Understanding the Impacts of the Test Optional Admission Policy

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Today's Presentation

I. Why is a "Test-Optional Policy" (TOP) right for Ithaca College?

II. Test-Optional Outcome Research
- Summary of Test-Optional Policy Controversy
- Research Goals
- Methodology, Data and Model
- Analysis of Results

III. Conclusion and Future Research

Ithaca College (IC) is located in Ithaca, NY

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Ithaca College's Profile

- Four-year Private Comprehensive Residential College
- Started as a Conservatory of Music in 1892
- 6,200 UG, 500 Grads, and 700 Faculty
- Four Professional Schools (Music, Business, Health Sciences, and Communications) and One Liberal Arts School
- Experiential and Integrative Learning
- $40,658 Tuition in 2015-16

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Challenges to Ithaca College

Tuition-Driven Budget

- 90% + revenue from enrollment related sources
- One of the most expensive colleges in the region

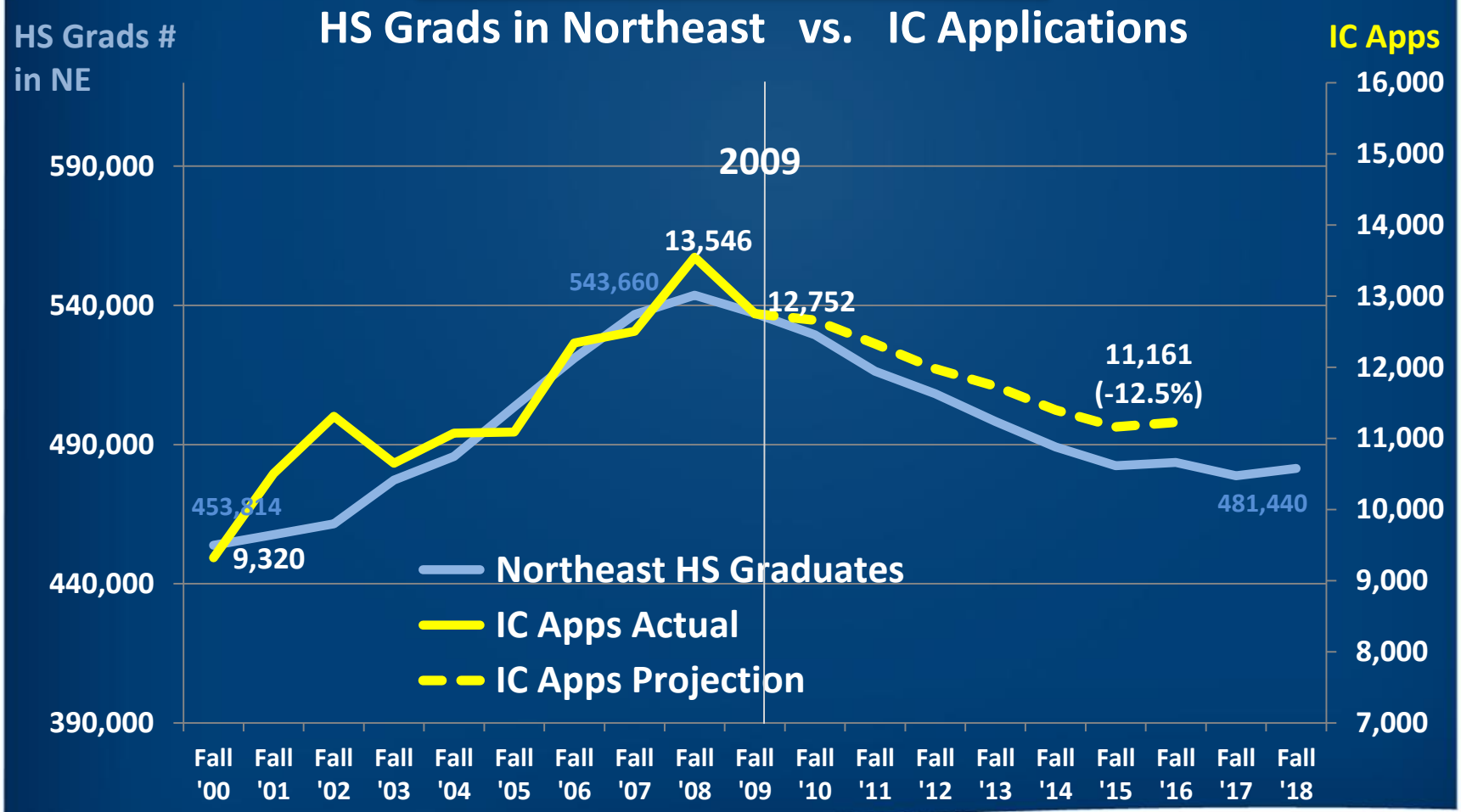
Declining High School Graduates in Northeast

- About 85% of the students are from Northeast

Need for More Diverse Student Body

- Only 15% of the 2009 cohort were ALANA (Afro-American, Latino/a, Asian and Native American)
- Ithaca's strategic plan: 20% by 2020

Demographic Change & Ithaca Applications



Source: NCES

Actual 1999/00 -- 2006/07
Projection 2007/08 – 2018/19

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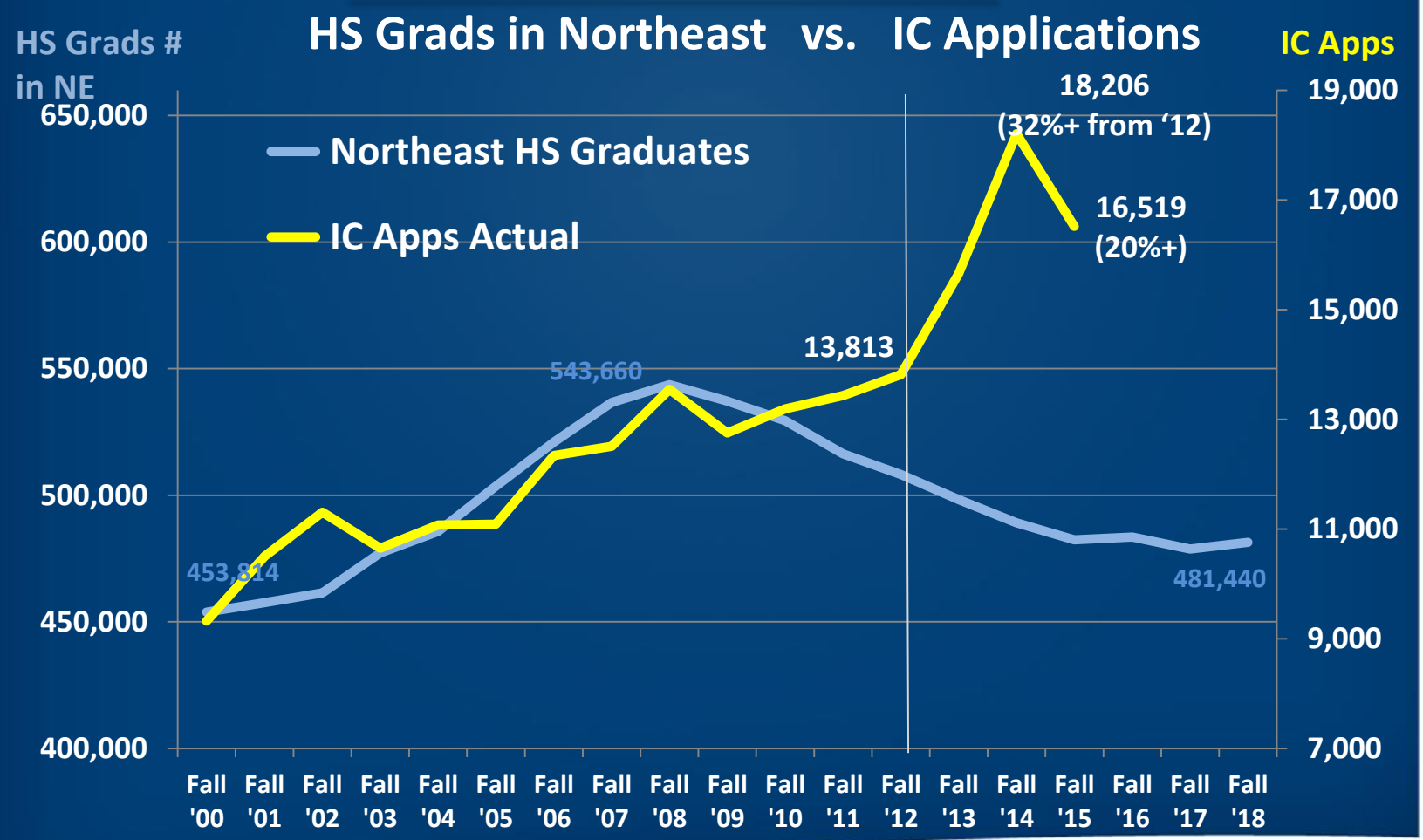
Ithaca College's Responses

- Education – Revised Core Curriculum
  Experiential & Integrative Learning
- Marketing – Institutional Branding Campaign
- Finance – Increased Affordability for Students
- Enrollment –
  - Aggressive regional recruitments
  - Strategic increase in IC grants
  - Investments in ICPEERS (own Social Network)
  - Predictive modeling with ICPEERS big data
  - Test-Optional Policy implementation in 2012 based on the empirical research

"Going Test-Optional – Gathering Evidence and Making the Decision at Ithaca College" by Yuko Mulugetta,Ph.D. (Best IR/Practitioner Award by NEAIR '14)

http://www.ithaca.edu/ir/docs/testoptionalpaper

Demographic Change and IC Applications



Source: High School Graduates by NCES

Actual
Projection

1999/00 -- 2006/07
2007/08 – 2018/19

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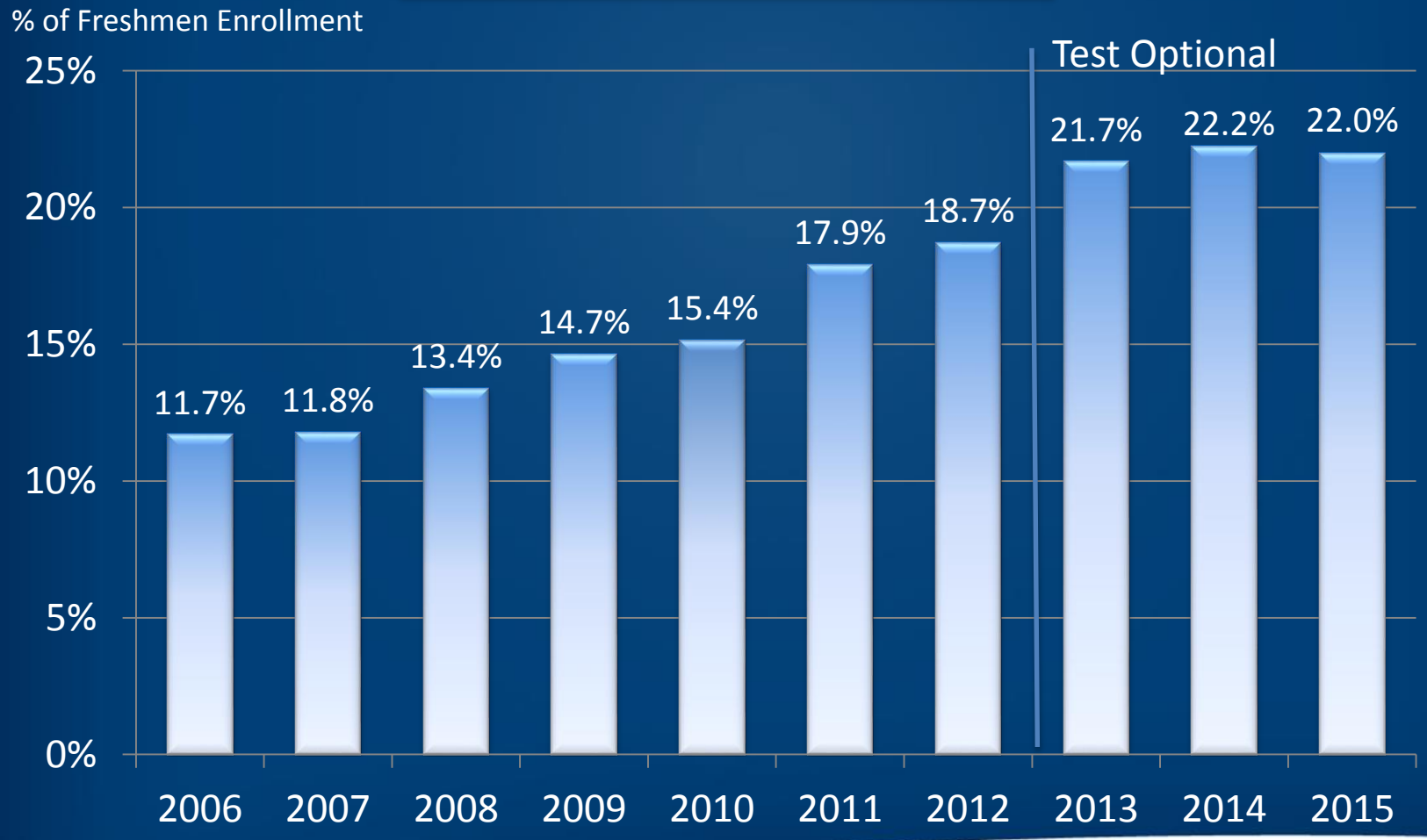
ALANA Enrollment



Source: Fall Enrollment Reports 2006 – 2015 by IR

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Thoughts

- An in-depth understanding of the impact of the Test Optional Policy on campus diversity is critical. We do not know if there is a causal relationship between TOP and the increase in diversity.

- A minority group member needs to be broadly defined as a member of a racial minority (ALANA), a lower income group member (i.e. Pell recipient), a first-generation college student or a student with learning differences.

- The impact of TOP needs to be examined not only at the enrollment stage, but at each stage of the enrollment funnel:
    1. recruitment
    2. application
    3. admission
    4. enrollment
    5. retention
    6. graduation.

Test Optional Policy (TOP) Controversy

- Two landmark studies were published in 2014
- "Defining Promise: Optional Standardized Testing Policies in American College and University Admissions" (Hiss and Franks, 2014)
- "The Test-Optional Movement at America's Selective Liberal Arts Colleges: A Boom for Equity or Something Else?" (Belasco, Rosinger, and Hearn, 2014)
- Two opposite conclusions were reached about the TOP impact on campus diversity

"Defining the Promise" (Hiss and Franks, 2014)

- Examined 123,000 individual student and alumni records from 33 four-year institutions (6 Public, 20 Private, 5 Minority-serving & 2 Art Institutes)
- Found that non-submitters are more likely to be first-generation students, racial minorities, women, Pell recipients, and students with Learning Differences (LD).
- Found that the cumulative GPA difference between test-submitters and non-submitters was 0.05 (2.88 vs. 2.83 respectively) and a 0.6% in graduation rates. They concluded "By any standard, these are trivial differences."

"The Test-Optional Movement at America's Selective Liberal Arts Colleges "
(Belasco, Rosinger, and Hearn, 2014)

- Examined the institutional level panel data of 180 selective liberal arts colleges including 32 TOP institutions from 1992 to 2010
- Applied a treatment vs. control group research design and used the DiD statistical tests
- Found that the TOP institutions failed to show a positive change in the proportion of low-income and minority student enrollment
- However, found that TOP benefited the institutions by increasing applications and raising their reported SAT scores significantly (~26 points).

Research Goals of This Study

1. With the TOP adoption, does the probability that an applicant will be a minority group member increase?

2. Is the TOP impact on diversity the same at each stage of the enrollment funnel?

3. Looking at those who enroll, how well do non test-submitters perform in comparison to test-submitters as measured by cumulative GPA and the 3rd semester retention rates?

Tested at Four Stages of the Enrollment Funnel

Prospects

Inquiries

Applicants

Admits

Paid Deposits (Before Melt)

Enrolled

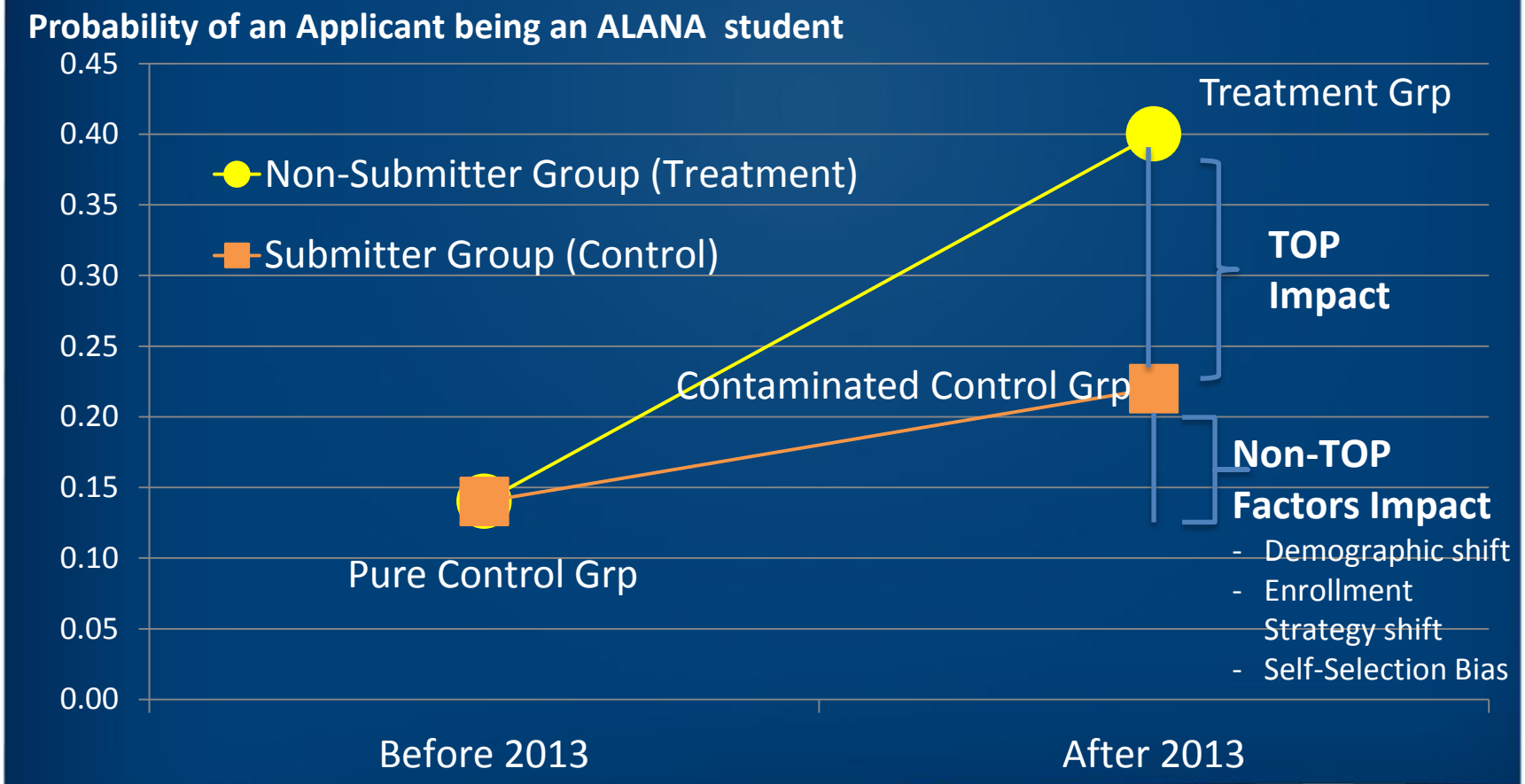
Retained at 3rd semester

Graduated

Research Design

- 90,824 individual applicant records from Ithaca College's 3 TOP cohorts and 3 cohorts prior to TOP
- A Quasi-Experimental Design
  - Treatment Group: Those who did not submit standardized test scores for admission
  - Control Group: Those who did submit standardized test scores for admission.
    - Pure Control Group prior to 2013
    - Contaminated Control Group after 2013

An Illustration of the TOP Impact on the ALANA Probability



Statistical Tests

- Logistic Regression with an interaction term
- $F(x) = 1/\ 1+ e^{-(\beta 0 + \beta 1 * X1 \ldots)}$
- $G(F(x)) = \ln(F(x)/ 1- F(x)) = \beta 0 + \beta 1 * X1 \ldots + \beta 5 * X5 + \text{error}$

Here,

- F(x): 1 for Racial Minorities (ALANA); 0 for others at each stage of the enrollment funnel
- X1: HS GPA
- X2: Family Contribution to Education (in $)
- X3: NY State Resident

- X4: 1 for After 2013;
  0 for Before 2013
- X5: 1 for Non-submitters (Treatment);
  0 for Submitters (Control)

If the TOP has increased the probability of an applicant being a minority group member by controlling for the effects (time factor or other biases) expressed in X4, β5, the coefficient associated with the TOP, should be significant in a positive direction.

- For Test-Submitters prior to 2013 ("Pure" Control Group), X4=0 & X5=0.

  G (F(x)) = β0 + β1*X1 … β1*X3 + error

- For Test-Submitters after 2013 ("Contaminated" Control Group), X4=1 & X5=0.

  G (F(x)) = (β0+β4) + β1*X1 … β1*X3 + error

- For Non Test-Submitters after 2013 (Treatment Group), X4=1 & X5=1.

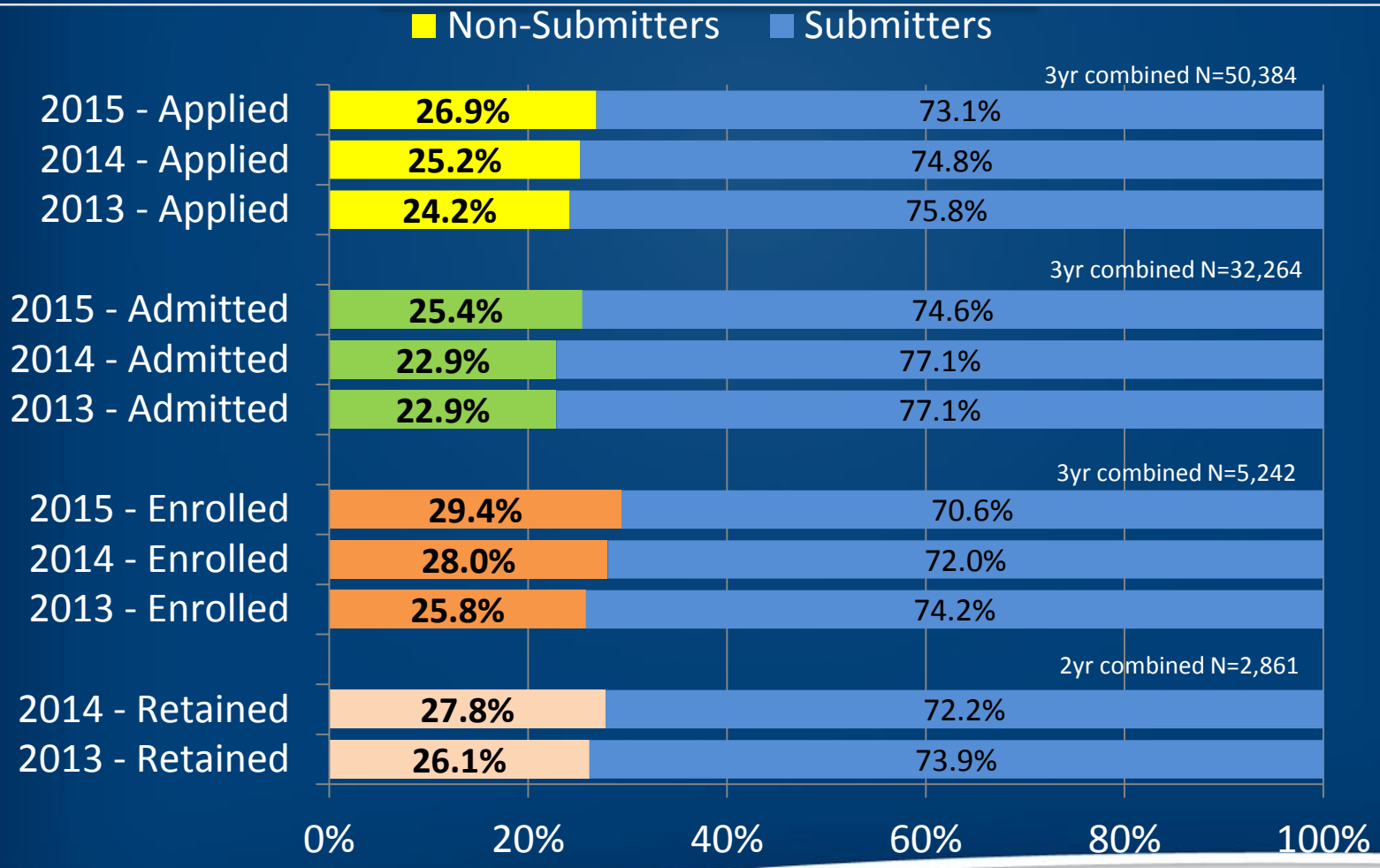
  G (F(x)) = (β0+β4+β5)+β1*X1 … β1*X3+ error

  β5 should be significant in a positive direction.

Results

- Descriptive Statistics

% of Non-Test Submitters by Funnel



Source: August Final Reports 2013 – 2015 by Admission

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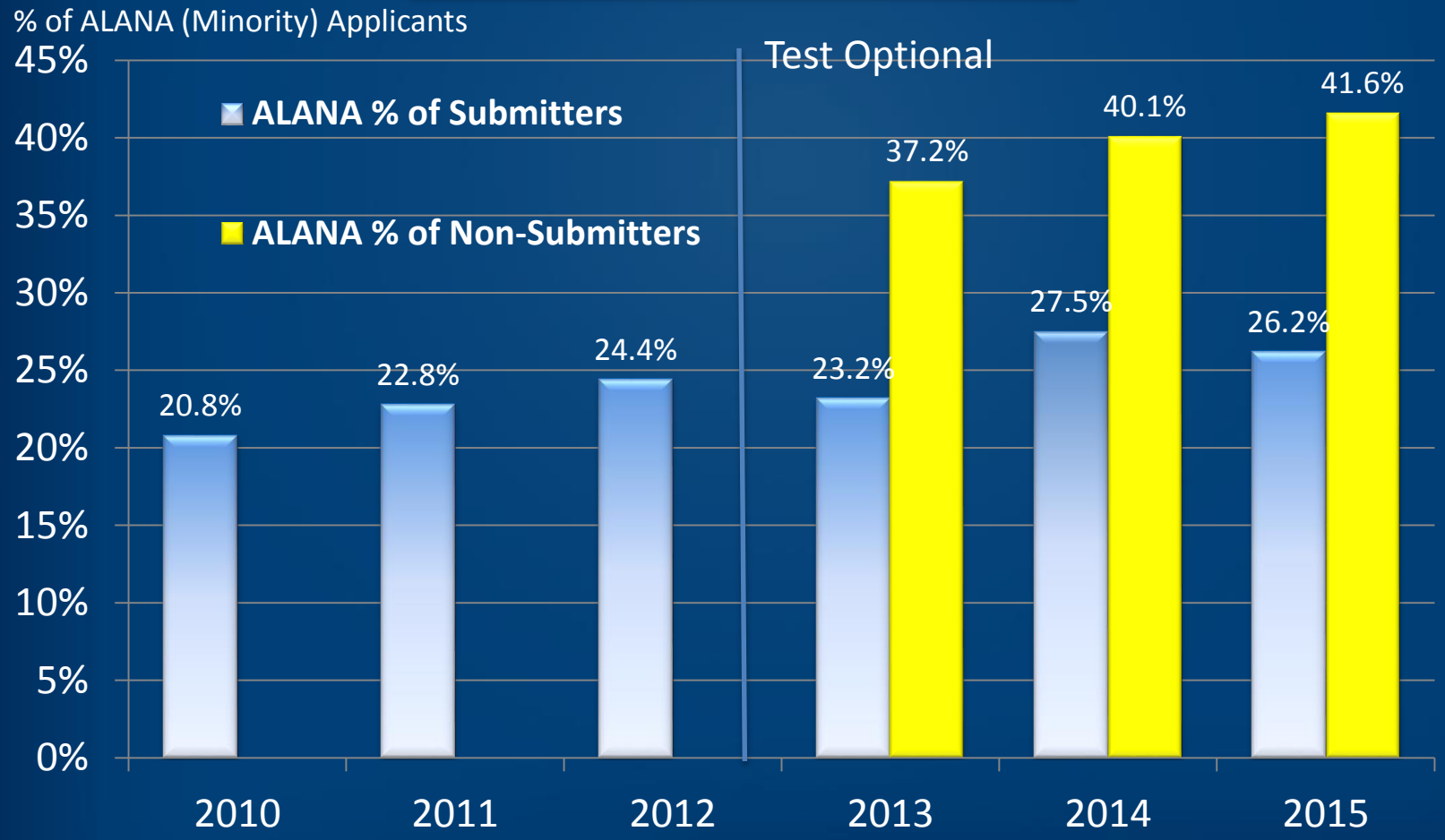
ALANA % of Applicants

Test-Submitters vs. Non Test-Submitters



2013-2015 chi-sqr p< .000

Source: August Final Reports 2010 – 2015 by Admission

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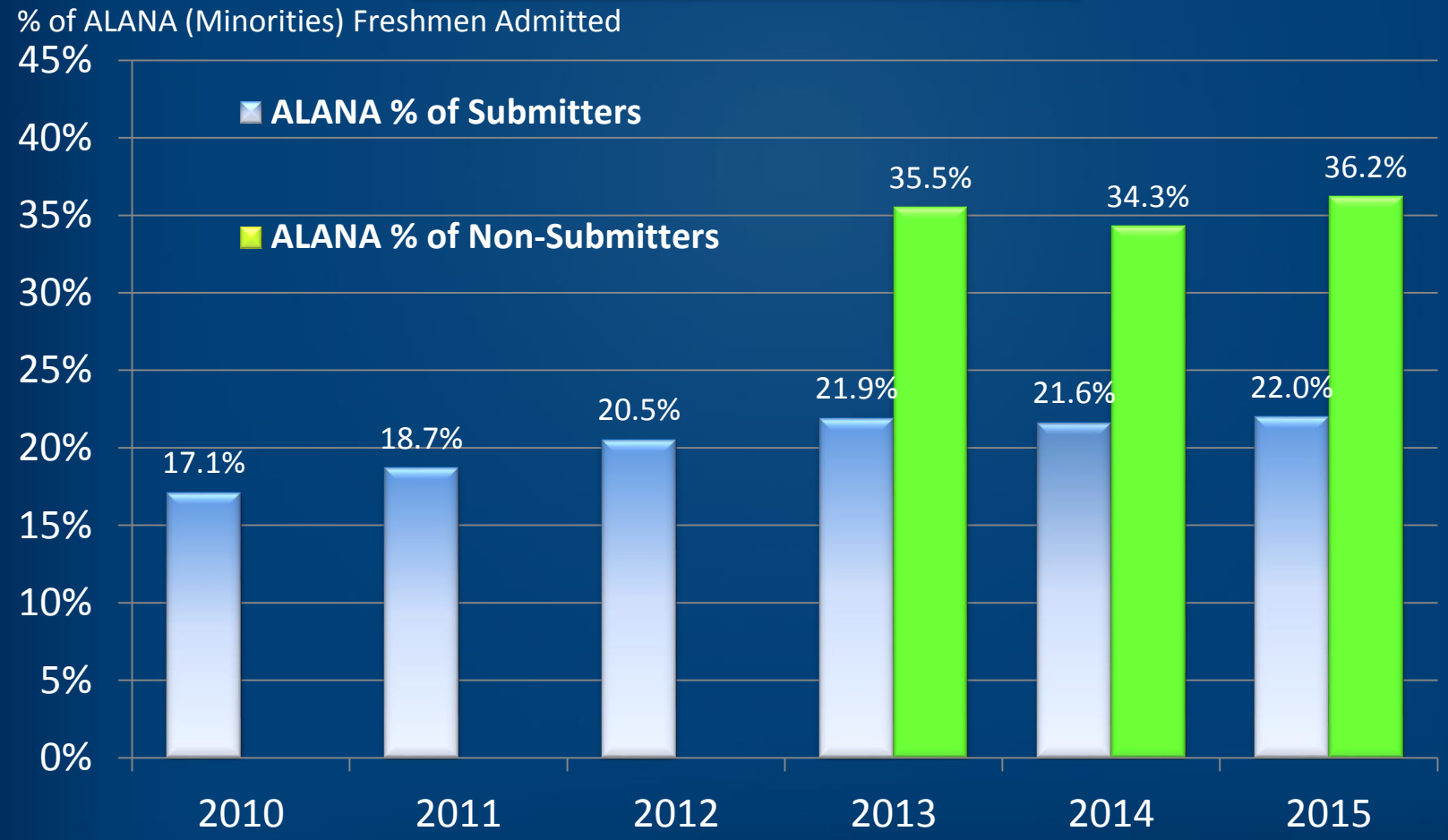
ALANA % of Admitted Applicants

Test-Submitters vs. Non Test-Submitters



2013-2015 chi-sqr p< .000

Source: August Final Reports 2010 – 2015 by Admission

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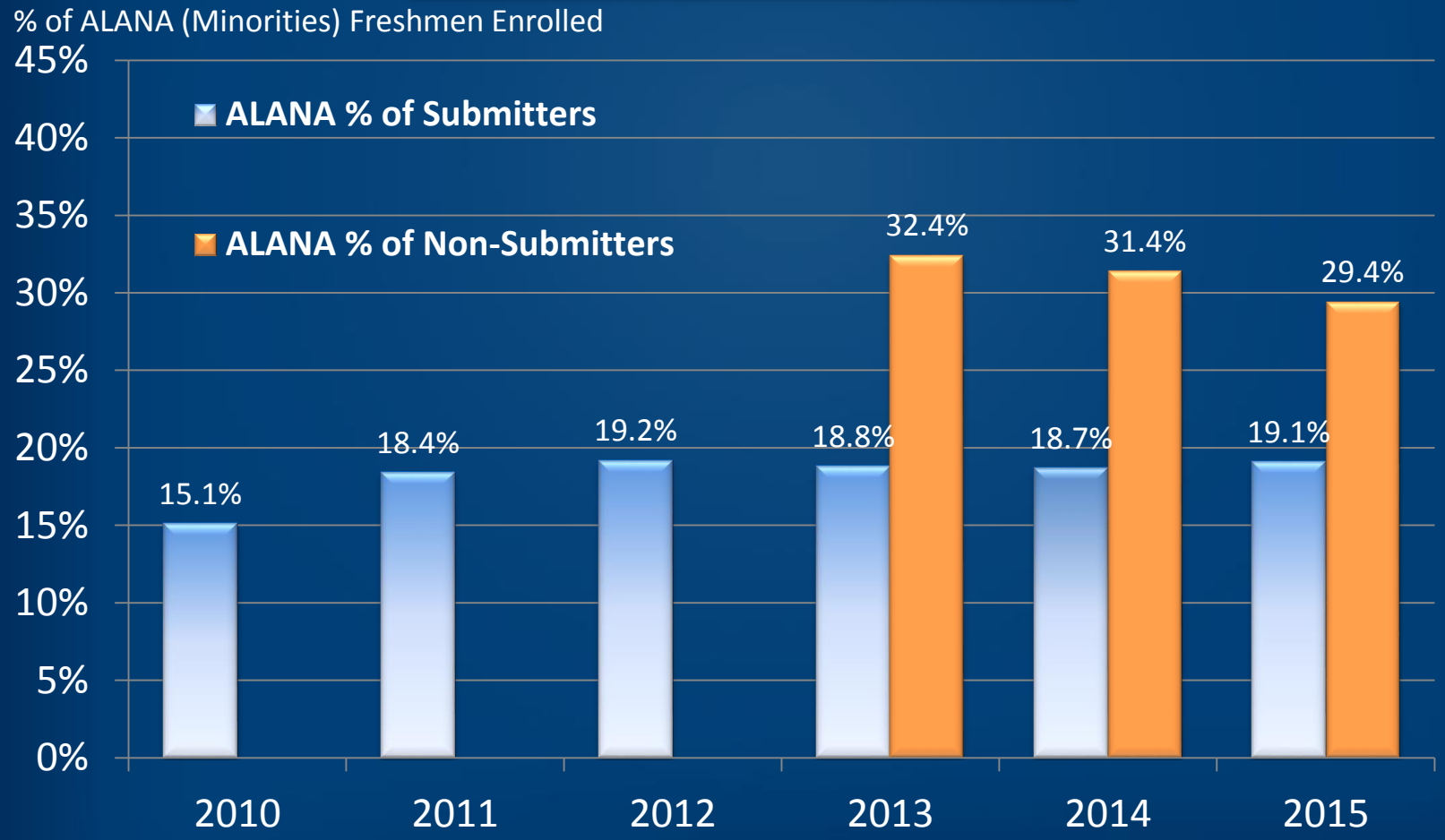
ALANA % of Enrolled Students

Test-Submitters vs. Non Test-Submitters



2013-2015 chi-sqr p< .000

Source: August Final Reports 2010 – 2015 by Admission

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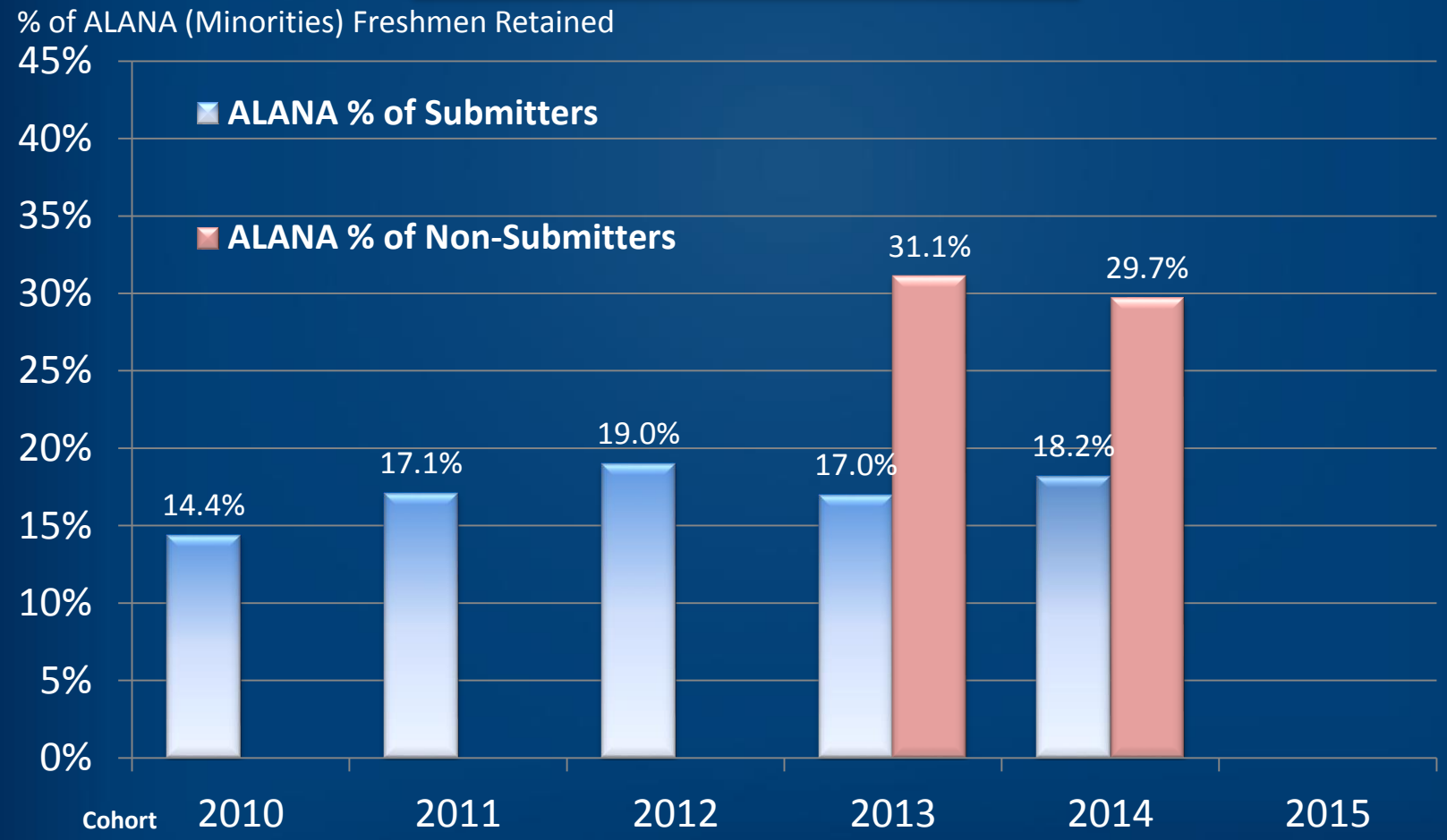
ALANA% of Retained at 3rd Semester

Test-Submitters vs. Non Test-Submitters



2013-2014 chi-sqr p< .000

Source: Oct 1 Final Reports 2010 – 2014 by IR

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Results

- Multivariate Analysis

Statistical Tests Revisited

- Logistic Regression with an interaction term
- $F(x) = 1/ 1+ e^{-(\beta 0 + \beta 1 * X1 \ldots)}$
- $G(F(x)) = \ln (F(x)/ 1- F(x)) = \beta 0 + \beta 1 * X1 \ldots + \beta 5 * X5 + \text{error}$

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  0 for Submitters (Control)

If the TOP has increased the probability of an applicant being a minority group member by controlling for the effects (time factor or other biases) expressed in X4, β5, the coefficient associated with the TOP, should be significant in a positive direction.

TOP Impact on Applicants' Diversity

N=82,222	Dependent Var: ALANA = 1 Non-ALANA= 0					
	B	S.E.	Wald	df	Sig.	Exp(B)
X1 NY_STATE	.547	.017	998.476	1	.000	1.728
X2 HS_GPA	-.710	.016	1855.330	1	.000	.492
X3 Family Contribution	-.274	.004	4749.475	1	.000	.760
X4 After2013	.412	.019	473.602	1	.000	1.510
X5 Test_Optional	.412	.019	473.602	1	.000	1.510
Constant	1.503	.056	721.075	1	.000	4.494
Nagelkerke R-sqr =	0.165 (<.000)					

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TOP Impact on Admits' Diversity

N=58,676	Dependent Var: ALANA = 1 Non-ALANA= 0					
	B	S.E.	Wald	df	Sig.	Exp(B)
X1 NY_STATE	.362	.022	278.909	1	.000	1.436
X2 HS_GPA	-.547	.023	542.732	1	.000	.579
X3 Family Contribution	-.314	.005	3587.601	1	.000	.731
X4 After2013	.329	.023	203.991	1	.000	1.389
X5 Test_Optional	.441	.031	208.610	1	.000	1.555
Constant	1.098	.082	180.308	1	.000	2.997
Nagelkerke R-sqr =	0.139 (<.000)					

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TOP Impact on Enrollees' Diversity

N=10,011 Dependent Var: ALANA = 1 Non-ALANA= 0

		B	S.E.	Wald	df	Sig.	Exp(B)
X1	NY_STATE	.231	.055	17.818	1	.000	1.260
X2	HS_GPA	-.662	.055	145.346	1	.000	.516
X3	Family Contribution	-.375	.015	658.655	1	.000	.687
X4	After2013	.243	.059	16.849	1	.000	1.274
X5	Test_Optional	.442	.076	34.133	1	.000	1.557
	Constant	1.475	.191	59.462	1	.000	4.371

Nagelkerke R-sqr = 0.151 (<.000)

TOP Impact on Retained Students' Diversity

N=6,882 Dependent Var: ALANA = 1 Non-ALANA= 0

	B	S.E.	Wald	df	Sig.	Exp(B)
X1 NY_STATE	.162	.068	5.657	1	.017	1.176
X2 HS_GPA	-.592	.069	74.346	1	.000	.553
X3 Family Contribution	-.406	.019	467.945	1	.000	.666
X4 After2013	.202	.075	7.269	1	.007	1.224
X5 Test_Optional	.529	.105	25.526	1	.000	1.698
Constant	1.324	.240	30.399	1	.000	3.760

Nagelkerke R-sqr = 0.152 (<.000)

Conclusion

This study found:

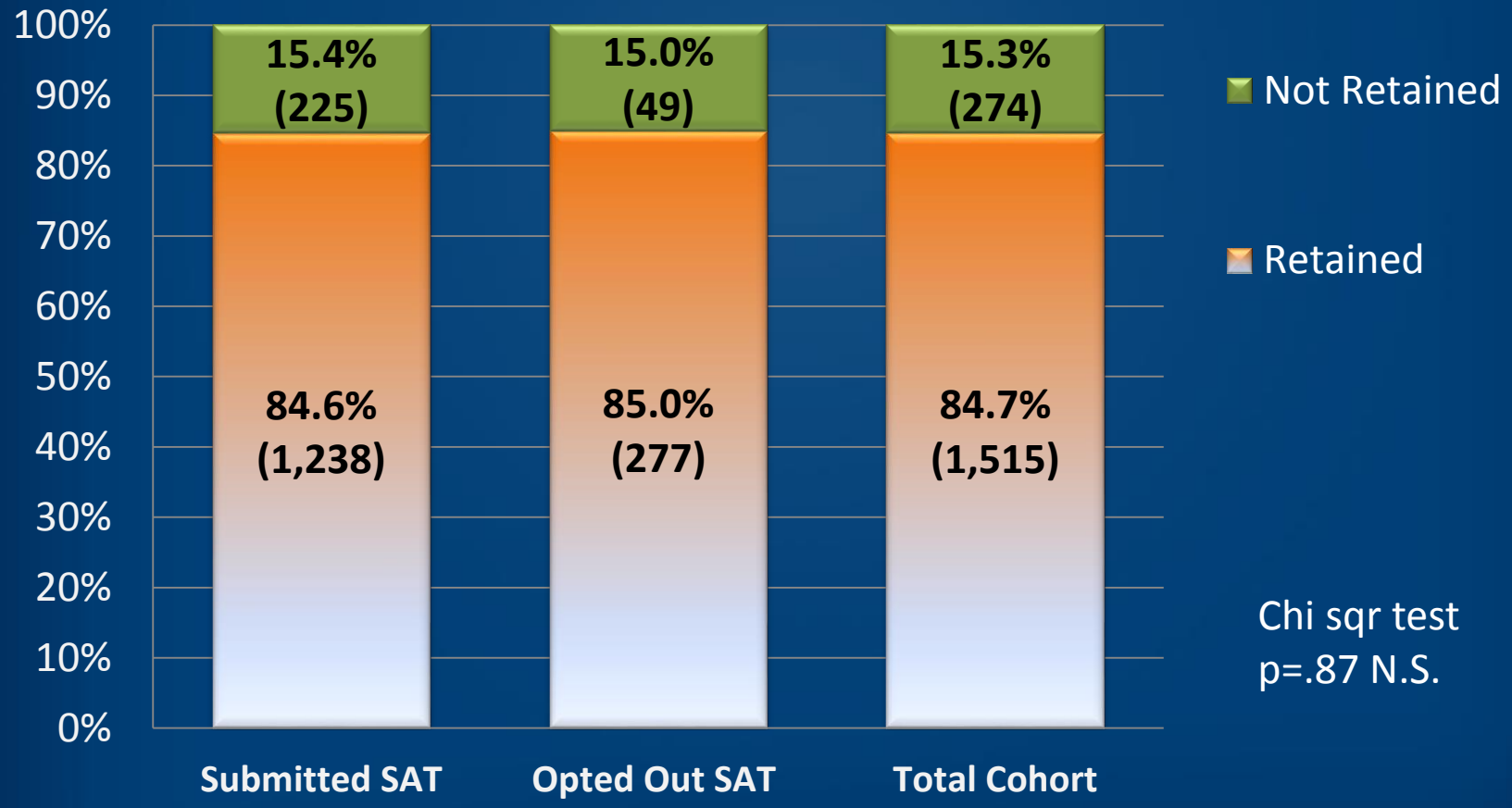
- At each stage (application, admission, enrollment or retention) of the enrollment funnel, the proportion of the ALANA population shrank for both the test-submitter and non-submitter groups.

- The ALANA proportion of the non-submitter group remains at least ~10% higher than the proportion of the submitter group at each stage of the funnel.

- The TOP increased the probability of a student being a minority group member at all stages of the enrollment funnel when logistic regression analysis was conducted under the quasi-experimental design.
- Tests were repeated using the Pell recipient status and the first generation status as dependent variables. The results seem to confirm the conclusion stated above.

END

3rd Semester Retention % by Test Optional Status (2013 Cohort)



Source: Report 2014 by Institutional Research

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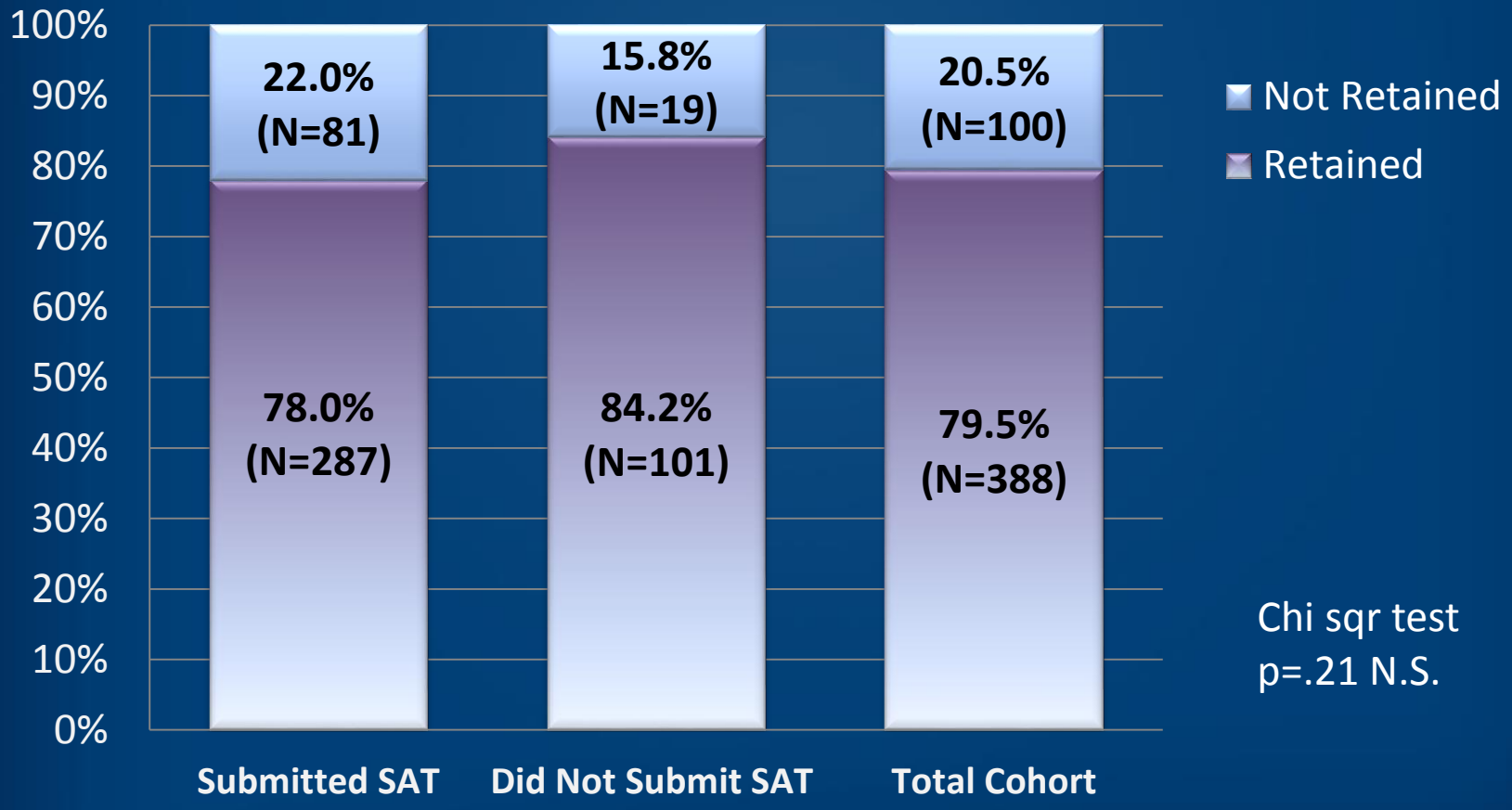
3rd Semester Retention % of ALANA by Test Optional Status (2013 Cohort)



Source: Report 2014 by Institutional Research

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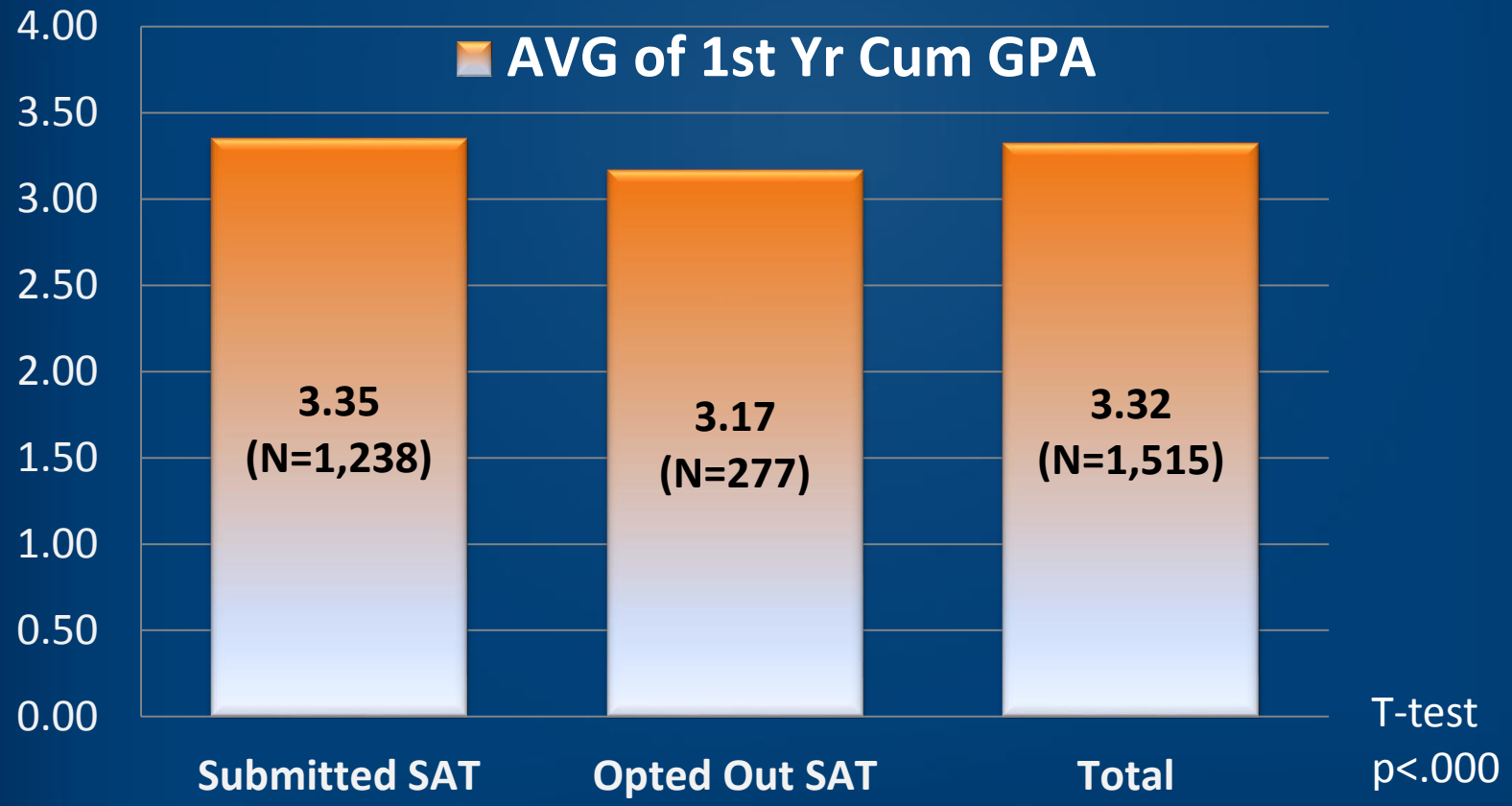
1st Year Cum GPA by Test Optional Retained Students (2013 Cohort)



Source: Report 2014 by Institutional Research

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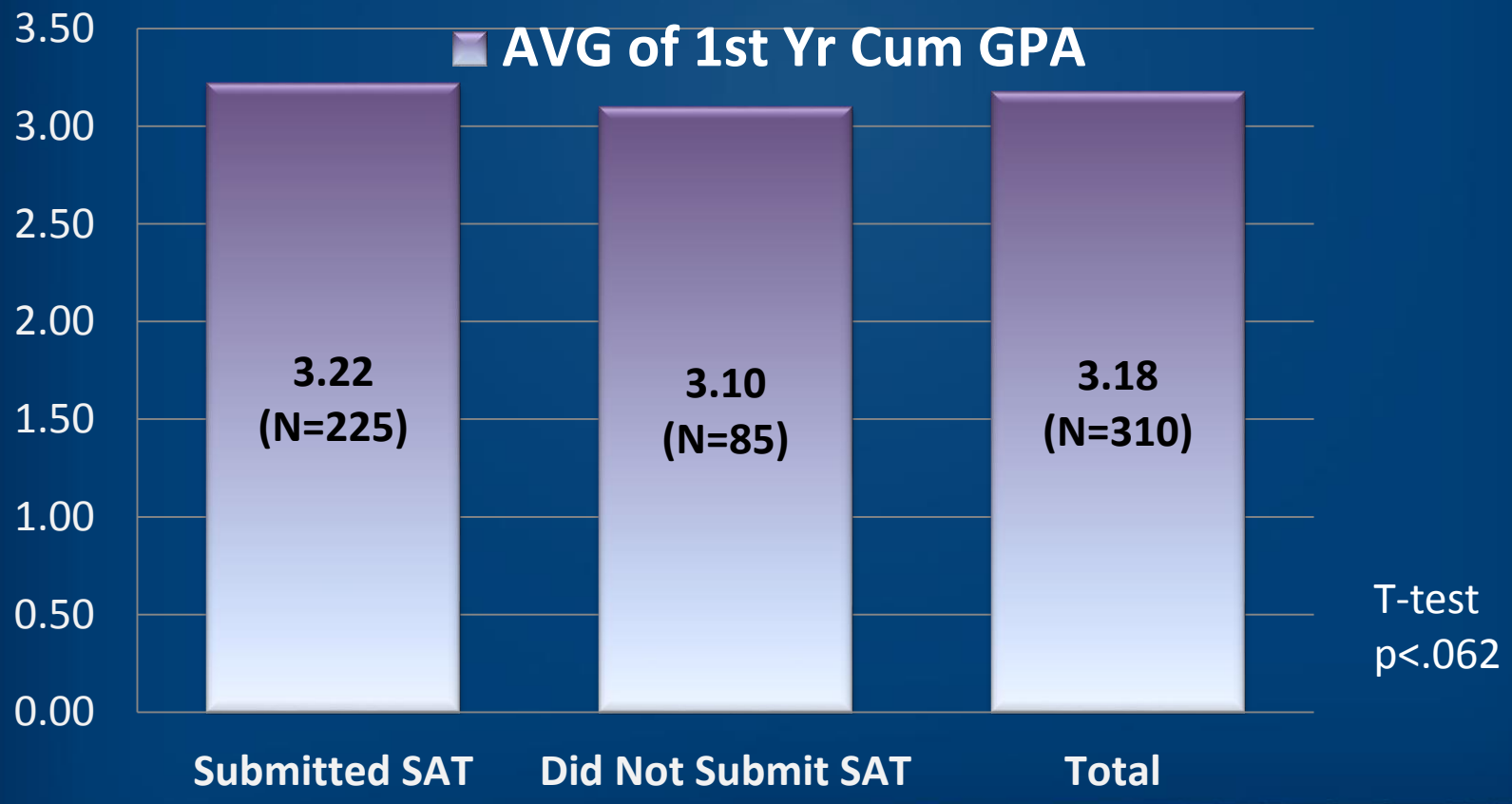
1st Year Cum GPA by Test Optional Retained ALANA (2013 Cohort)



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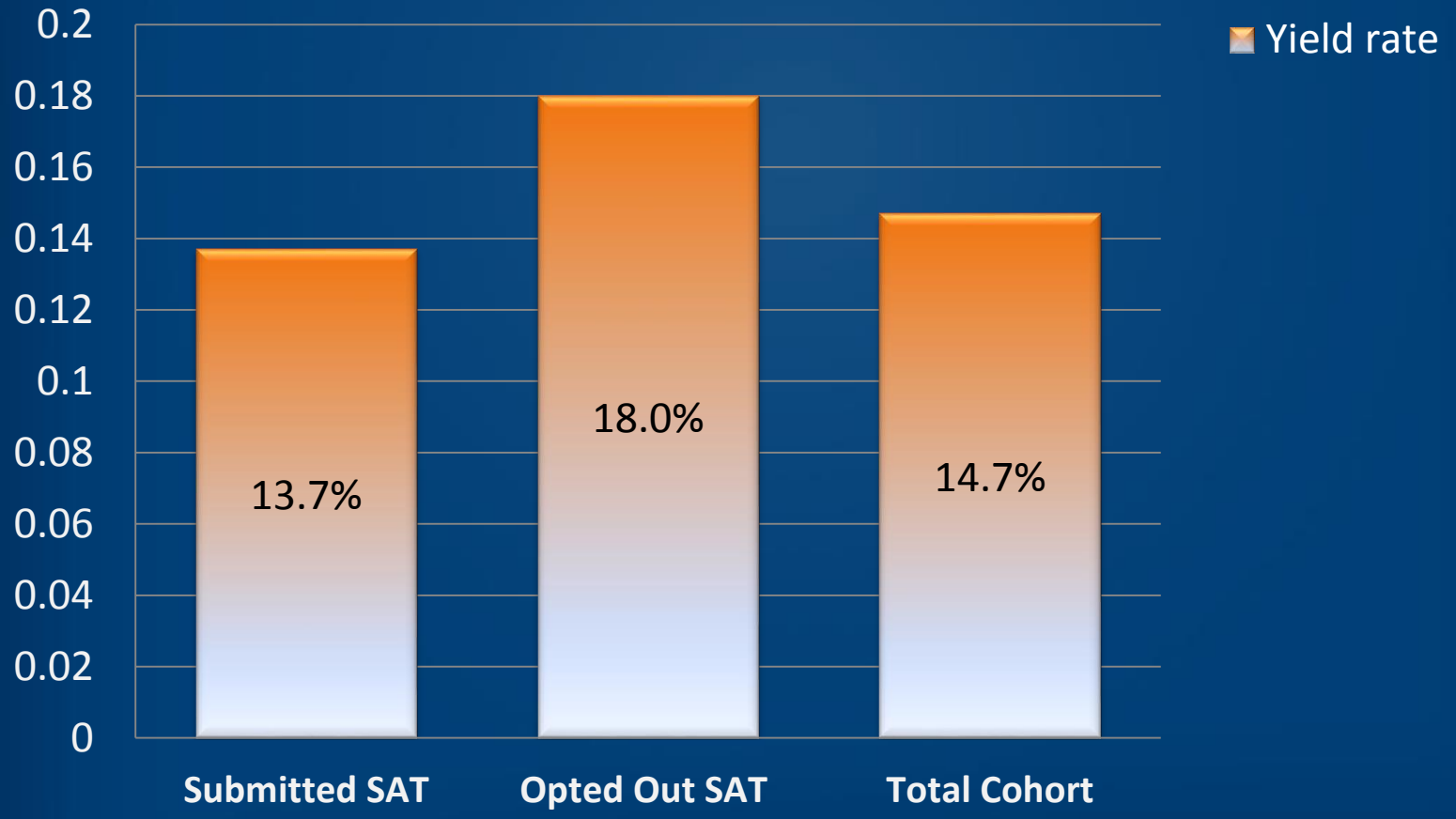
Yield Rate by Test Optional Status (2014 Cohort)



Source: Report 2014 by Institutional Research

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