



UNIVERSITY SYSTEM OF GEORGIA

CASSIE The Consortium for the Analysis of Student
Success through International Education

*The Proof is in the Data:
Harnessing the Power of 'Big
Data' to Examine the Effects of
Education Abroad*

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Where does EA data live?

*We know that experiences abroad matter for students, but does **anyone have the data to prove it?***

Where might you find Education Abroad data/research to answer some of your questions about the effect of Education Abroad on student outcomes?

Education Abroad Research

- Historically, EA research focused on:
 - demographic,
 - academic,
 - program design
 - And their relation to participation rates
- Specifically, EA research examples:
 - Soft Skills
 - Intercultural sensitivity and personal growth
 - Knowledge and skills acquired abroad
 - Impacts on personal traits such as self-efficacy
 - Effect on 'internationalness'
 - Proficiency in world languages
 - Post-graduation international careers
 - Timely graduation
 - Assumption that EA has negative impact on semesters to graduation, especially for “lock-step” STEM and pre-professional
- How does CASSIE differ?
 - Large data set, analyzes contribution of EA on student success

Presentation Overview

- Details of the CASSIE study
- Sampling strategy
- Research design
- Statistical methodology
- Preliminary USG findings
- Your data & potential stakeholders
- Advocacy
- Contribution to HE policy & practice

What is CASSIE?

- GLOSSARI
 - Georgia Learning Outcomes of Students Studying Abroad Research Initiative
 - 2006-2010; Dept. of Education
- CASSIE
 - Consortium for the Analysis of Student Success through International Education
 - 2017-2020; Dept. of Education; partner with IIE
- CASSIE **broadens the scope** of GLOSSARI:
 - Adds Language study & Title VI participation
 - Non-USG institutions
 - Refined econometric and statistical techniques

What does CASSIE do?

- Builds capacity
 - collaboration between Institutional Research and IE
 - promote better assessment
- Power of ‘big data’
 - Aggregated database enables studies of under-represented groups such as male students, minorities, Pre-professional/STEM, students who receive aid
 - Ultimately, seeks to better understand **actual** impact of international education
- Benchmarking
 - Provides participating campuses a comparison between themselves and with other, similar, institutions
- “Proof is in the data” → better advocacy efforts

Sampling Strategy

- Term-by-term data
 - Prior academic achievement-SAT, high school GPA
 - Demographic characteristics-Sex, Race/Ethnicity, Pell receipt
 - IEA experiences (e.g. education abroad, foreign language study, Title VI)
 - Academic progress-Hours earned, degrees awarded, college GPA
- Population
 - All IPEDS First Time Freshman in Fall 2010 & 2011 who sought an Associate's, Bachelor's, or Bachelor's with combined Master's
 - All students, not just those with IE experience, to create treated and control groups

USG CASSIE Institutions

Research Universities

- Augusta University
- Georgia State University
- Georgia Tech
- University of Georgia

State Universities

- Albany State University*
- Clayton State University
- Columbus State University
- Fort Valley State University*
- Georgia College & State Univ.
- Georgia Southwestern St. Univ.
- Middle Georgia State Univ.
- Savannah State University*
- University of North Georgia



Comprehensive Universities

- Georgia Southern University
- Kennesaw State University
- University of West Georgia
- Valdosta State University

State Colleges

- Abraham Baldwin Agricultural Coll.
- Atlanta Metropolitan State College
- College of Coastal Georgia
- Dalton State College*
- East Georgia State College
- Georgia Gwinnett College
- Georgia Highlands College
- Gordon State College
- South Georgia State College

* = SA population not large enough to include in analysis

Non-USG CASSIE Institutions

- Central Michigan University
- California State University-Long Beach*
- Howard University*
- Middle Tennessee State University
- New York University
- Tulane University
- University of Alabama*
- University of Arizona
- University of Delaware
- University of Iowa
- University of Kansas
- University of Kentucky
- University of Massachusetts Amherst*
- University of South Carolina
- University of Texas at Austin
- Virginia Tech
- Webster University

17 States
+ D.C.

Research Design

Focal Experiences

- Education Abroad--duration, location, provider-type
- World Language Learning-- # of courses, major, minor
- Intensive International Ed--FLAS, Flagship, etc.

Controls/ Special Populations

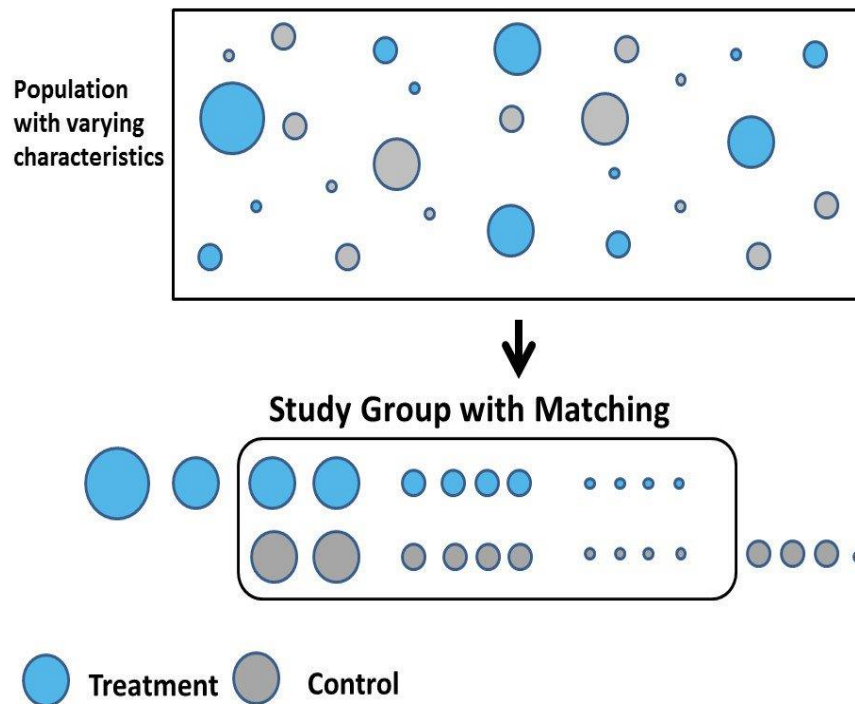
- Need-Based Aid--Pell, Other
- Academic Major--STEM, pre-professional programs
- Underrepresented minorities
- Matching variables: Race/ethnicity, gender, HS GPA, SAT, etc.

Outcomes

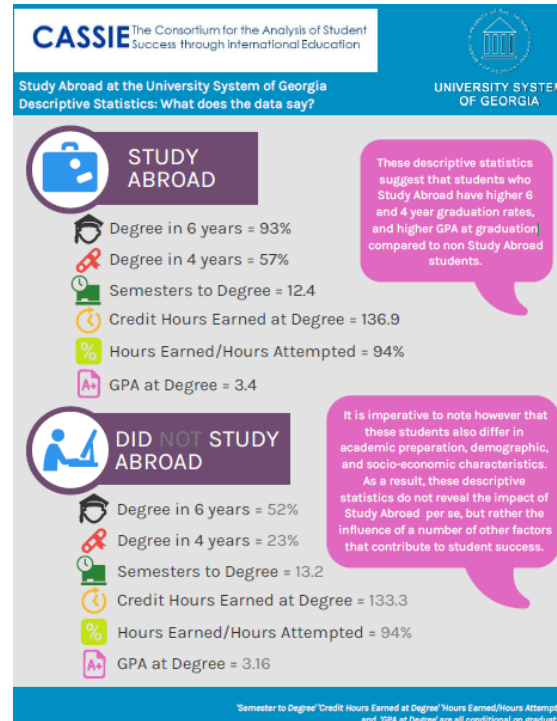
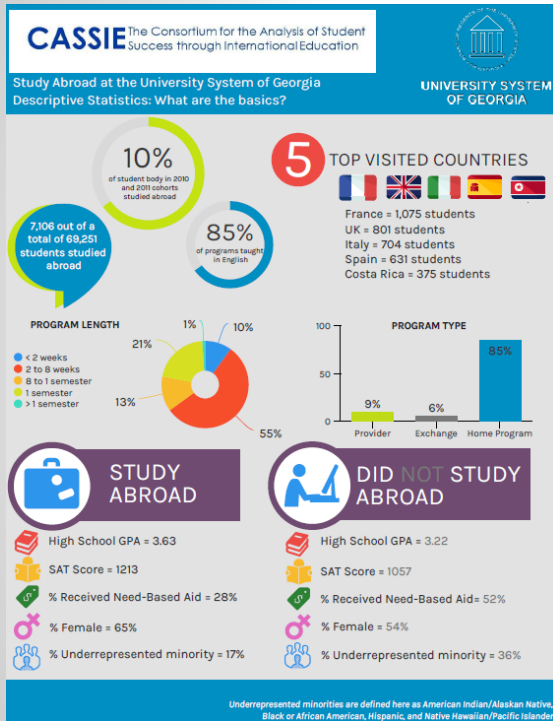
- Timely Graduation
- Terms and Credits to Degree
- Credit completion ratio and GPA

Statistical Methodology

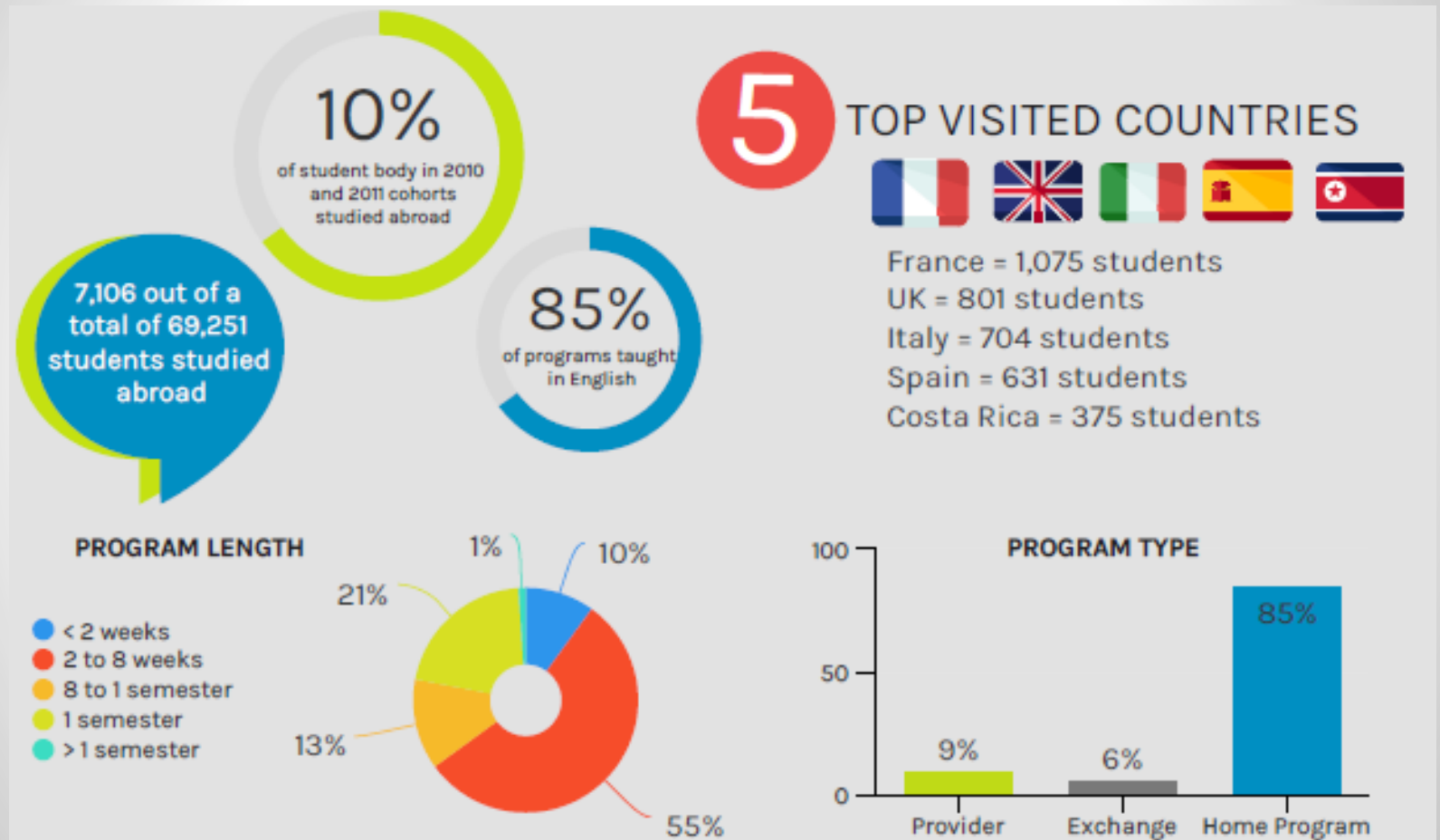
- Participation in international education is self-selected
- Impact on student outcomes may not be due to the international education experience itself, but other unobserved factors the student possesses
- Simple comparison of treated and control can result in biased estimates
- Exact and nearest neighbor Matching to find “statistical twin”



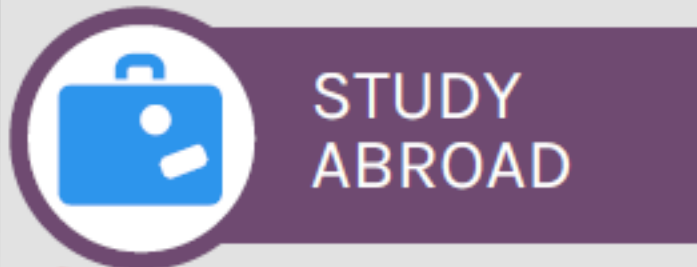
Preliminary USG Findings Infographic Handout



General Information



Student Characteristics



High School GPA = 3.63



SAT Score = 1213



% Received Need-Based Aid = 28%



% Female = 65%



% Underrepresented minority = 17%



High School GPA = 3.22



SAT Score = 1057



% Received Need-Based Aid = 52%



% Female = 54%



% Underrepresented minority = 36%

Descriptive Outcomes



STUDY ABROAD



Degree in 6 years = 93%



Degree in 4 years = 57%



Semesters to Degree = 12.4



Credit Hours Earned at Degree = 136.9



Hours Earned/Hours Attempted = 94%



GPA at Degree = 3.4

These descriptive statistics suggest that students who Study Abroad have higher 6 and 4 year graduation rates, and higher GPA at graduation compared to non Study Abroad students.



DID NOT STUDY ABROAD



Degree in 6 years = 52%



Degree in 4 years = 23%



Semesters to Degree = 13.2



Credit Hours Earned at Degree = 133.3



Hours Earned/Hours Attempted = 94%



GPA at Degree = 3.16

It is imperative to note however that these students also differ in academic preparation, demographic, and socio-economic characteristics. As a result, these descriptive statistics do not reveal the impact of Study Abroad per se, but rather the influence of a number of other factors that contribute to student success.

Matching Analysis Outcomes



DEGREE IN 6 YEARS

8.7pp

SA students are more likely (8.7pp) to graduate in 6 years compared with non-SA students.



DEGREE IN 4 YEARS

10.1pp

SA students are more likely (10.1pp) to graduate in 4 years compared with non-SA students.



SEMESTERS TO DEGREE

-0.17

SA students finish their degree about 3 weeks faster than non-SA students, showing that study abroad slightly accelerates but does not delay graduation.



CREDIT HOURS EARNED

3.22

SA students earn 3.22 more credit hours upon graduation compared with non-SA students, showing that SA students do not earn considerably more, or less, credit hours than non-SA students.



HOURS EARNED/ HOURS ATTEMPTED [NSS]

No difference between SA and non-SA students.

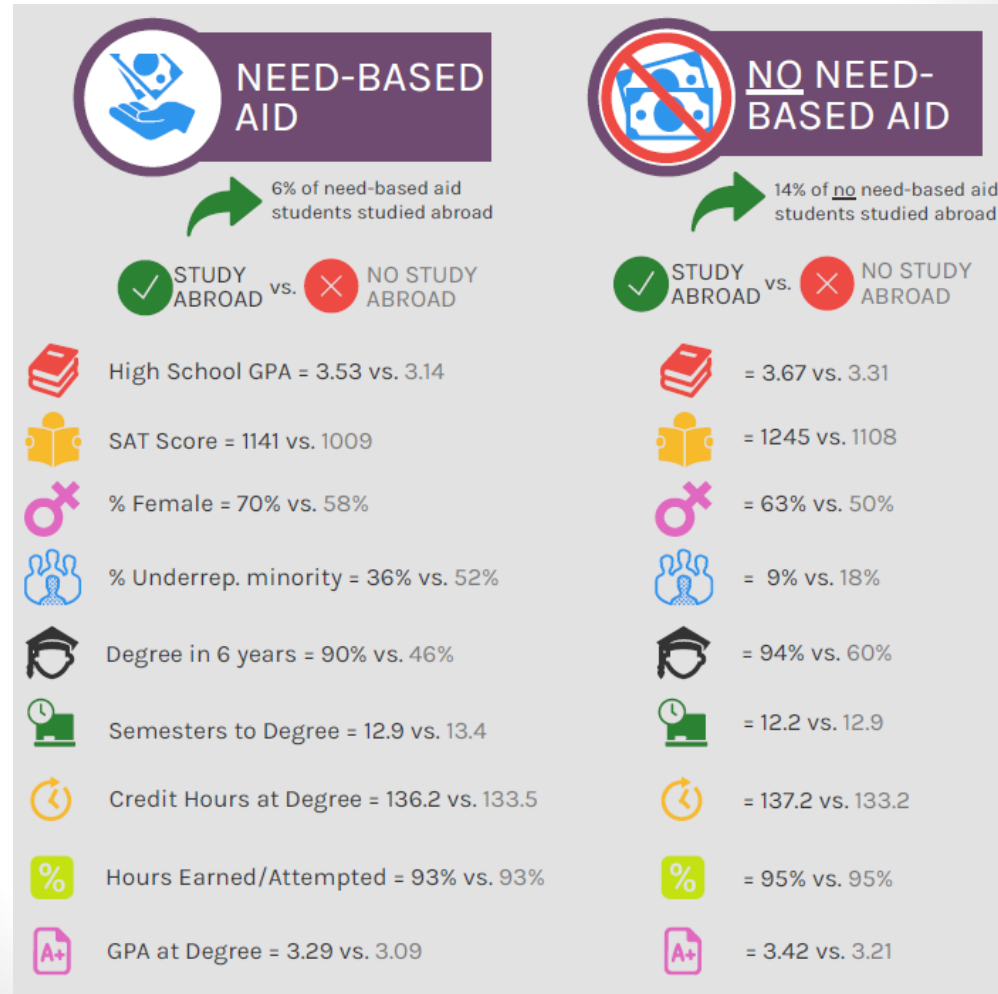


GPA AT DEGREE









.12

SA students earn a 0.12 higher GPA than non-SA students.

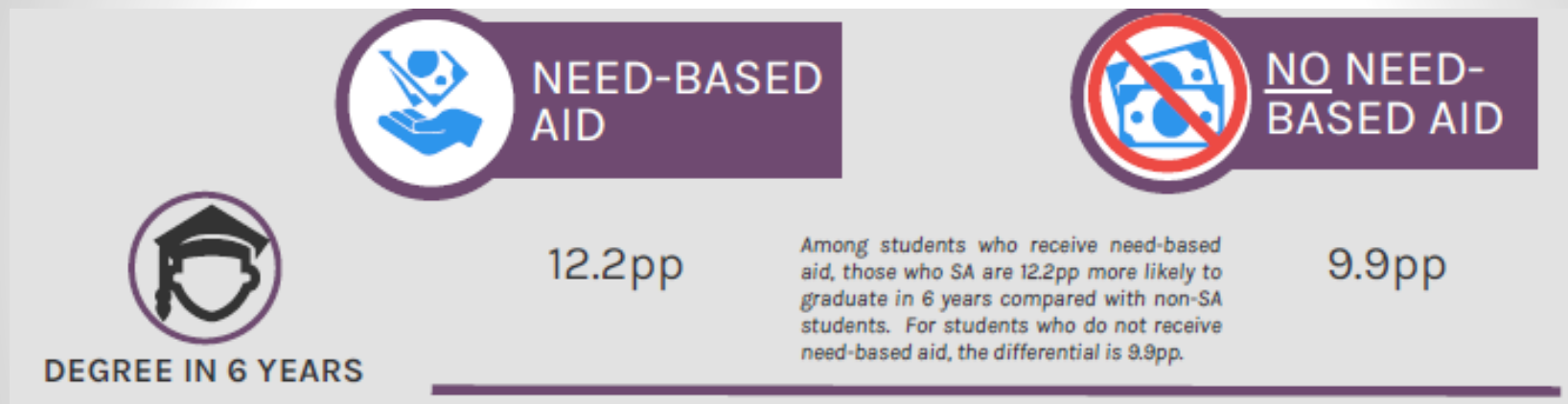
Need-Based Aid (vs. non) Descriptives



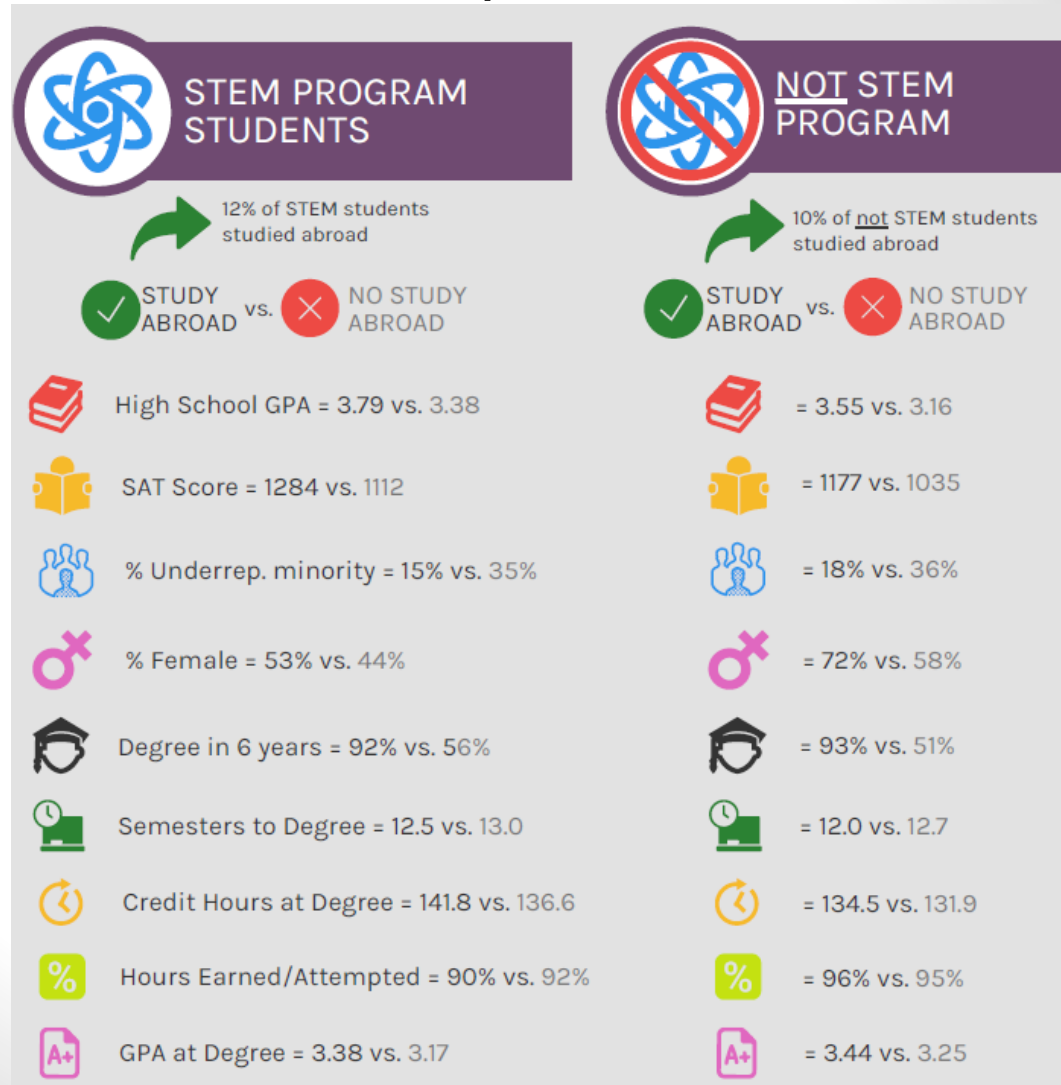
Need-Based Aid (vs. non) Matching Analysis

	 NEED-BASED AID	 NO NEED-BASED AID
 DEGREE IN 6 YEARS	12.2pp	<p>Among students who receive need-based aid, those who SA are 12.2pp more likely to graduate in 6 years compared with non-SA students. For students who do not receive need-based aid, the differential is 9.9pp.</p> 9.9pp
 DEGREE IN 4 YEARS	10.1pp	<p>Among students who receive need-based aid, those who SA are 10.1pp more likely to graduate in 4 years compared with non-SA students. For students who do not receive need-based aid, the differential is 12.4pp.</p> 12.4pp
 SEMESTERS TO DEGREE	-0.29	<p>Among students who receive need-based aid, those who SA graduate 0.29 semesters faster compared with non-SA students. For students who do not receive need-based aid, the differential is 0.22 semesters. These results suggest that SA slightly accelerates but does not delay graduation.</p> -0.22
 CREDIT HOURS EARNED	2.24	<p>Among students who receive need-based aid, those who SA earn 2.24 more credit hours compared with non-SA students. For students who do not receive need-based aid, the differential is 2.79 credit hours. These results suggest that SA students do not earn considerably more, or less, credit hours than non-SA students.</p> 2.79
 HOURS EARNED/ HOURS ATTEMPTED	[NSS]	<p>There is no statistical difference between SA and non-SA students with respect to the ratio of hours earned to hours attempted.</p> [NSS]
 GPA AT DEGREE	0.11	<p>Among students who receive need-based aid, those who SA earn a 0.11 higher GPA compared with non-SA students. For students who do not receive need-based aid, the differential is .09.</p> .09







Need-Based Aid (vs. non) Matching Analysis – Degree in 6 years



STEM Student (vs. non) Descriptives



STEM Student (vs. non) Matching Analysis

	STEM PROGRAM STUDENTS		NOT STEM STUDENTS
 DEGREE IN 6 YEARS	8.9pp	Among STEM program students, those who SA are 8.9pp more likely to graduate in 6 years compared with non-SA students. For non-STEM students, the differential is 11.5pp.	11.5pp
 DEGREE IN 4 YEARS	6.6pp	Among STEM program students, those who SA are 6.6pp more likely to graduate in 4 years compared with non-SA students. For non-STEM students the differential is 13.7pp.	13.7pp
 SEMESTERS TO DEGREE	-0.10	Among STEM program students, those who SA graduate 0.10 semesters faster compared with non-SA students. For non-STEM students, the differential is 0.30 semesters. These results suggest that SA slightly accelerates but does not delay graduation.	-0.30
 CREDIT HOURS EARNED	3.12	Among STEM program students, those who SA earn 3.12 more credit hours compared with non-SA students. For non-STEM students, the differential is 2.55 credit hours. These results suggest that SA students do not earn considerably more, or less, credit hours than non-SA students.	2.55
 HOURS EARNED/ HOURS ATTEMPTED	-0.8%	Among STEM program students, the ratio of hours earned to attempted is 0.8% lower for SA students compared to non-SA students. The differential for non-STEM students is 0.39%. Although significant, the magnitudes are relatively small.	.39%
 GPA AT DEGREE	0.11	Among STEM program students, those who SA earn a 0.11 higher GPA compared with non-SA students. For non-STEM students, the differential is .09.	.09

STEM Student (vs. non) Matching Analysis – Semesters to degree



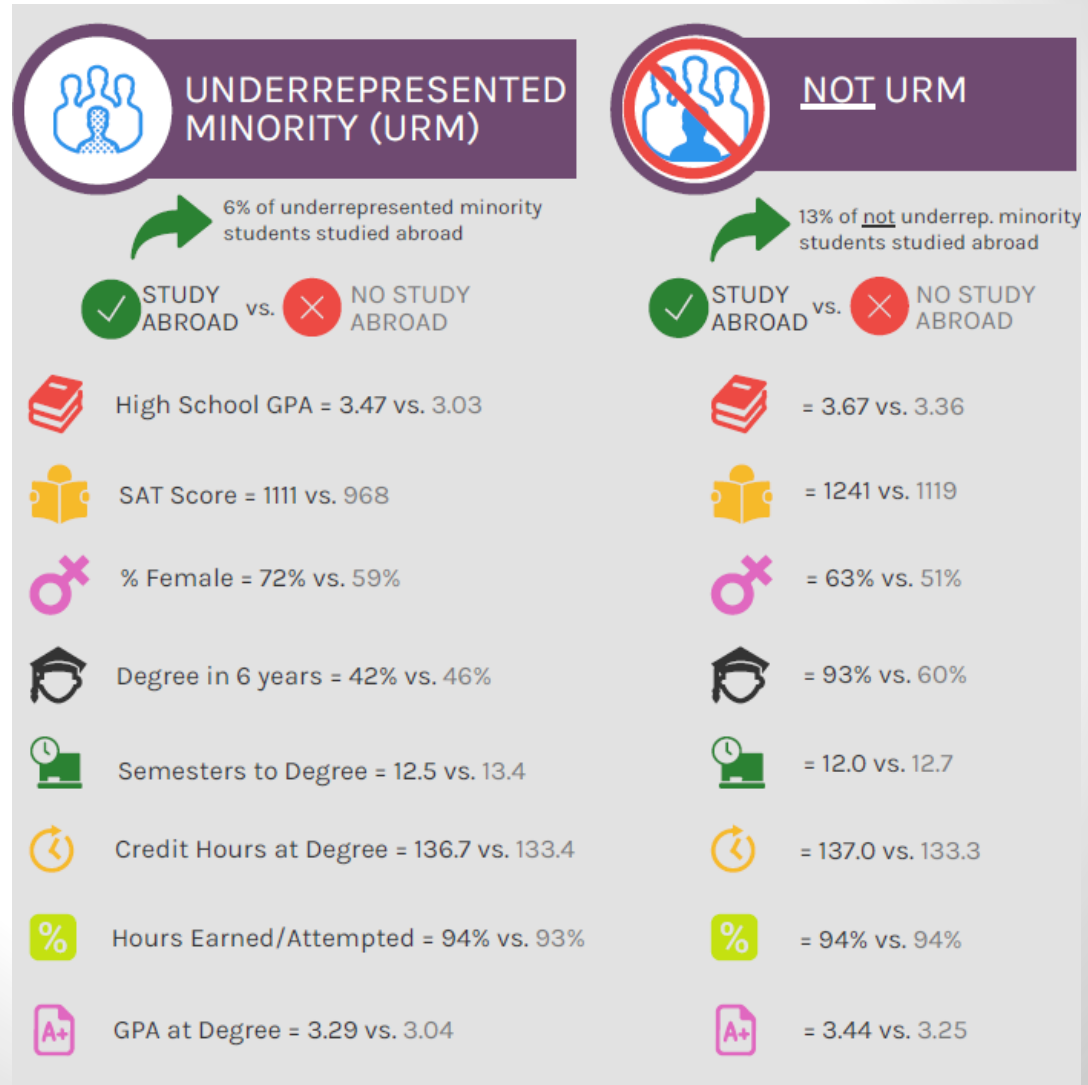
SEMESTERS TO
DEGREE

-0.10









Among STEM program students, those who SA graduate 0.10 semesters faster compared with non-SA students. For non-STEM students, the differential is 0.30 semesters. These results suggest that SA slightly accelerates but does not delay graduation.

-0.30

Underrepresented Minority (vs. non) Descriptives



Underrepresented Minority (vs. non) Matching Analysis

	 UNDERREPRESENTED MINORITY (URM)	 NOT URM
 DEGREE IN 6 YEARS	14.9pp	<p>Among URM students, those who SA are 14.9pp more likely to graduate in 6 years compared with non-SA students. For non-URM students, the differential is 9.5pp.</p> 9.5pp
 DEGREE IN 4 YEARS	11.9pp	<p>Among URM students, those who SA are 11.9pp more likely to graduate in 4 years compared with non-SA students. For non-URM students the differential is 11.6pp.</p> 11.6pp
 SEMESTERS TO DEGREE	-0.27	<p>Among URM students, those who SA graduate 0.27 semesters faster compared with non-SA students. For non-URM students, the differential is 0.23 semesters. These results suggest that SA slightly accelerates but does not delay graduation.</p> -0.23
 CREDIT HOURS EARNED	2.95	<p>Among URM students, those who SA earn 2.95 more credit hours compared with non-SA students. For non-URM students, the differential is 2.45 credit hours. These results suggest that SA students do not earn considerably more, or less, credit hours than non-SA students.</p> 2.45
 HOURS EARNED/ HOURS ATTEMPTED	[NSS]	<p>There is no statistical difference between SA and non-SA students with respect to the ratio of hours earned to hours attempted.</p> [NSS]
 GPA AT DEGREE	0.12	<p>Among URM students, those who SA earn a 0.12 higher GPA compared with non-SA students. For non-URM students, the differential is .09.</p> .09

Underrepresented Minority (vs. non) Matching Analysis – GPA at Degree



GPA AT DEGREE

0.12

Among URM students, those who SA earn a 0.12 higher GPA compared with non-SA students. For non-URM students, the differential is .09.

.09

Your data

- Where does your data live?
 - Institutional Research
 - Registrar
 - Financial Aid Office
 - Development Office
- What did we learn from non-USG institutions?
 - Asked if they had formal systems;
 - Could we link up softwares (e.g. Terra Dotta to Banner)?
 - Found that data lives in silos, much like USG...

Potential Stakeholders

- What are you trying to accomplish?
- Who do you need to inform and what are their interests and concerns?
- What types of information will be most compelling to them?
 - At what level?
 - In what format?



How to create your own Descriptive Statistics infographic



Advocacy – Broaden the Circle

- CASSIE → data from numerous, diverse institutions & demonstrates, *statistically*, the effect of IE on student success
 - How can you combine CASSIE results with your own data?
- CASSIE → specifically examines participation of underrepresented students
 - How can we use this data strategically to support these students?
- CASSIE → pulls together colleagues from EA, World Languages, Institutional Research and broader academic circles
 - How can you, on your campus, pull together your colleagues as well?
- CASSIE results → can be used to advocate for support /resources
 - How can you combine CASSIE results with your campus data to advocate on your campus and grow curricular and financial support?

CASSIE + your campus data = evidence-based advising and marketing tools



CASSIE Contribution to Higher Education Policy and Practice

- Big data approach
 - Measure contribution of IE on student success outcomes
 - These student success outcomes are of most concern today to administrators and policy maker
- Ability to show how impacts vary for important subpopulations:
 - E.g. income, race/ethnicity, specific majors
- Critical in evaluation of policies that affect IE
 - E.g. curricular, student affairs, and financial aid policy
- Essential in advocacy for institutional and government funding



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Discussion & Questions?

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