

Understanding Graduation Trends in America: Key Insights and Patterns

Our analysis examines graduation trends in U.S. universities by evaluating institutional factors such as **public vs. private control**, **HBCU vs. non-HBCU status**, and **geographic location**. The dataset covers **all degrees awarded between July 1, 2020, and June 30, 2021**, representing approximately **4.84 million graduates** across various racial, gender, and institutional categories. By identifying key patterns in graduation rates, we aim to understand how different types of universities support diverse student populations and highlight the factors that contribute to student success.

But before we begin, here are a couple of definitions that we can find useful:

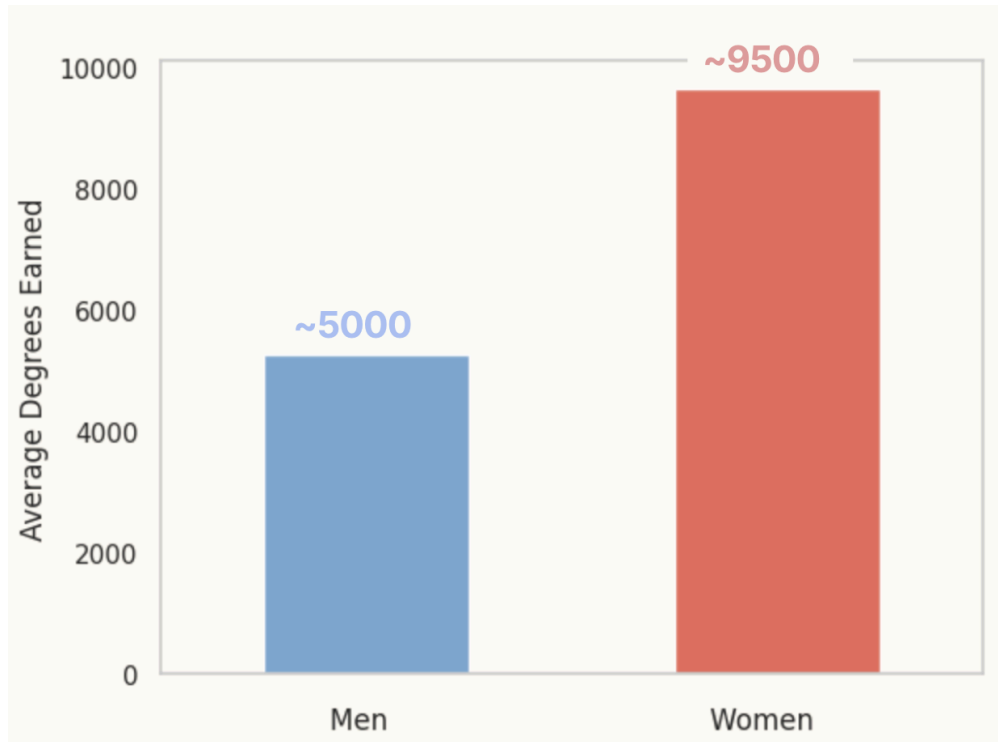
- Private Not-For-Profit: Institution that reinvests its earnings into education
- Private For-Profit: Privately owned institutions that operate a business
- HBCU: Historically Black College or University founded in 1964 to serve black students

Gender

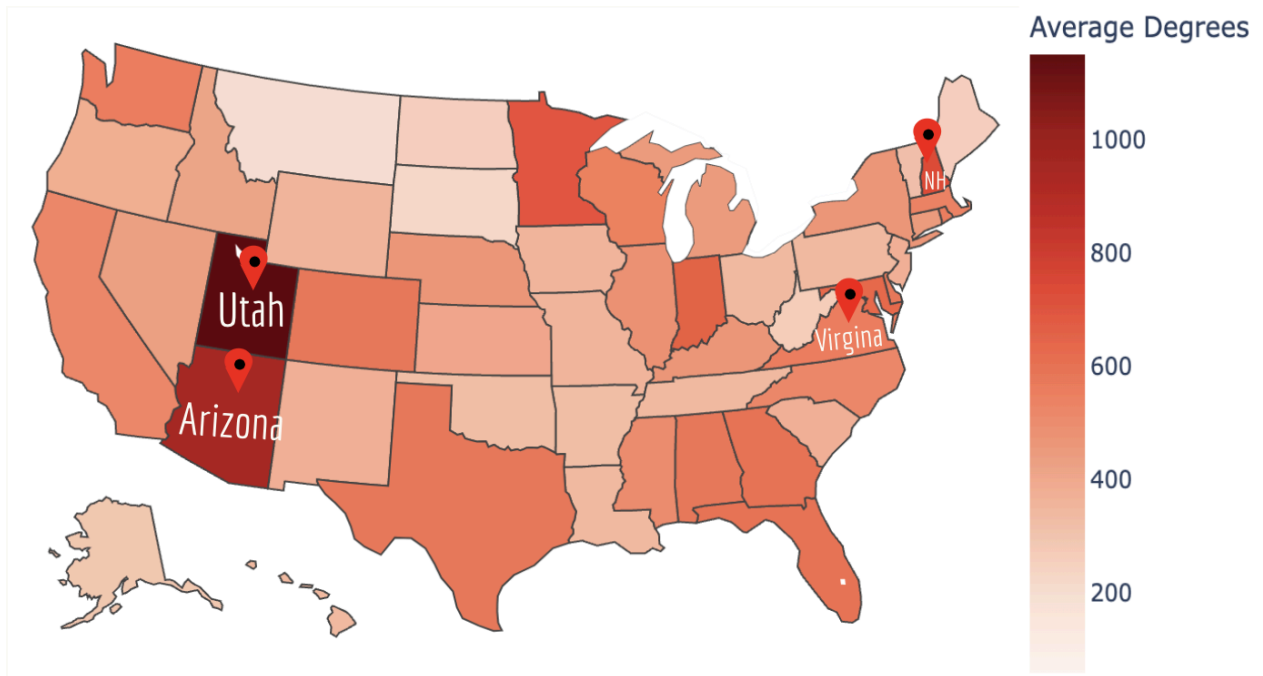
We analyzed American universities in order to understand gender trends. We wanted to know if there existed preferences for different types of universities depending on whether a student was a female or male.

What are the average degrees awarded for men and women per institution?

We can deduce from the graph that on average, female graduates receive approximately 9,500 degrees, while male graduates receive around 5,000 degrees. This indicates that women earn more degrees than men, reflecting a notable gender gap in higher education attainment.



To look into that more, the gender distribution of graduates across U.S states reveals that women consistently outnumber men in graduation rates. The map shows that all states are shaded in red, indicating more female graduates. If a state had more male graduates, it would be shaded in blue. States like Utah, Arizona, New Hampshire, and Virginia top the list for female graduates, with Utah leading the way. This trend highlights the overall pattern of women earning more degrees than men, regardless of the state.



When looking separately at the top female and male graduates universities, we realized 5 common universities that appeared in both, which also helped in comparing the number of graduates from the top universities, showing us that women receive nearly double the number of degrees granted than men.

From top 10 female graduates universities

1. Western Governors University (Utah) - ~ **34,400**
2. University of Phoenix-Arizona (Arizona) - ~ **18,800**
3. Southern New Hampshire University (New Hampshire) - ~ **17,200**
4. Liberty University (Virginia) - ~ **14,200**
5. Ivy Tech Community College (Indiana) - ~ **13,600**

From top 10 male graduates universities

1. Western Governors University (Utah) - ~ **15,000**
2. Liberty University (Virginia) - ~ **9,700**
3. Southern New Hampshire University (New Hampshire) - ~ **9,500**
4. Ivy Tech Community College (Indiana) - ~ **9000**
5. University of Phoenix-Arizona (Arizona) - ~ **8,500**

Why is Western Governors University Leading Over Other Well-Known Universities in Utah for both male and female graduates?

The table below illustrates how Western Governors University (WGU) in Utah significantly outpaces other major universities in the state in terms of student enrollment, with 156,935 students compared to Utah Valley University (44,653), University of Utah (35,310), and Brigham Young University (34,364). This difference highlights WGU's leading role in Utah's education system, especially as an online institution catering to a large number of non-traditional and working students.

University	Total Student Enrollment Per Year
Western Governors university (WGU)	156,935
Utah Valley University (UVU)	44,653
University of Utah	35,310
Brigham Young University (BYU)	34,464

Why Women Outnumber Men in College Graduation Rates: A Look at Key Institutions

A growing trend across the U.S. shows that female graduates outnumber their male counterparts in higher education. This pattern is particularly noticeable in institutions with large online student populations and flexible degree programs. Universities such as Western Governors University, University of Phoenix, and Southern New Hampshire University cater heavily to non-traditional students, including working adults, parents, and those seeking career advancement—all demographics where women are increasingly dominant. Liberty University and Ivy Tech Community College also contribute to this trend, offering both in-person and online learning options that appeal to students balancing education with other responsibilities.

We examined these institutions because they represent the broader shift in higher education: the demand for flexible, competency-based, and career-focused learning. Women, often seeking degrees to improve job security, re-enter the workforce, or advance in their careers, are enrolling and graduating at higher rates than men, reinforcing the long-term trend of female educational attainment surpassing that of males.

Utah's High Graduation Rates: What's Driving Student Success?

Utah stands out as the state with the highest graduation rates for both men and women. Several factors contribute to this success. Affordable tuition—Utah ranks #5 in the nation for lowest tuition costs—makes higher education more accessible. Additionally, cultural and religious influences, particularly those from the LDS Church, emphasize education and community involvement, fostering a strong support system for students. Many young men in Utah delay college enrollment to serve on LDS missions, which can extend their time to graduation. Meanwhile, women who do not take mission trips often complete their degrees earlier, contributing to a higher overall female graduation rate.

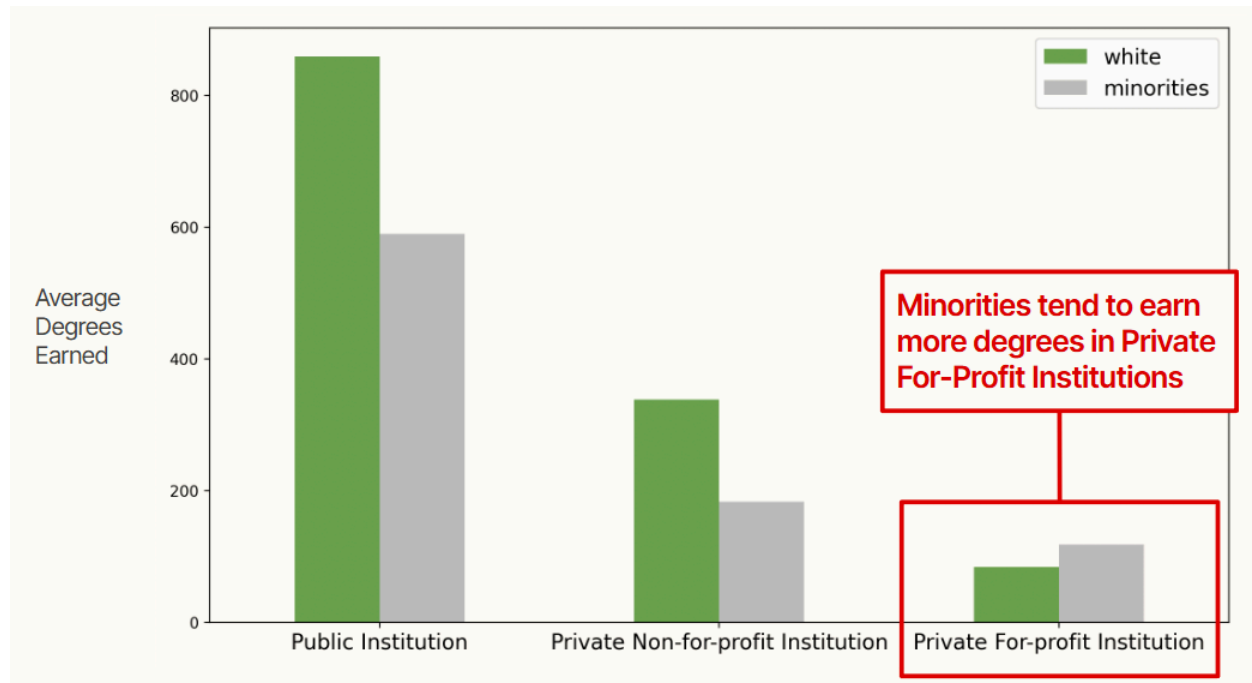
Family and community networks also play a key role in encouraging degree completion. Lastly, a robust job market provides graduates with clear pathways to employment, further motivating students to finish their degrees. Utah's unique combination of affordability, cultural values, and economic opportunity creates an environment where students—regardless of gender—are more likely to succeed in higher education.

Other variables in data that do not have an influence on university choice based on gender:

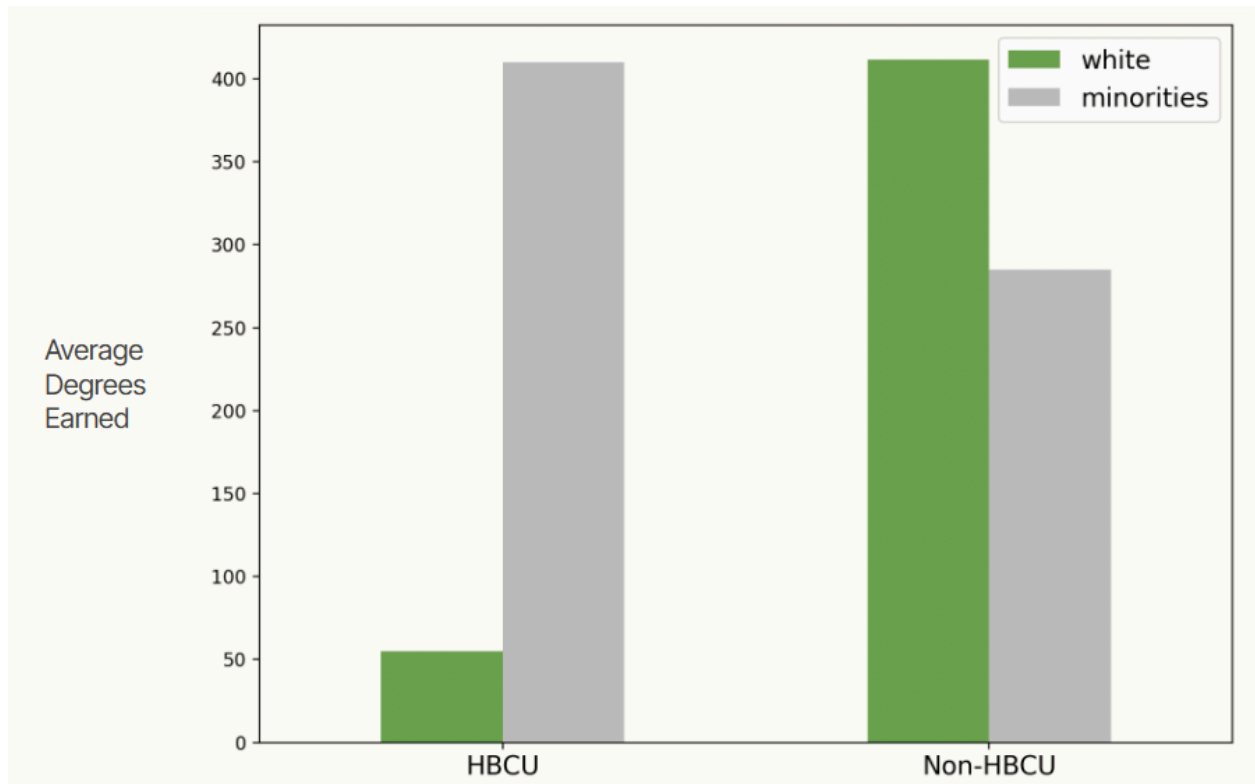
- Institution size
- University type
- HBCU

Ethnicity

We also wanted to analyze ethnicity trends in U.S. Universities. For this, we encompassed graduate students of Asian, African American, Hispanic, Pacific Islander, and Native American descent as "minorities". The minority group is only **34%** of all of our data, while white graduate students make up for **50%** of all of our students (the remaining 16% are of mixed backgrounds, more of that below). Our analysis reveals that minority students tend to earn more degrees from private for-profit institutions than from public or private not-for-profit universities.

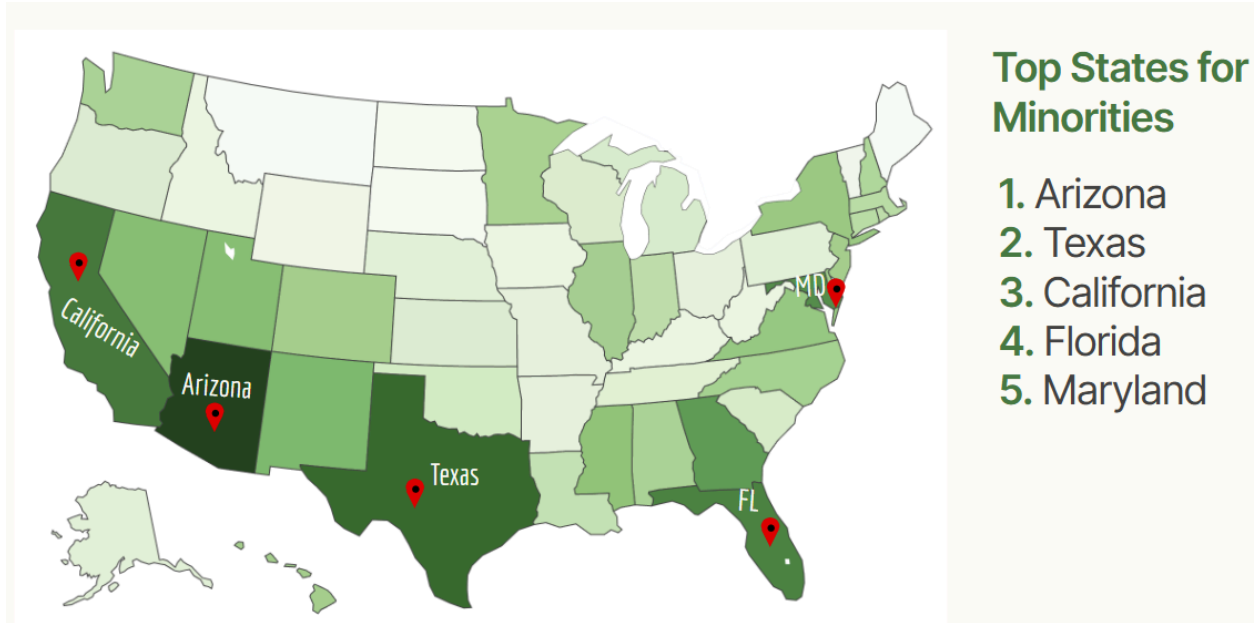


The other factor that we analyzed was whether an Institution was HBCU or Non-HBCU.



It is very clear that **HBCUs** were especially popular for minorities (specially for African American students). Furthermore, there are no private-for-profit **HBCUs**, meaning Black students looking for historically Black institutions must turn to public or private not-for-profit universities.

When examining geographic distribution, **Arizona, Texas, California, Florida, and Maryland** emerge as the top states for minority graduates. These states not only have diverse populations but also contain universities that actively support minority student success.

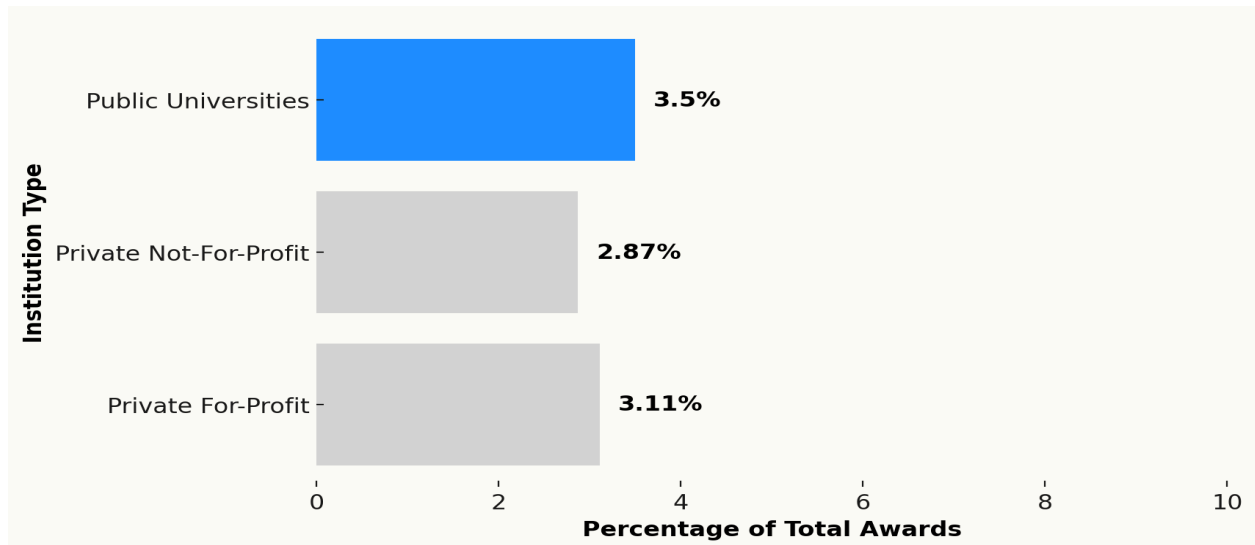


Breaking it down further:

- **Hispanic students:** Four out of the top five universities serving Hispanic students are in Texas and Florida, reflecting the large Hispanic populations in these states.
- **African American students:** The top universities serving Black students are concentrated in Arizona, Florida, and Maryland, states with strong HBCUs and support networks.
- **Asian students:** All of the top five universities for Asian students are in California, a state with a significant Asian American population and institutions that cater to their academic needs.

These trends highlight how location and institutional type shape minority student graduation rates.

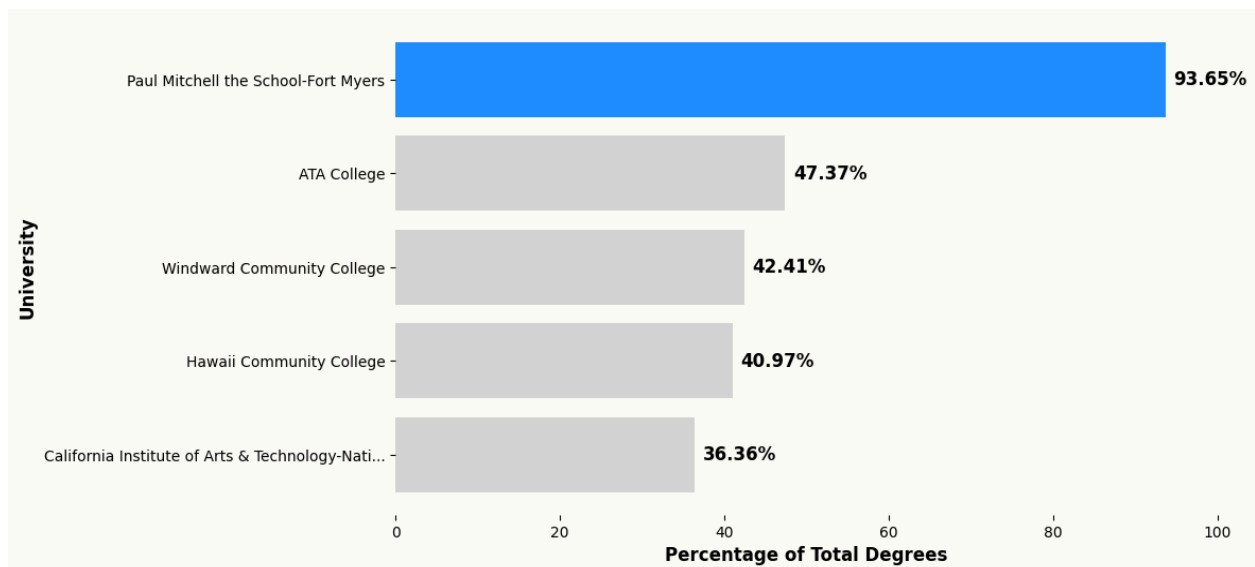
Mixed Backgrounds



(Distribution of Degrees for people of two or more races by institution type)- This is for Linked-In Caption

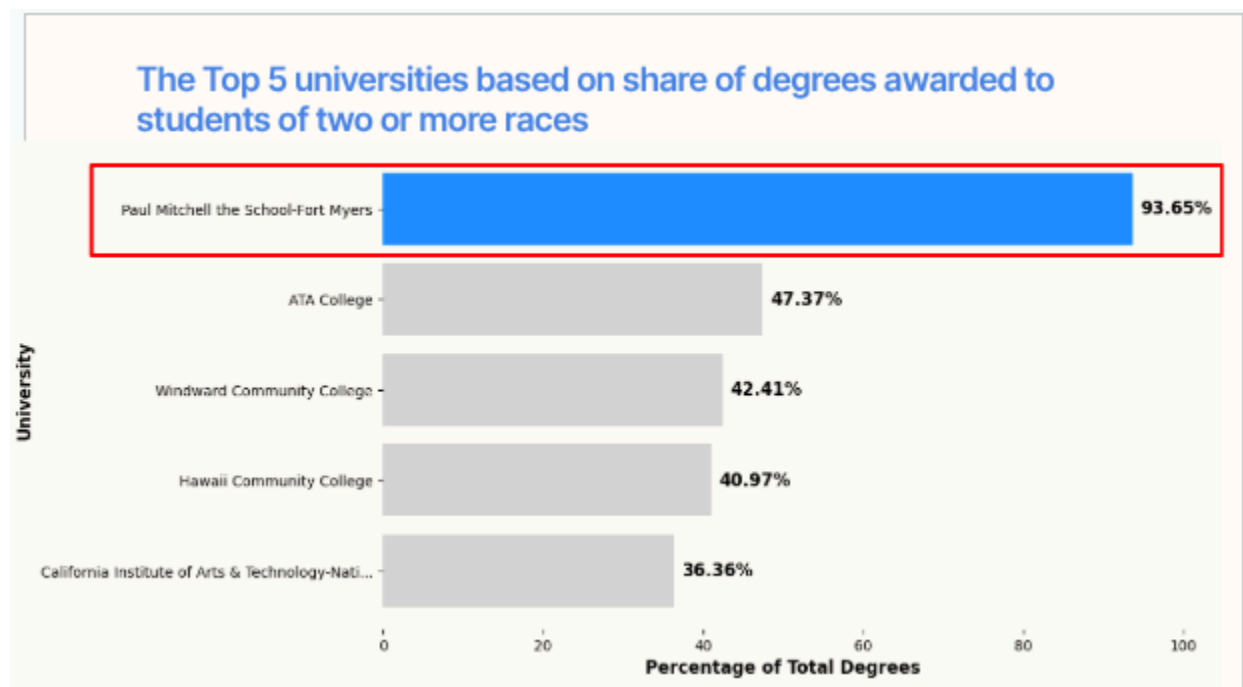
What the figure below is comparing is the ratio of two or more race degrees awarded to total degrees award. What we can get from this graph is that 3.5% of total people that are from two or more races graduated from public institutions while being closely second followed by people from private for profit institutions with 3.11% then last but not least Private-Not-for-profit institutions. So we can immediately tell that we are working with very small numbers but nevertheless public institutions still award the highest percentage of degrees for people of two or more races

But then we wanted to take a deeper insight of what makes the top 5 universities based on the percentage of degrees awarded to people of two or more races



You may be wondering, what in the world are these colleges? Well to give you a bit of insight. These are all very small schools where we defined small schools to be less than 4000 students.

Meaning that it leads to the rise of inflation of these percentages since there are very little students in these top 5 schools. If you were to search these schools up, we would notice a common trend for all of these schools which they are located in very diverse states like Hawaii and California but in very small cities (which explains the high percentage again). But the last point that we wanted to highlight is that 3 out of the 5 schools are vocational schools which specialize in hands on training on a certain field while the rest are community colleges. Meaning that all of these schools tend to attract people from very diverse backgrounds because community colleges and vocational schools focus in on hands training.



Now lets focus on the top college in this list because this did brought us a lot of questions like why is the percentage 93.65% Let's answer that question!

Paul Mitchell The School

First of all this schools is a vocational school that is at the heart of Fort Myers, Florida that is a vocational school that specializes in beauty and cosmetology

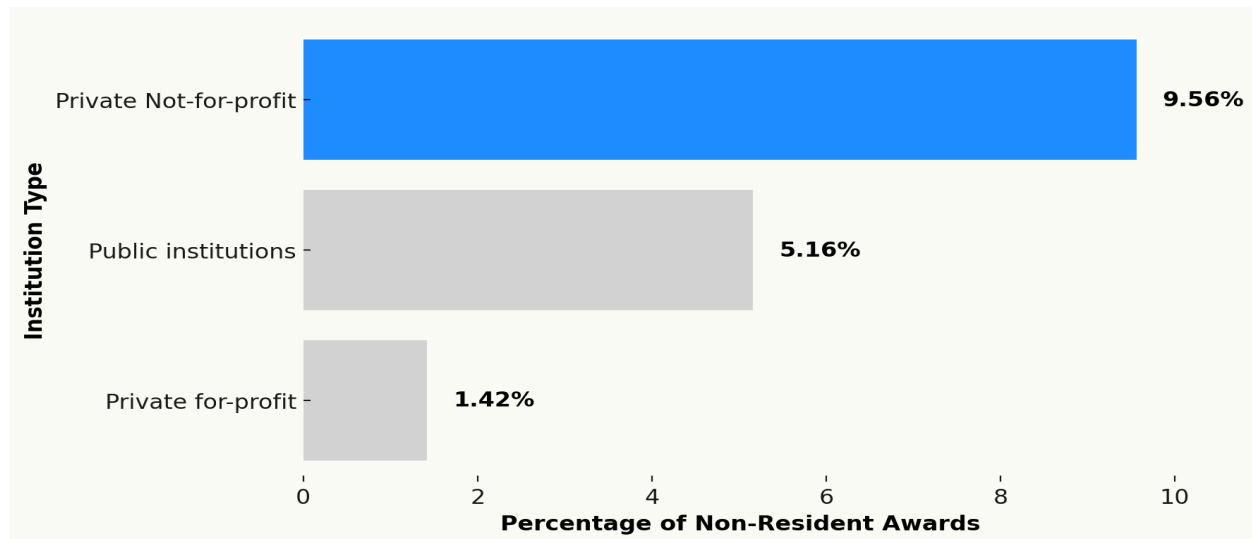
Key Facts about Paul Mitchell:

- 74% Graduation Rate
- Private For-Profit, Rural, Small
- Student Enrollment: 120 students

So what is our key takeaways?

First of all we should notice again, that it is located in a very diverse state like Florida which attracts people of mixed backgrounds (Two or more races). I mean who doesn't recognize our beloved shampoo (Paul Mitchell). This reputable brand attracts students from very diverse backgrounds to get hands on experience. Last but not least, we notice that this school only has 120 students! Which explains why this school has a high percentage of people of two or more races getting degrees. Now we should move our attention to Non-U.S Residents

Non-U.S Residents (International Students)



(Distribution of Non-U.S resident degrees by institution types)

Immediately we can see in this graph that Non-U.S residents prefer private Not-For-Profit schools followed by public then private-for profit institutions. Let's explore why

Let's analyze the top 5 schools based on the percentage of degrees awarded to Non-U.S residents:

1. Pacific States University (CA)
2. United International College (FL)
3. Southern States University (CA)
4. Toyota Technical Institute of Chicago (IL)
5. International Technical University (CA)

So to get a deeper understanding of these top 5 universities we must reveal the similar characteristics of these colleges. One very interesting fact about all these schools is that they are all tailored to only international students! You could imagine how weird the visualization would look for this topic which is why I decided to omit it. We also noticed that all of these universities serve a very small population size. The smallest population size in this list is Pacific States University with only 17 students. How crazy is that!. We also notice that 4 out of 5 colleges are Private Not-For-Profit institutions which correlates with our bar graph above. But

look again at these top universities. You might have missed something. That's right! You missed the areas which they are located. After a deeper analysis we found out that not only are these colleges located in diverse states but they are also located in metropolitan areas. So our next question arises:

Why do Non-U.S Residents go to metropolitan areas?

From our database here is what we found for the top cities for Non-U.S residents

1. New York City (NY)
2. Boston (MA)
3. Los Angeles (CA)
4. Chicago (IL)
5. Houston (TX)

Non-U.S Residents reside in metropolitan areas due to the endless of opportunities that come with this location. Metropolitan areas are home to many of the top universities in the world and very unique universities like the ones mentioned above that have very strong international offices, providing legal advising, legal resources, and immigration support. Another reason Non-U.S residents reside in metropolitan areas is because of the job opportunities

Conclusion

Our analysis of graduation trends in U.S. universities reveals key insights into diversity and institutional factors. Women consistently receive more degrees than men, with online universities emerging as a strong option for female graduates. Surprisingly, institution size does not impact graduation success, but control type does—HBCUs and private for-profit institutions play a crucial role in supporting minority students. Additionally, not-for-profit private universities in large metropolitan areas attract more non-U.S. residents, contributing to diverse student bodies. Finally, students of multiple racial backgrounds tend to graduate from institutions with the highest diversity. These findings highlight how different university structures influence graduation outcomes and inclusivity

Github link: [2021 Universities Graduates USA](#)