



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*

Forum on 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.

* = Pending data submission



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

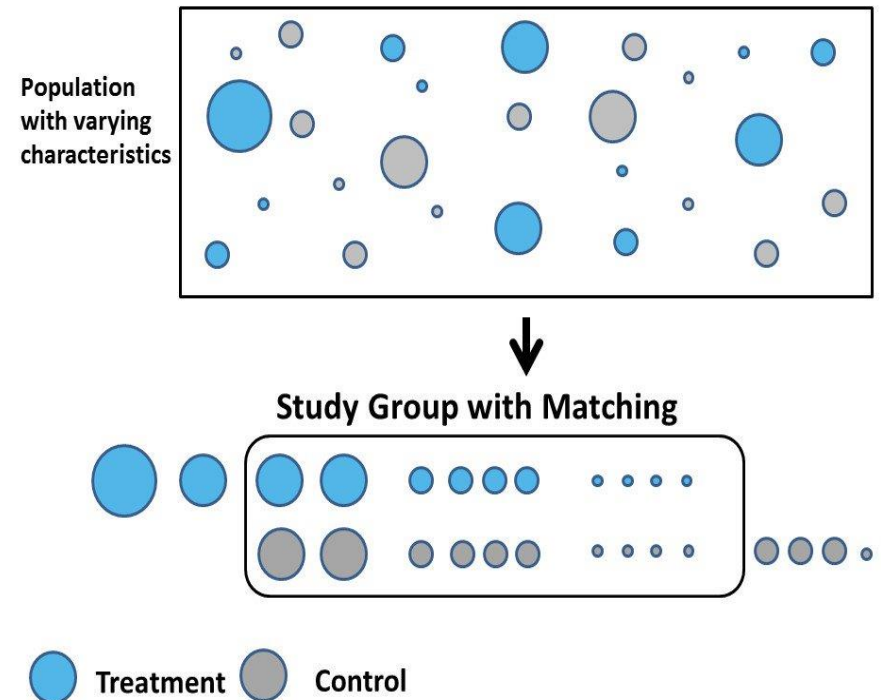
- Timely Graduation
- Terms and Credits to Degree
- Credit completion ratio and GPA



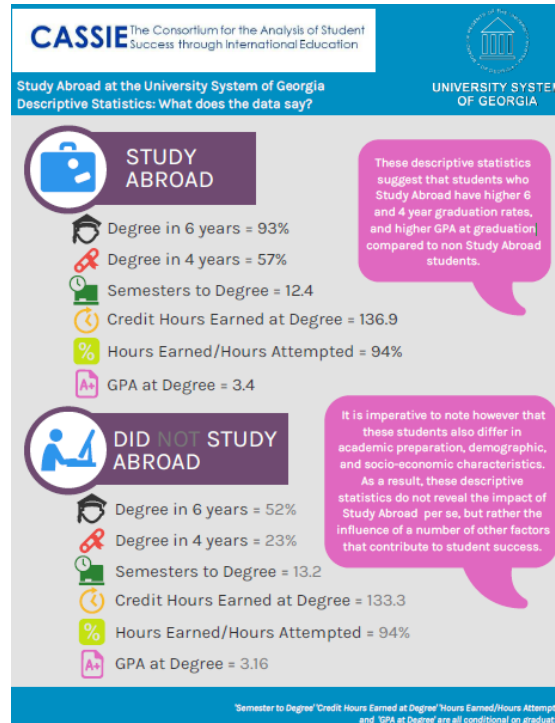
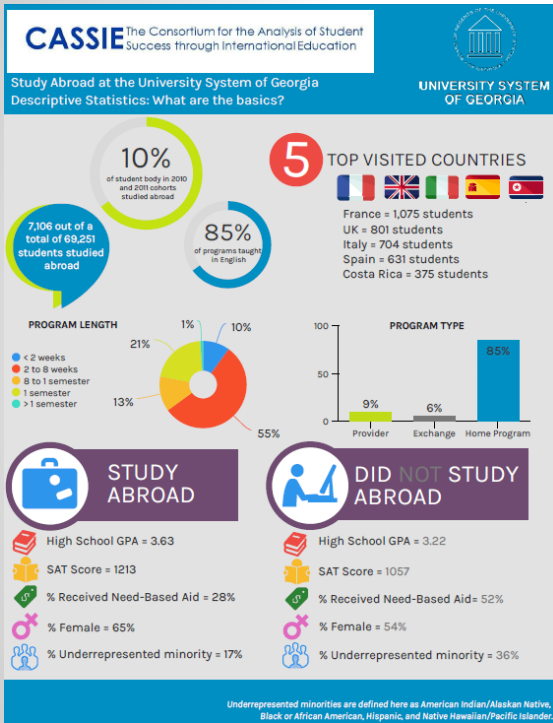
Statistical Methodology

- 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

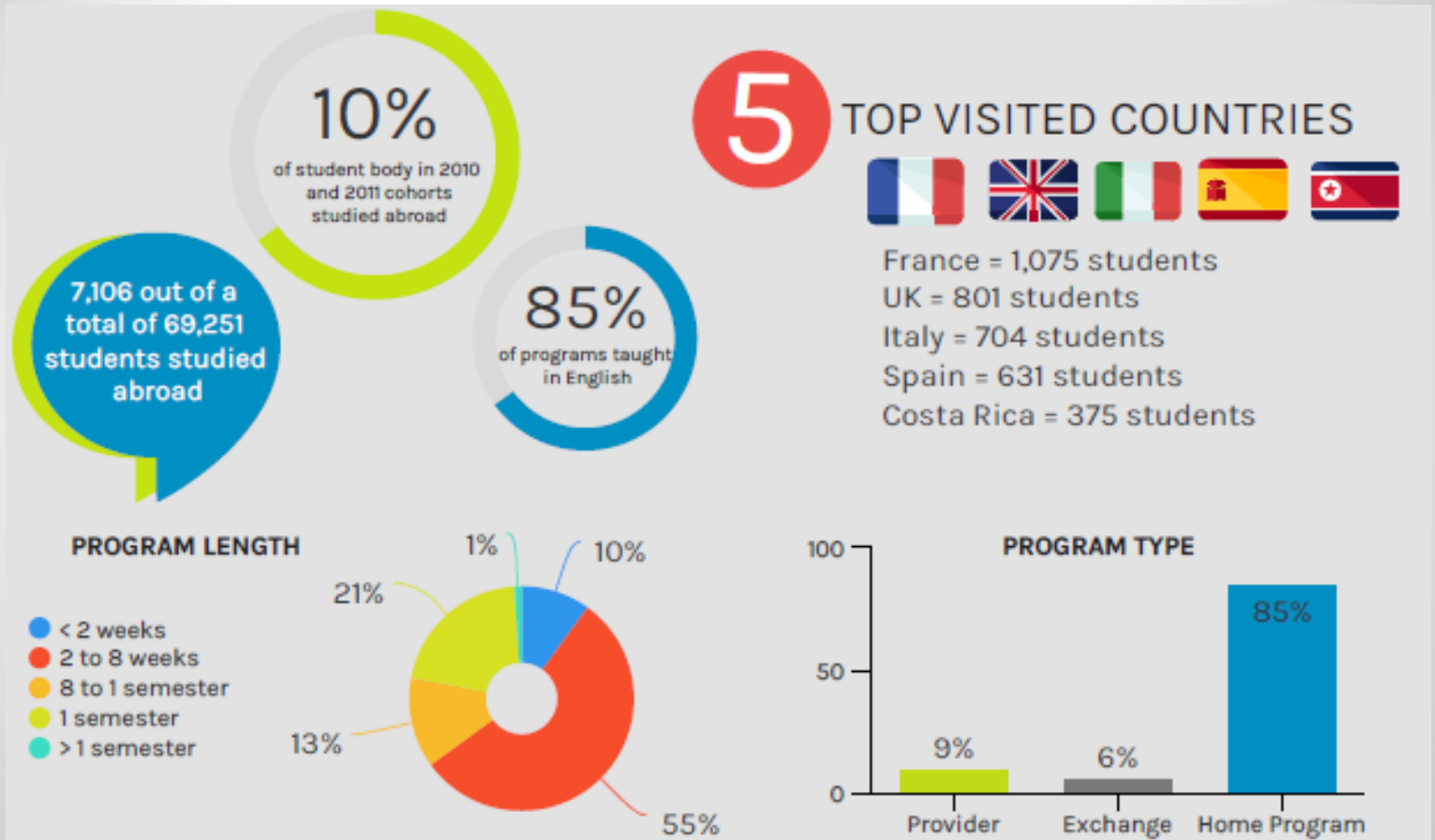
- Exact and nearest neighbor Matching



Preliminary USG Findings Infographic Handout








General Information








Student Characteristics

STUDY ABROAD







-  High School GPA = 3.63
-  SAT Score = 1213
-  % Received Need-Based Aid = 28%
-  % Female = 65%
-  % Underrepresented minority = 17%

DID NOT STUDY ABROAD

-  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.

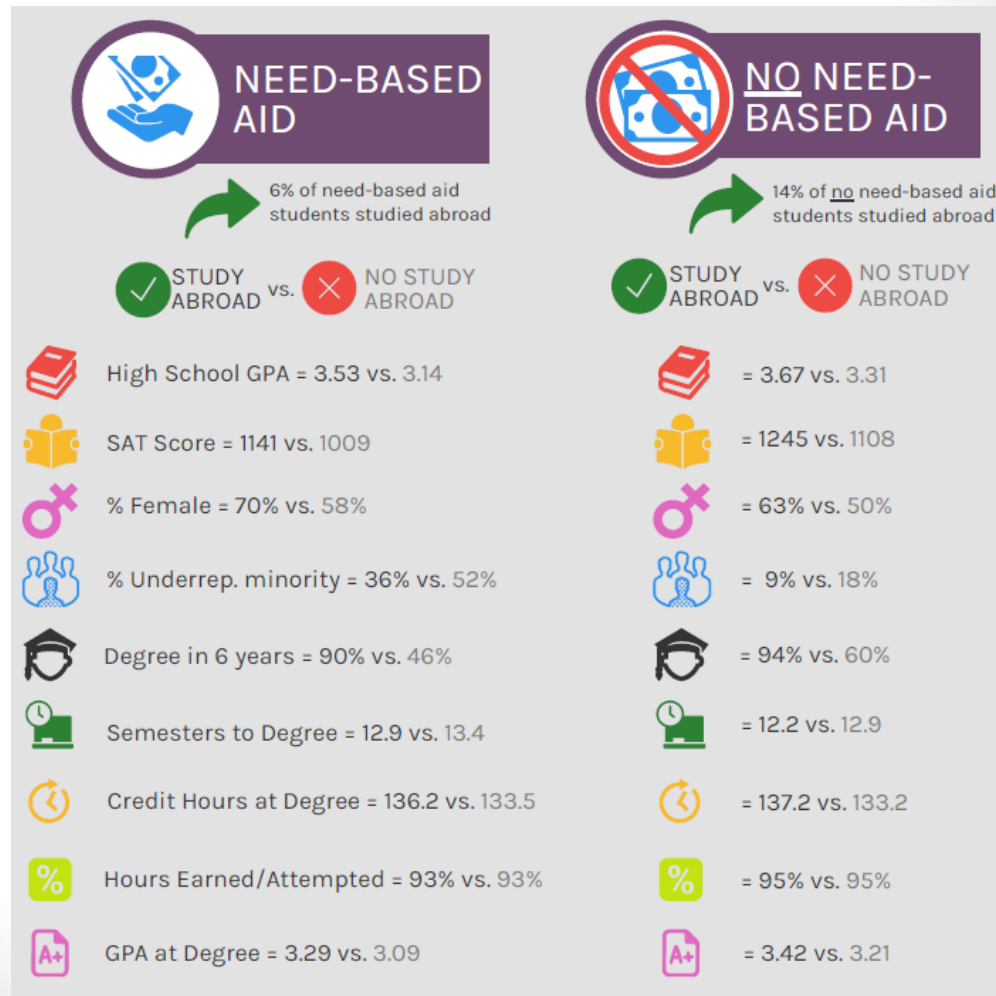


GPA AT DEGREE









.12

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

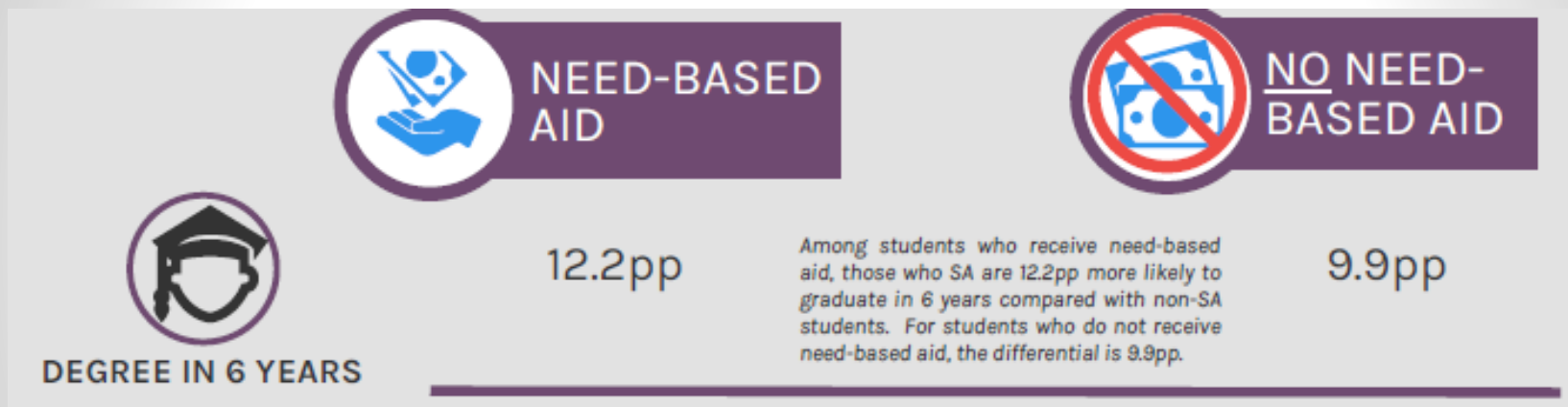
Need-Based Aid (vs. non) Descriptives



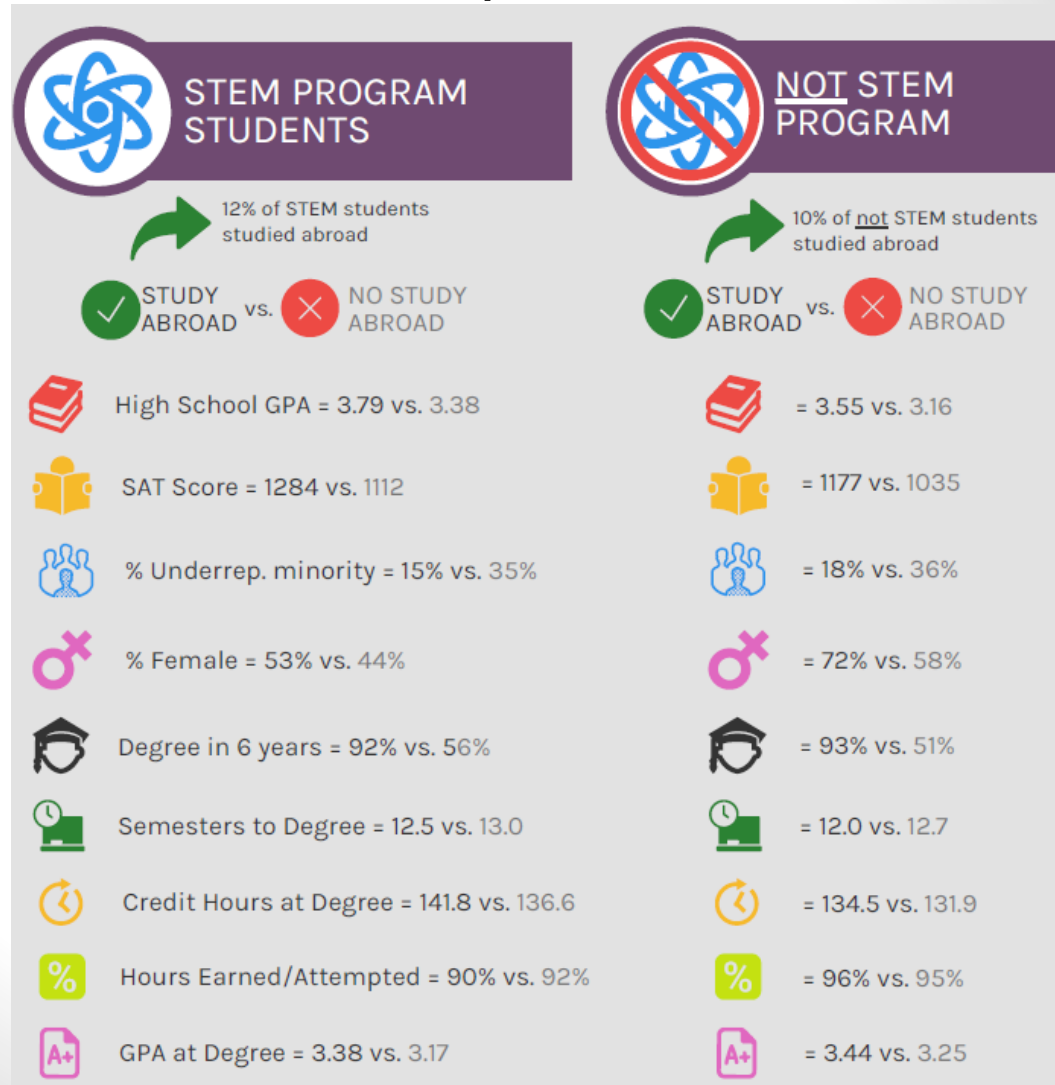
Need-Based Aid (vs. non) Matching Analysis

	 NEED-BASED AID		 NO NEED-BASED AID
 DEGREE IN 6 YEARS	12.2pp	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.	9.9pp
 DEGREE IN 4 YEARS	10.1pp	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.	12.4pp
 SEMESTERS TO DEGREE	-0.29	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.	-0.22
 CREDIT HOURS EARNED	2.24	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.	2.79
 HOURS EARNED/ HOURS ATTEMPTED	[NSS]	There is no statistical difference between SA and non-SA students with respect to the ratio of hours earned to hours attempted.	[NSS]
 GPA AT DEGREE	0.11	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.	.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



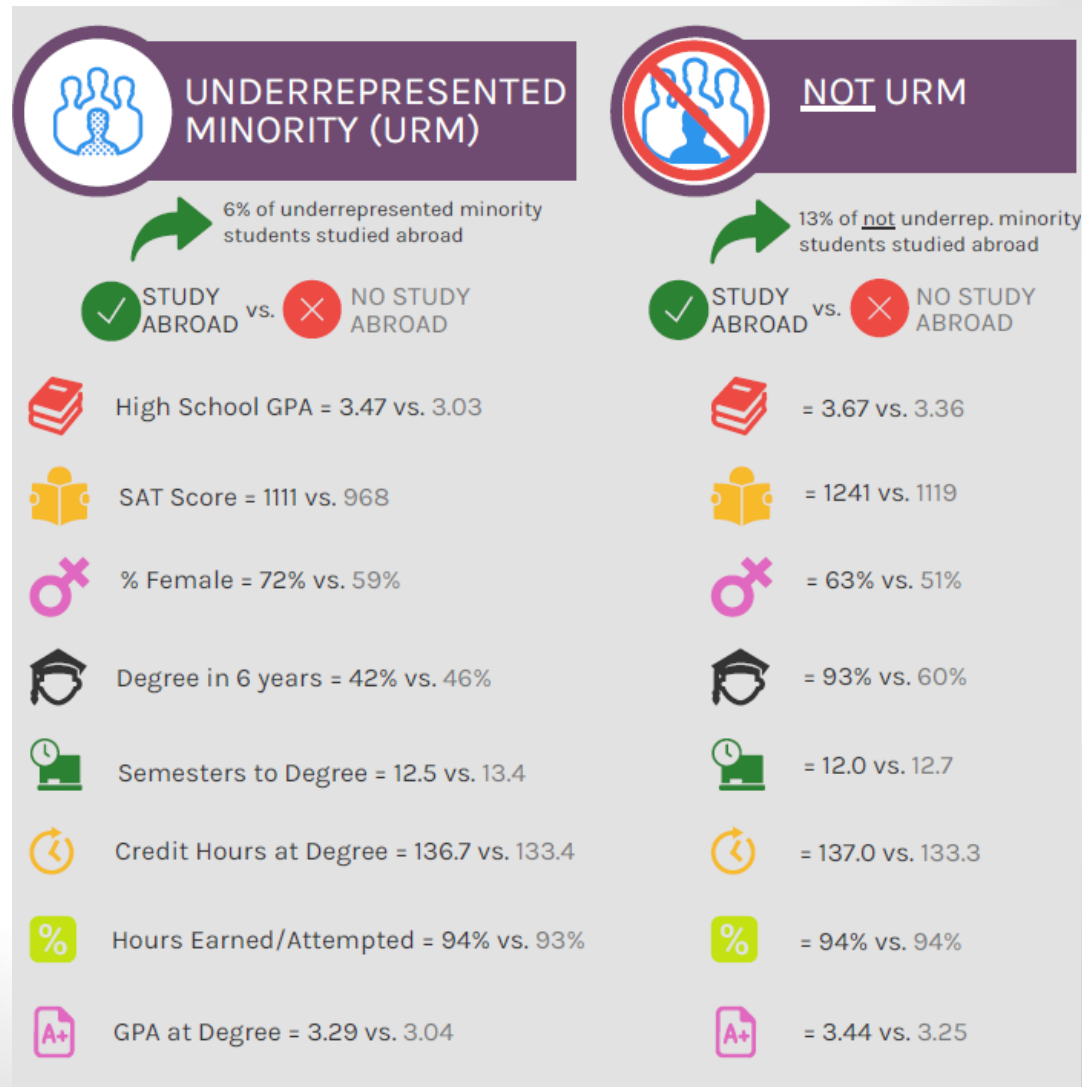
SEMESTERS TO
DEGREE

-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

Study Abroad Students
X out of a total of Y # students studied abroad

Percentage of Study Abroad
X% of student body studied abroad

Programs taught in English
X% of our study abroad programs are taught in English

Everything You Need To Know
About Study Abroad on Our Campus

Top Visited Countries
1. VVV = X # of students
2. WWW = X # of students
3. XXX = X # of students
4. YYY = X # of students
5. ZZZ = X # of students

Program Length
<2 weeks = X %
2 to 8 weeks = X %
8 to 1 semester = X %
1 semester = X %
> 1 semester = X %

Program Type
Home institution = X %
Exchange = X %
Provider = X %

CASSIE The Consortium for the Analysis of Student Success through International Education
This template is the product of the University System of Georgia's International Education office and CASSIE - as part of an initiative to promote evidence-based improvement in education abroad.
This sample infographic was produced for the 2019 'Proof is in the Data' Forum on Education Abroad presentation by Coryn Shifflet and Rachana Bhatt. Individual campuses are welcome to utilize and adapt for their use.

High School GPA
SA student = X.XX
vs.
Non-SA student = X.XX

SAT Score
SA student = XXXX
vs.
Non-SA student = XXXX

Received Need-based Aid
SA student = X%
vs.
Non-SA student = X%

Everything You Need To Know
About Study Abroad vs. Non-Study Abroad Students on Our Campus

Gender
SA student = X% female
vs.
Non-SA student = X% female

Underrepresented Minority
SA student = X%
vs.
Non-SA student = X%

What else is important?
SA student =
vs.
Non-SA student =

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Degree in 6 years
SA student = X%
vs.
Non-SA student = X%

Degree in 4 years
SA student = X%
vs.
Non-SA student = X%

Semesters to Degree
SA student = X
vs.
Non-SA student = X

Everything You Need To Know
About Student Success and Study Abroad vs. Non-Study Abroad Students on Our Campus

Credit Hours Earned
SA student = X
vs.
Non-SA student = X

Hours Earned/Hours Attempted
SA student = X%
vs.
Non-SA student = X%

GPA at Degree
SA student = X.XX
vs.
Non-SA student = X.XX

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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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Questions?

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