CAPR | CENTER FOR THE ANALYSIS OF POSTSECONDARY READINESS

Student Assessment and Placement Systems:

Using Multiple Measures

Community College Research Center
MDRC
SUNY

March 2018

Center for the Analysis of Postsecondary Readiness

CCRC

MDRC

Descriptive Study of Developmental Education

Evaluation of The New Mathways Project (RCT in TX)

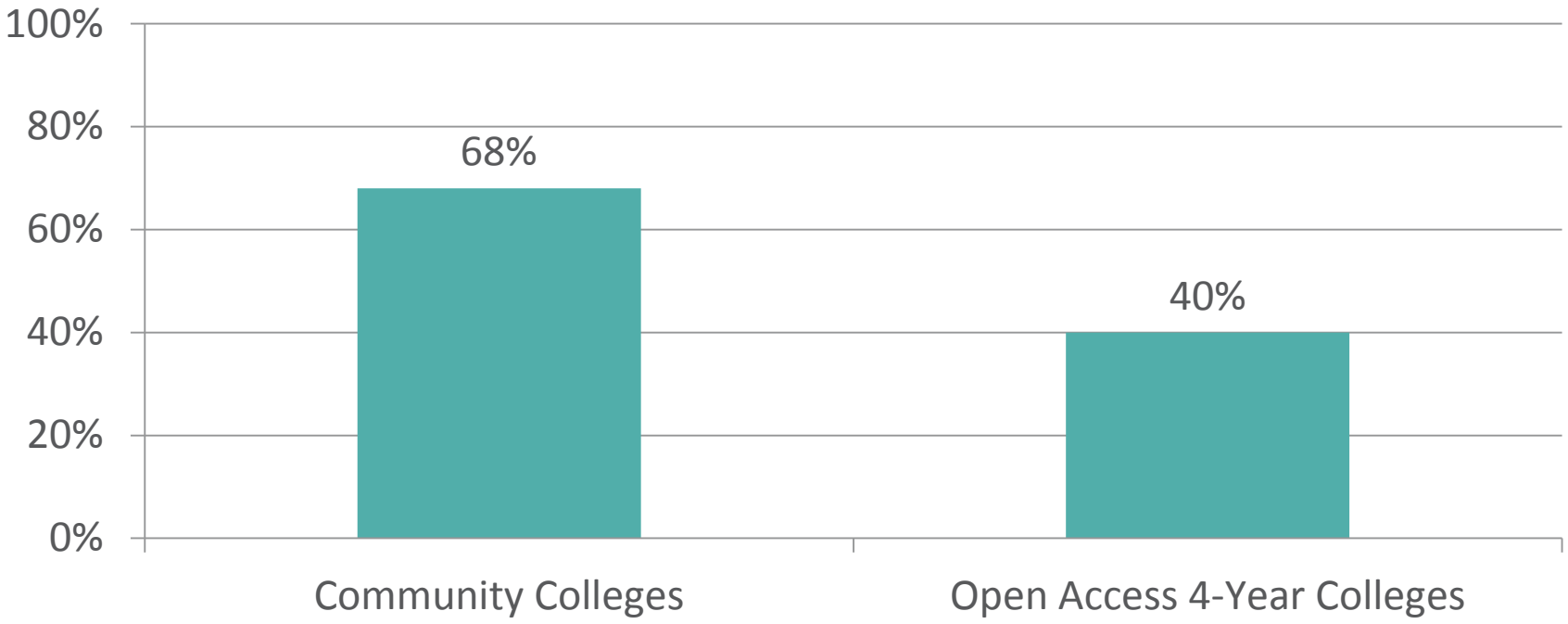
Evaluation of New Assessment Practices (RCT in NY)

Supplemental Studies

Today's Presentation

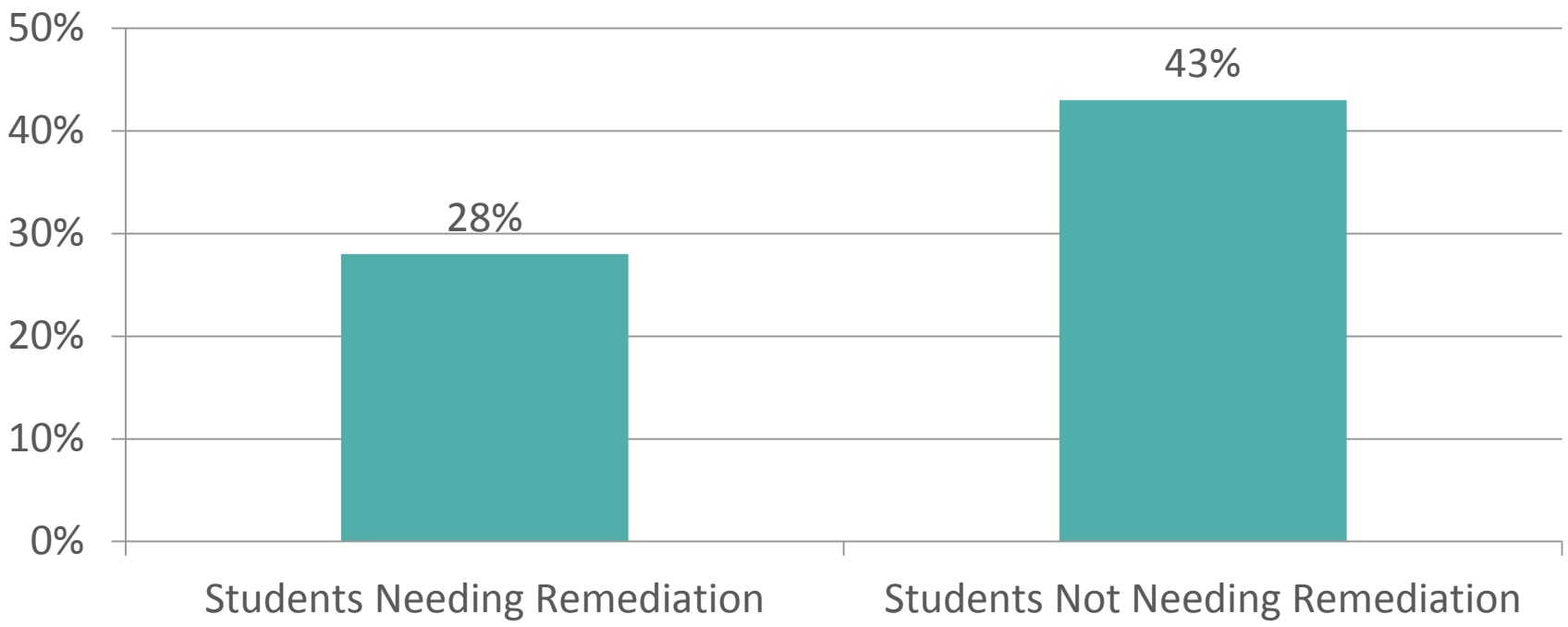
- Why we need to change assessment and placement systems
- The CAPR research/early impact findings
- *Activity: Are we ready to implement MMA?*
- The experience of Schenectady Community College

Students needing 1+ developmental education course (NCES, 2013)



Community college 8-year graduation rates

(Attewell, Lavin, Domina, and Levey, 2006)

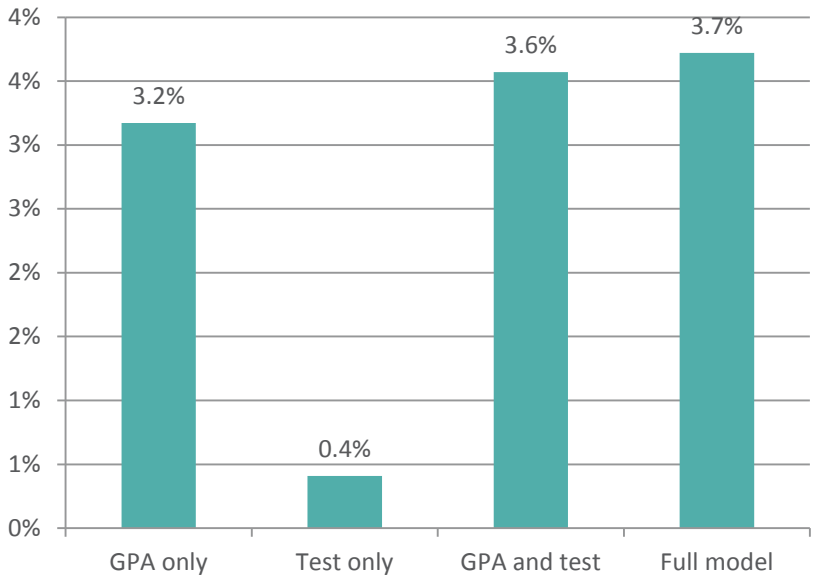


Under-placement and Over-placement

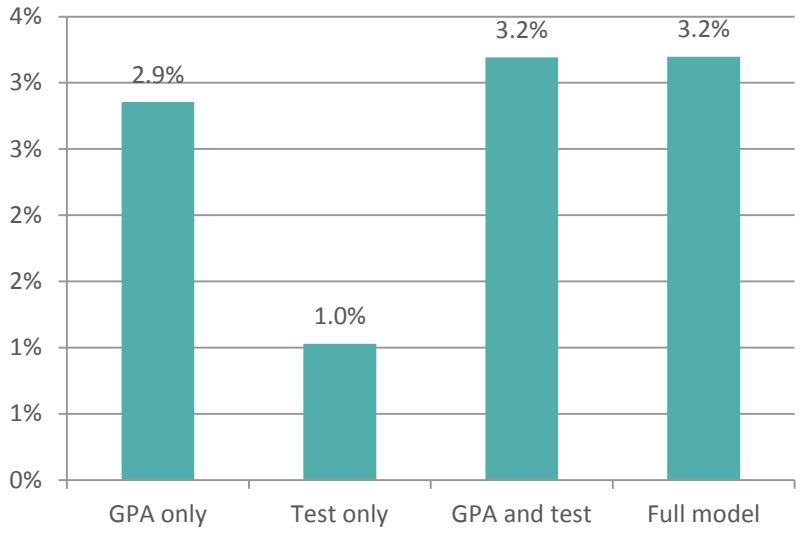
		Placement According to Exam	
		Developmental	College Level
Student Ability	Developmental	✓	***Over-placed*** ***(English – 5%)*** ***(Math – 6%)***
	College Level	***Under-placed*** ***(English – 29%)*** ***(Math – 18%)***	✓

College Example

ENGLISH



MATH



Conclusions so far

- Students placed into developmental education are less likely to complete college.
- Better assessment systems are needed.
- HS GPA is the best single predictor of success in college math and English.

An Alternative: Multiple Measures Assessment

- Decision rules or bands (Minnesota, North Carolina)
- Directed self-placement (Florida)
- Use of an algorithm (California, New York)

Multiple Measures Options (Barnett and Reddy, 2017)

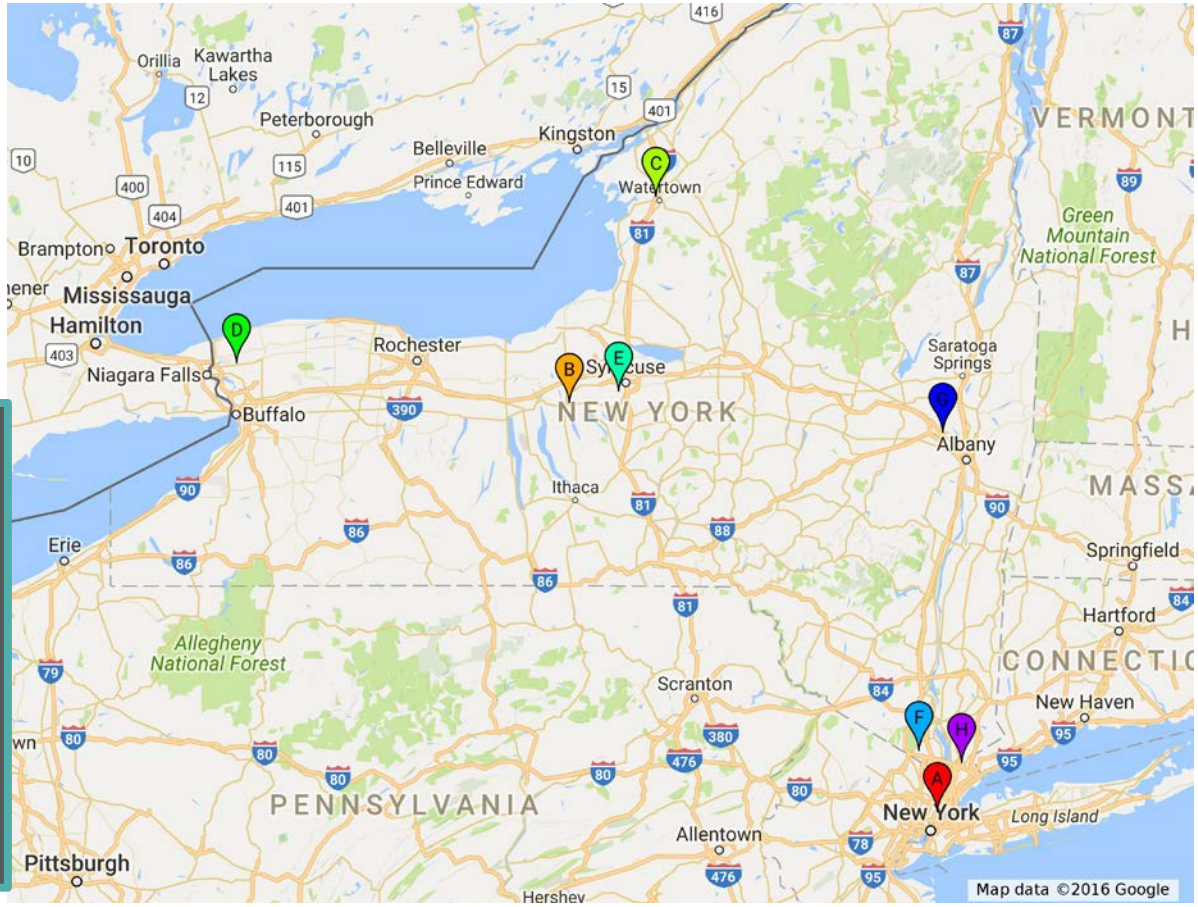
MEASURES	SYSTEMS OR APPROACHES	PLACEMENTS
<u>Administered by college</u>: 1. Traditional or alternative placement tests 2. Non-cognitive assessments 3. Computer skills or career inventory 4. Writing assessments 5. Questionnaire items <u>Obtained from elsewhere</u>: 1. High school GPA 2. Other HS transcript information (courses taken, course grades) 3. Standardized test results (e.g., ACT, SAT, Smarter Balanced)	• Waiver system • Decision bands • Placement formula (algorithm) • Decision rules • Directed self-placement	• Placement into traditional courses • Placement into alternative coursework • Placement into support services

Research on Alternative Placement Systems (RAPS)

2014 - 2019

Partner Sites

- A – CAPR/CCRC/MDRC
- B – Cayuga CC
- C – Jefferson CC
- D – Niagara County CC
- E – Onondaga CC
- F – Rockland CC
- G – Schenectady County CC
- H – Westchester CC

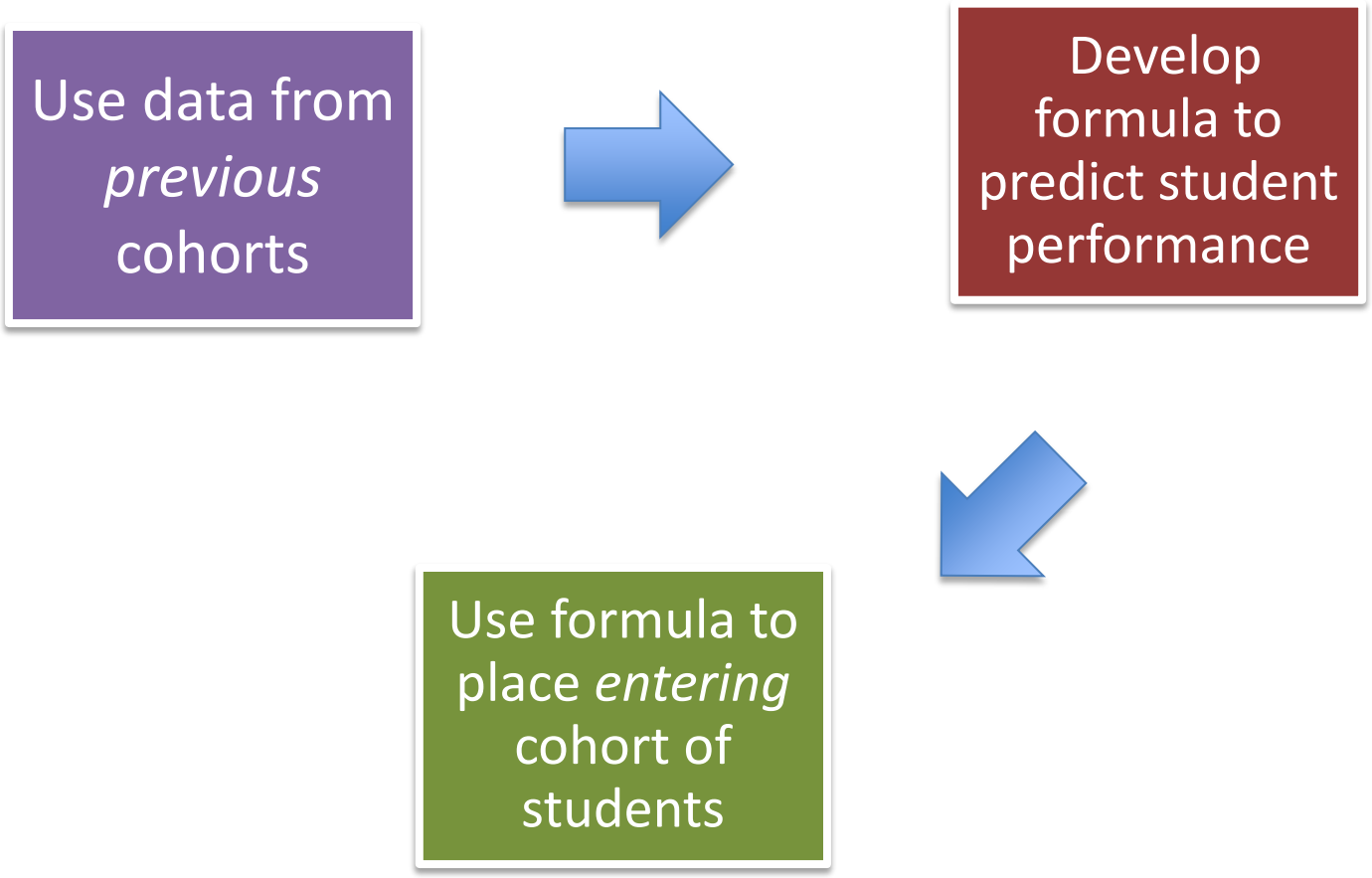


Research Questions (summary)

1. Do student outcomes improve when they are placed using predictive analytics?

2. How does each college adopt/adapt and implement such a system?

How Does the Algorithm Work?



SUNY algorithm ingredients

- Accuplacer results (6 colleges)
- HS GPA
- Time out of high school
- HS diploma/GED
- Others (HS class rank, Regents tests)

One college considered a non-cognitive assessment

Outcomes of interest

PRIMARY

- Subject areas sequence completed (through first college level)
- Accumulation of college credits.

EXPLORATORY

- Initial placement
- Persistence
- Completion

Project Timeline

Semester	Activity
Fall 2014	Project kickoff
Spring 2015	Initial site visits
Summer/Fall 2015	Data collection, logistical planning, and algorithm development
Fall 2016	Cohort 1 intake
Spring 2017	Cohort 2 intake
Fall 2017	Cohort 3 intake
Spring 2016 & 2017	Qualitative data collection
2018 and 2019	Reports are published

Key Issues

1. Assessment, placement and developmental education practices are changing rapidly.
2. High school data are seldom in college data systems.
3. Changing the assessment and placement system affects lots of people.
4. There are technical challenges involved- which can be overcome.

Early Findings – Main Analysis

Fall 2016

Final Analysis Sample

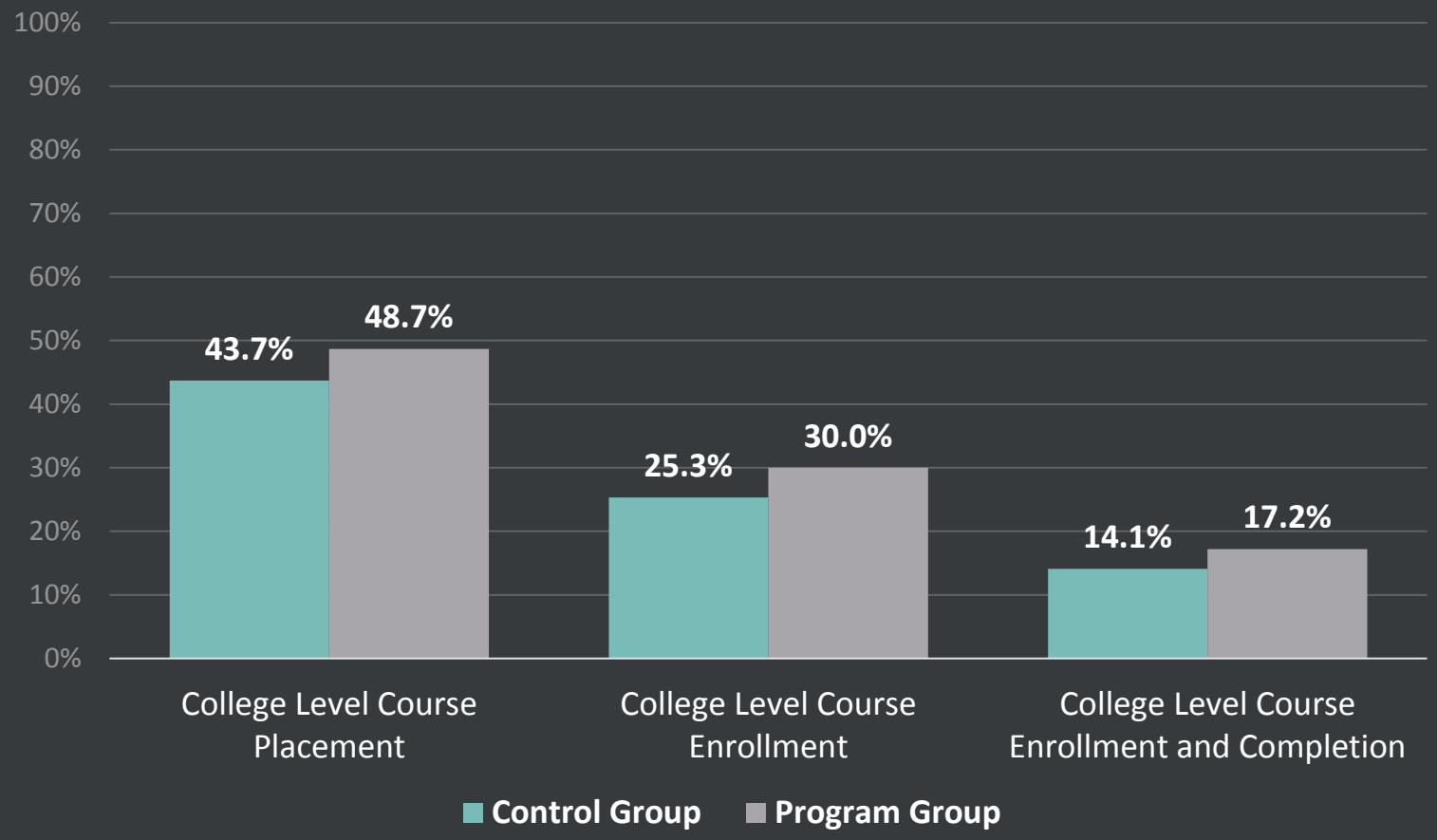
Following students were excluded:

- Placed into ESL course
- Date of first placement exam outside intake period for fall 2016
- Still in high school at the time of enrollment
- Took placement tests across multiple days at 2 colleges (n=45)

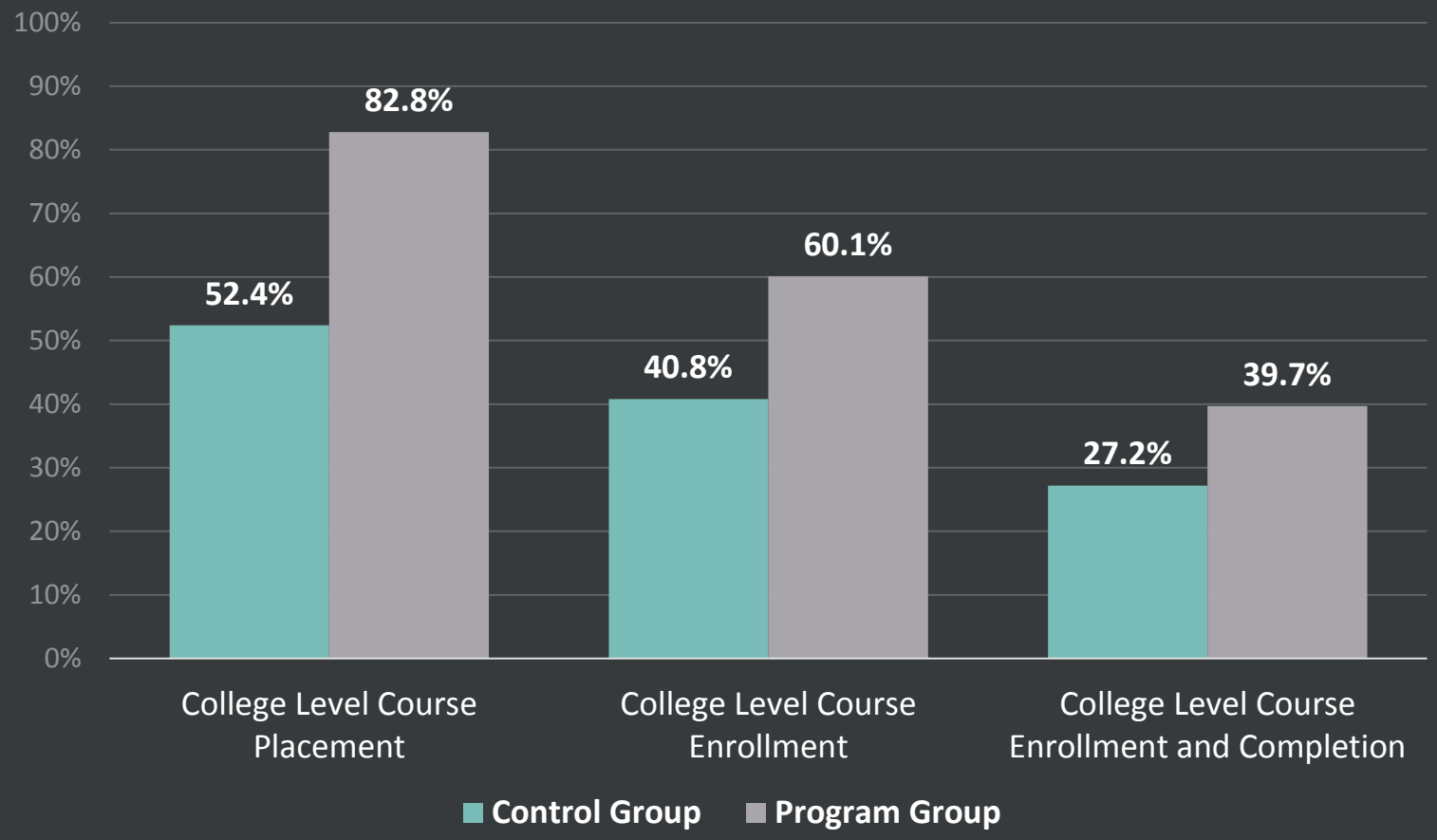
Final Sample 4,729 first year students across 5 colleges

- 48% of students assigned to control group (n=2,274)
- 52% of students assigned to treatment group (n=2,455)
- 82% of students enroll into at least one course in 2016 (n=3,865)

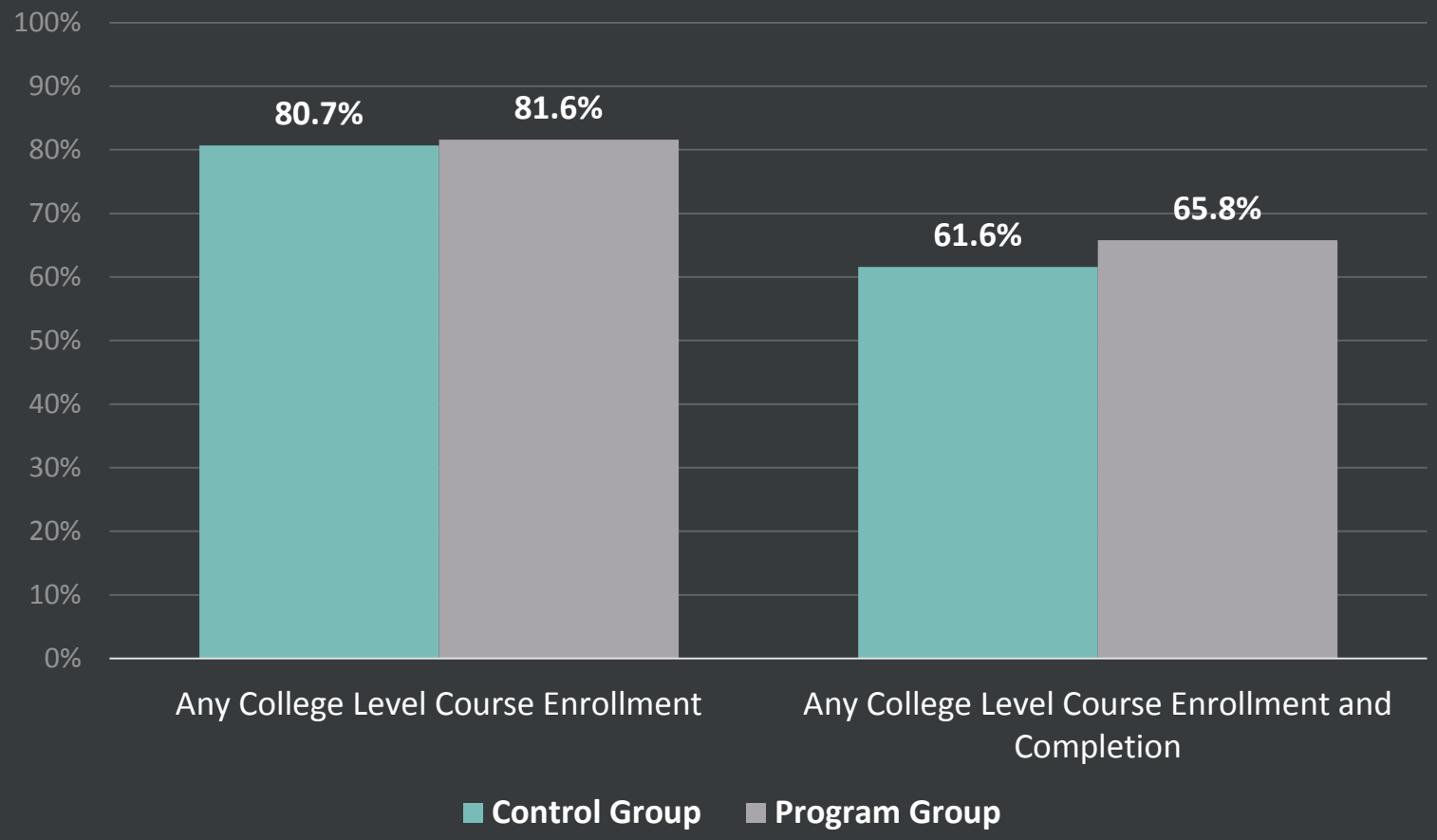
Treatment Effects: Math



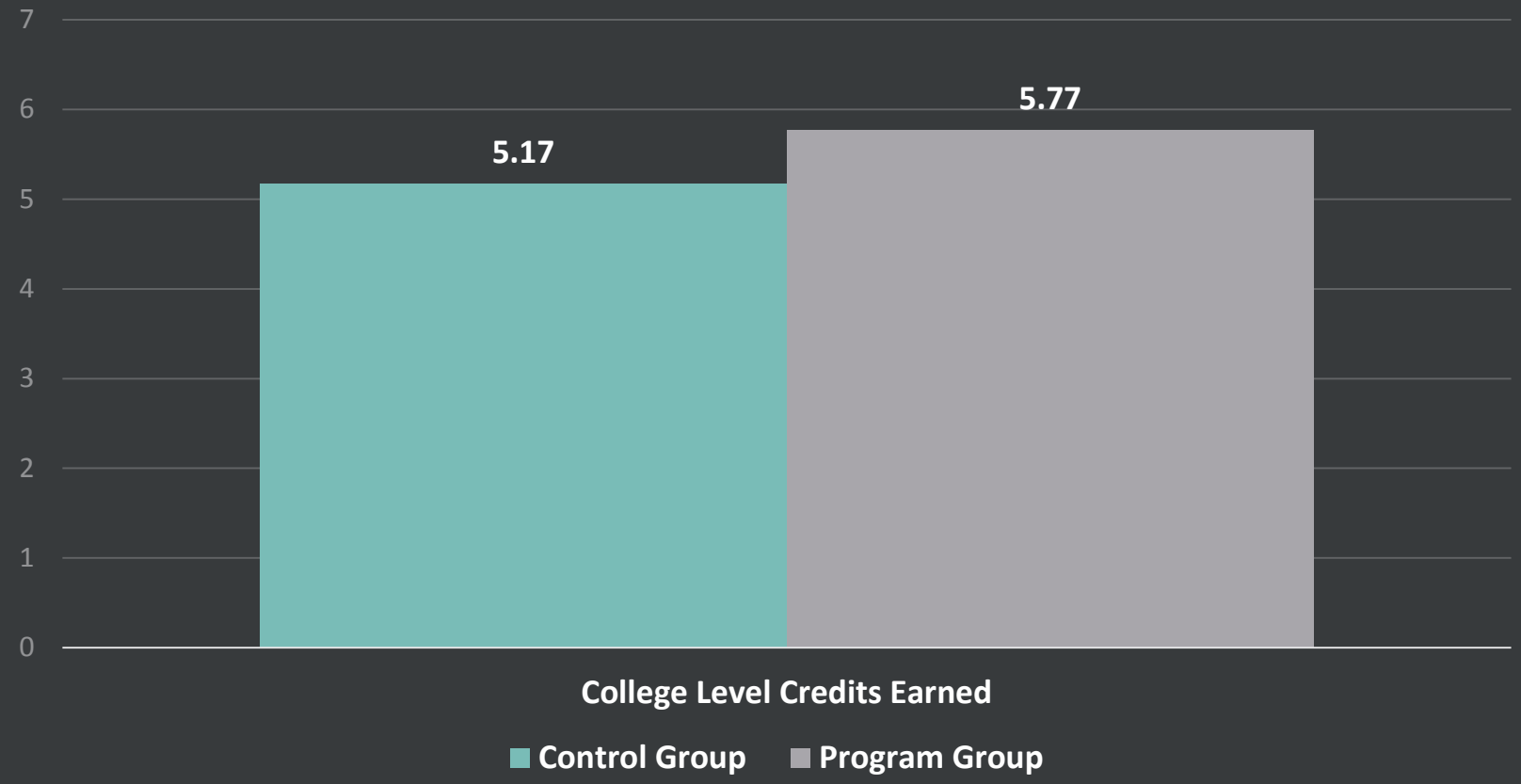
Treatment Effects: English



Treatment Effects: Any College Level Course



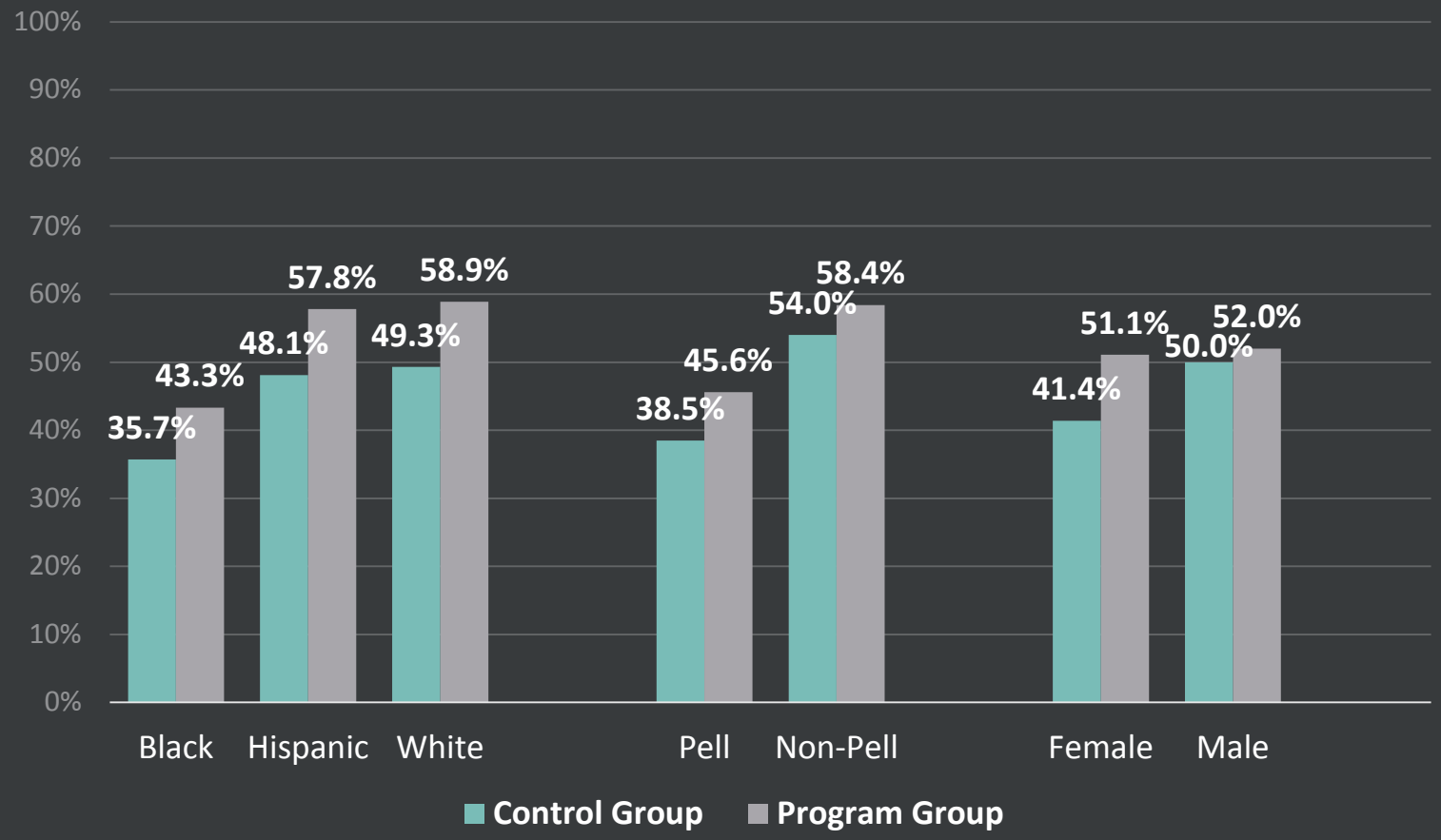
Treatment Effects: Total College Level Credits Earned



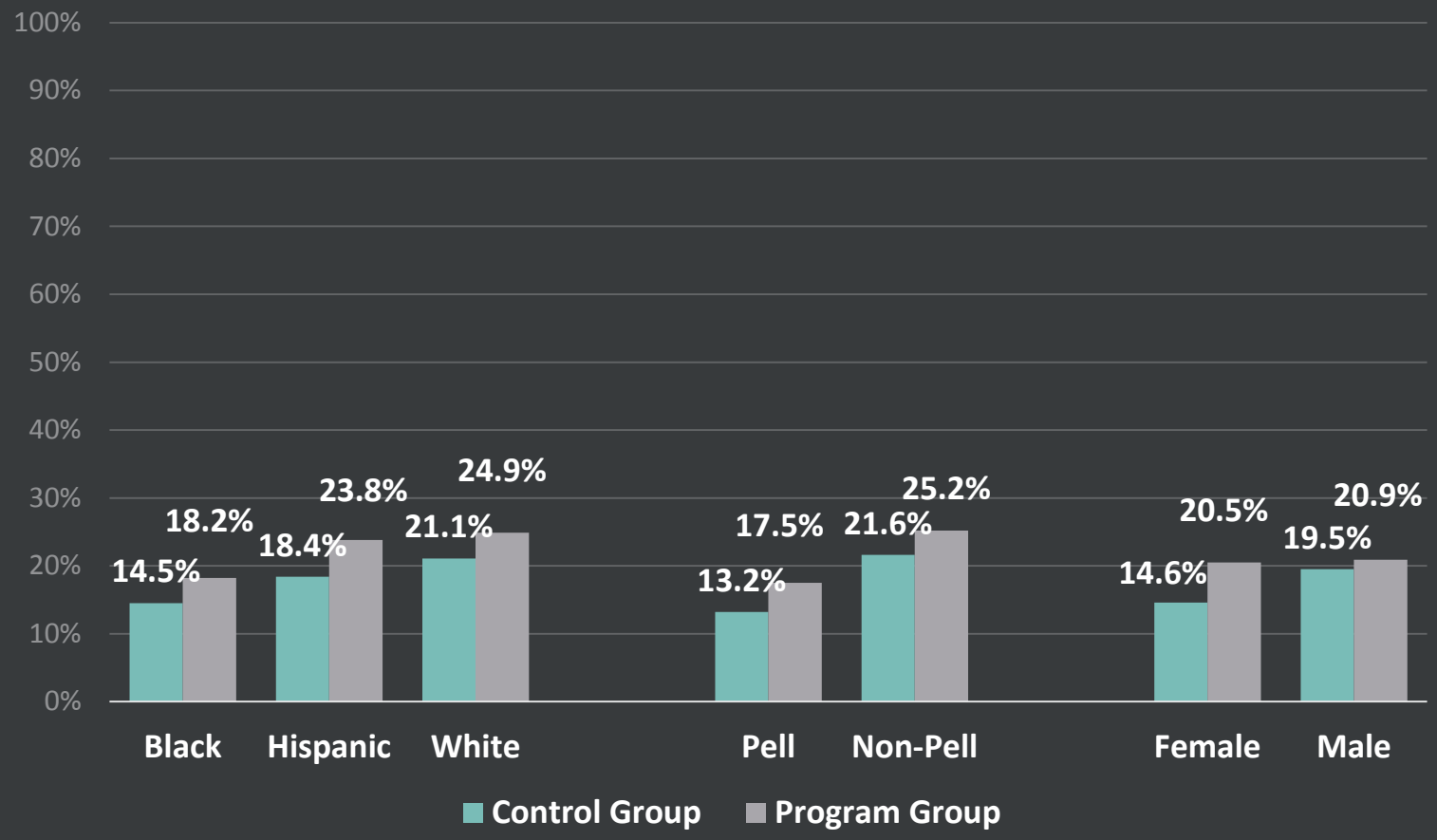
Early Findings – Subgroup Analysis

Fall 2016

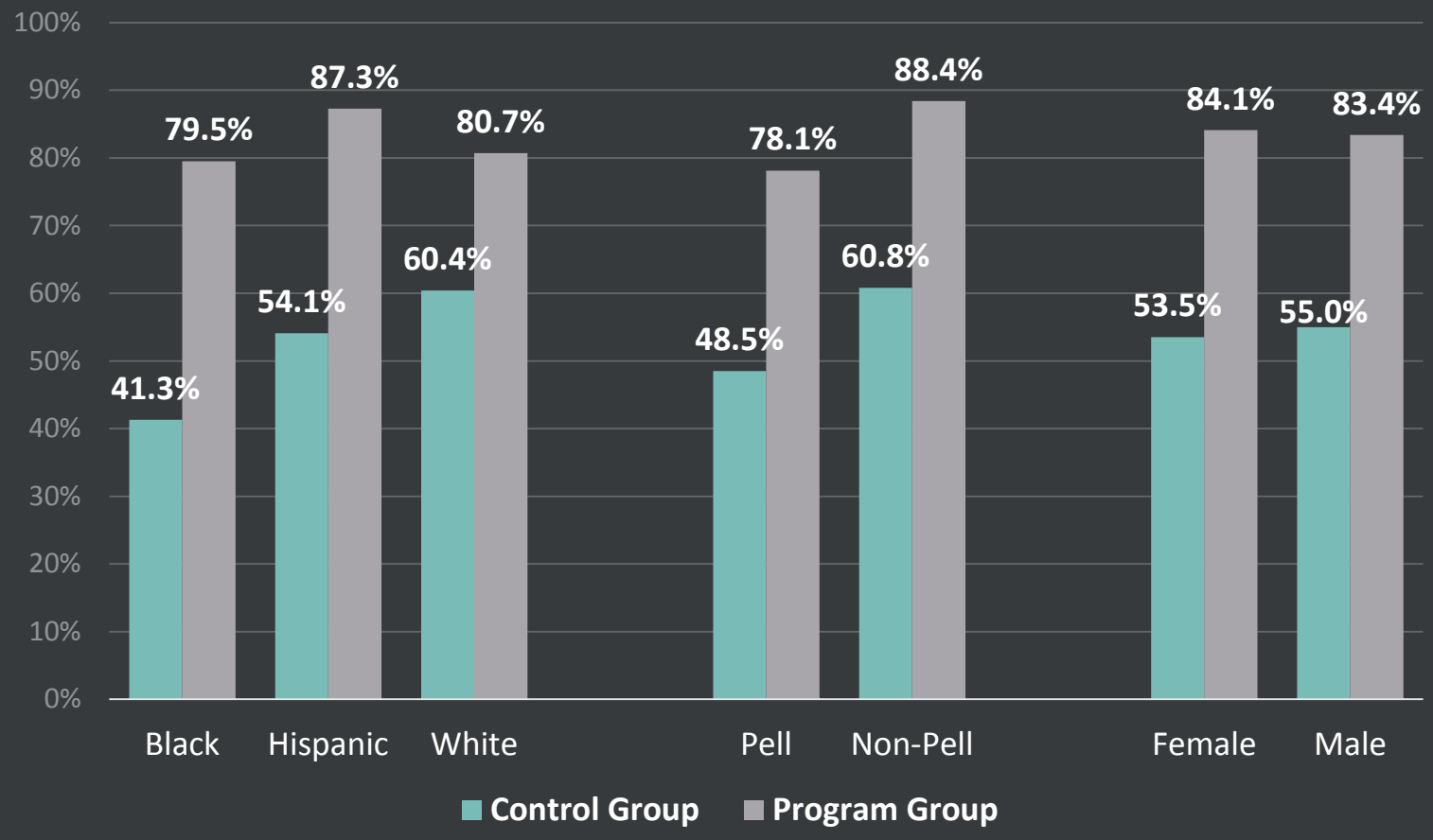
Treatment Effects: College Level Math Placement



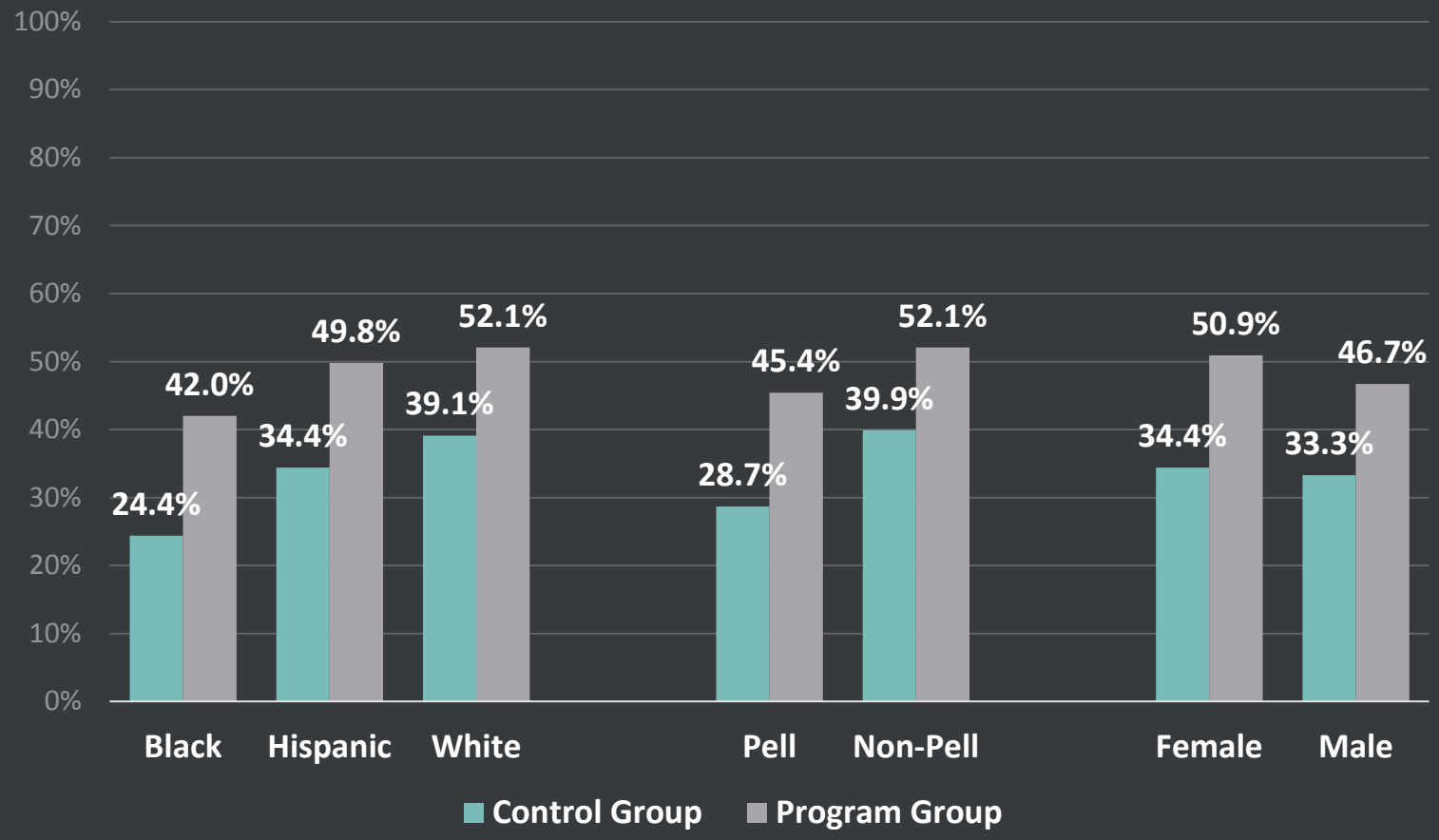
Treatment Effects: College Level Math Completion



Treatment Effects: College Level English Placement



Treatment Effects: College Level English Completion



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