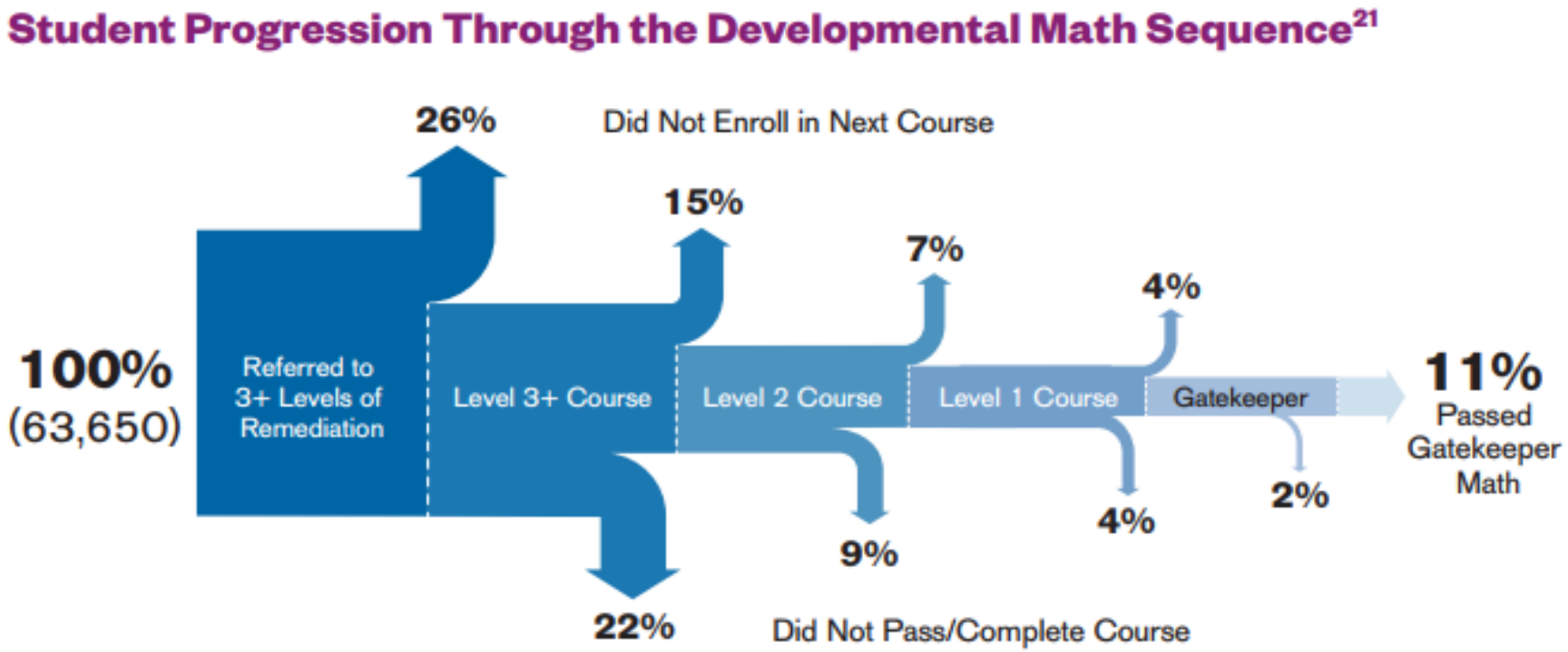
- Concerns our randomized controlled trial investigating the effects of corequisite math remediation on student success
- Initial research was published in 2016 in *Educational Evaluation and Policy Analysis*
- That paper looked at effects on performance of CUNY students in associate-degree programs through one year after the intervention
- Now we have three-year follow-up data including graduation rates

First Some Information
The City University of New York (CUNY) Students

7 community colleges have 97,000 students:

- 68% - Black or Hispanic
- 39% - born outside the U.S.
- 41% - first language other than English
- 52% - first generation college students
- 65% - Pell grant recipients

Completion of Mathematics Remediation is the Single Largest Barrier to College Completion



Community College Research Center (2014)

Implications of the relationship between graduation and remediation

- Most recent CUNY graduation data:
  - 18% of CUNY community college students initially assessed as needing remedial math graduate within four years.
  - 35% of CUNY community college students with no initial remedial need graduate within four years.

- Contributes to performance gaps

Mainstreaming Remedial Math Students Randomized Controlled Trial (Intervention Conducted in Fall 2013)

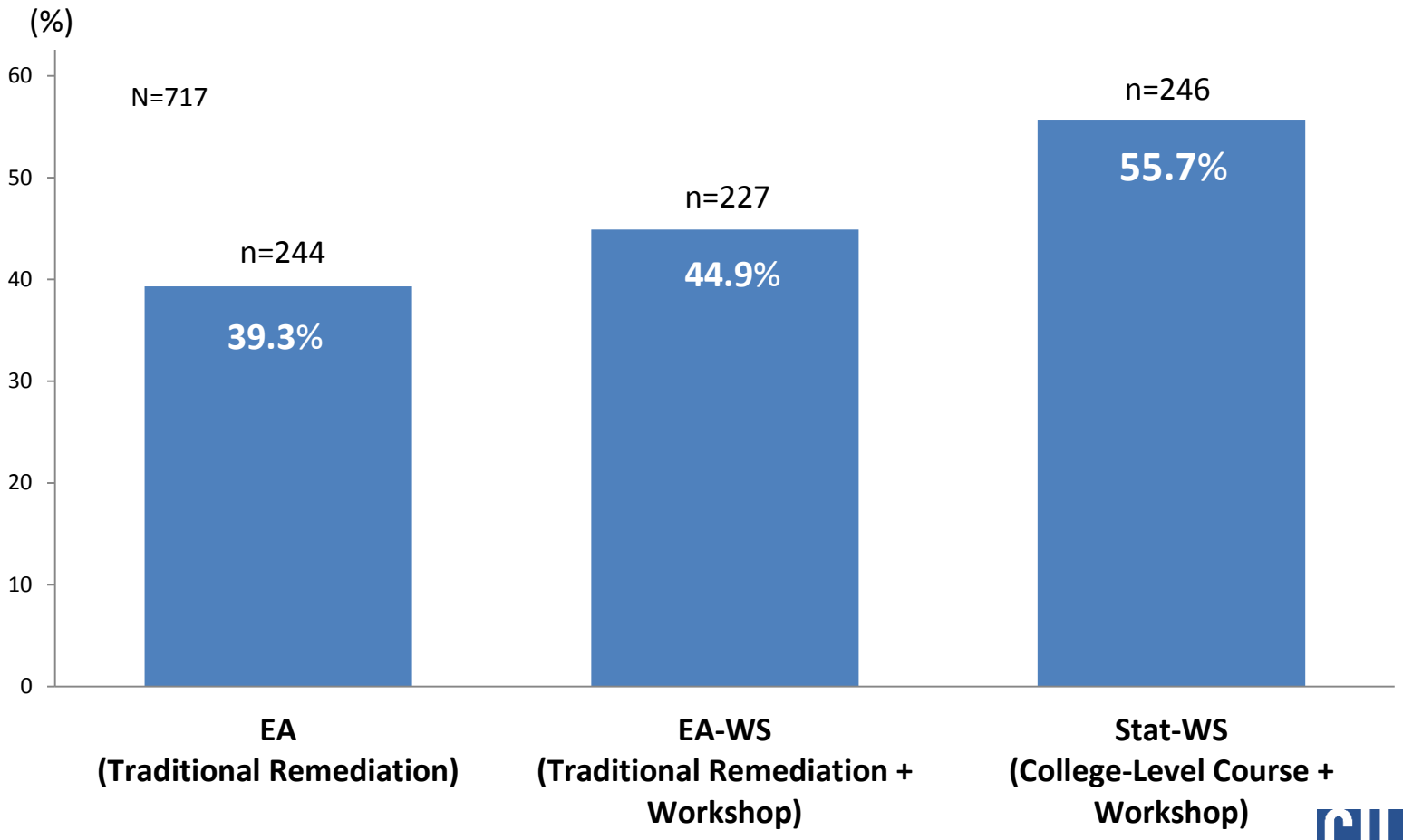
907 nonSTEM Students at 3 CUNY community colleges, all assessed as needing elementary algebra, were randomly assigned to:

- Group **EA**: Traditional remedial elementary algebra (control)
- Group **EA-WS**: Traditional remedial elementary algebra with a weekly workshop
- Group **Stat-WS**: Introductory, college-level, statistics with a weekly workshop (corequisite remediation)

Some Methodological Details

- Students were randomly assigned in summer 2013 to courses in fall 2013
- Workshops were 2 hours per week, led by advanced undergraduates
- Instructors were counterbalanced

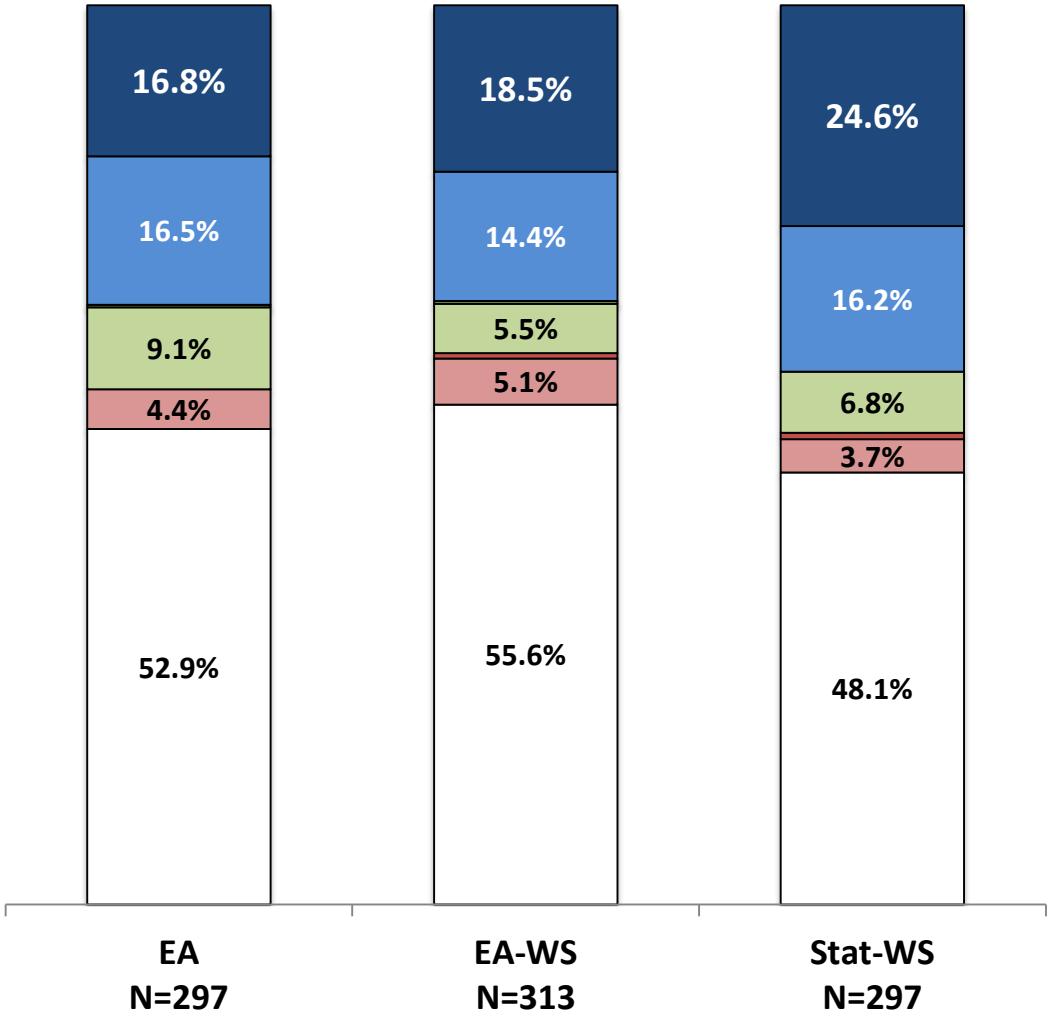
Course Pass Rates in Fall 2013



Evidence of Stat-WS Students Being the Most Motivated of the Three Groups

- Group EA-WS had the highest rate of summer melt
- Stat-WS Students were more likely than those in EA-WS to attend their workshops
- Stat-WS students were more likely to report forming their own study groups than the other two groups

Enrollment Status in Fall 2016 (three years since intervention)



Summary of 3-Year Results

Group	Not Enrolled	Enrolled	Graduated
EA	52.9%	30.0%	17.1%
EA-WS	55.6%	25.0%	19.4%
Stat-WS	48.1%	26.7%	25.2%

- Graduation rate of Stat-WS students is 8.1 percentage points more than that of EA students

- Stat-WS students 47% more likely to graduate than EA students

Effects on Performance Gaps

- None of our results differ in accordance with the students' race/ethnicity
- Given that students from underrepresented groups are more likely to be assigned to math remediation, and given that corequisite remediation helps all students assigned to math remediation similarly, corequisite remediation can help decrease performance gaps between underrepresented and other students.

Conclusions

- Students assessed as needing elementary (remedial) algebra & not majoring in STEM:
  - Are more likely to pass assigned course if instead take college-level statistics with extra support
  - Are more likely to graduate, including passing college-level general education social & natural science courses
- Can use this approach to help close performance gaps

Thank you!

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