



Diversity in Aerospace

A&A Faculty Retreat
September 20, 2022

Kristi Morgansen



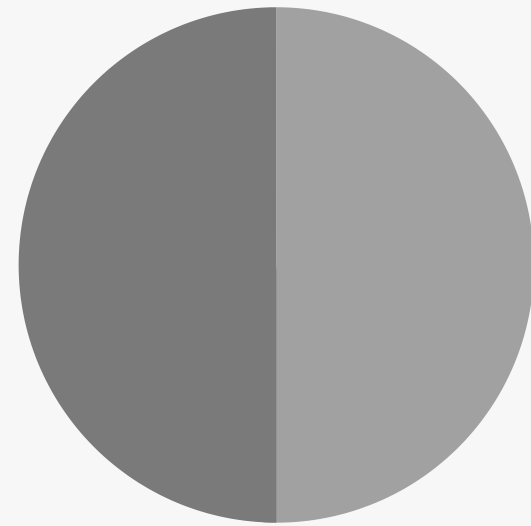
**Why must we
diversify?**



Demographic targets: For state universities and programs, mirror the state composition

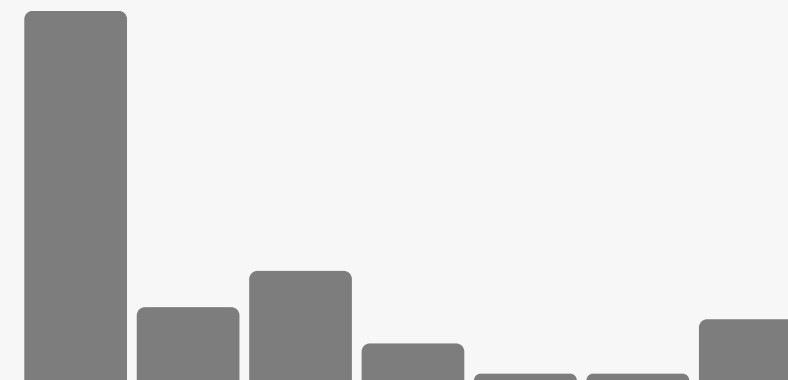
Gender

Female
50%



Male
50%

Race &
Ethnicity



(Sample
distribution)

Diversity creates positive outcomes for innovation

Professional Biologist

Research Coordination Networks: Evidence of the Relationship between Funded Interdisciplinary Networking and Scholarly Impact

ALAN L. PORTER, JON GARNER, AND TODD CROWL

The Diversity–Innovation Paradox in Science

Bas Hofstra^{a,1}, Vivek V. Kulkarni^b, Sebastian Munoz-Najar Galvez^a, Bryan He^b, Dan Jurafsky^{b,c},
and Daniel A. McFarland^{a,1}

^aGraduate School of Education, Stanford University, Stanford, CA 94305; ^bDepartment of Computer Science, Stanford University, Stanford, CA 94305; and ^cDepartment of Linguistics, Stanford University, Stanford, CA 94305

Clinical Trial > Psychol Sci. 2004 Aug;15(8):507–10. doi: 10.1111/j.0956-7976.2004.007

Effects of racial diversity on complex thinking in college students

Anthony Lising Antonio¹, Mitchell J Chang, Kenji Hakuta, David A Kenny, Shana Levin,
Jeffrey F Milem

Research Report

Effects of Racial Diversity on Complex Thinking in College Students

Anthony Lising Antonio,¹ Mitchell J. Chang,² Kenji Hakuta,¹ David A. Kenny,³ Shana Levin,⁴
and Jeffrey F. Milem⁵

The Effects of a Female Role Model on Academic Performance and Persistence of Women in STEM Courses

Sarah D. Herrmann, Robert Mark Adelman, Jessica E. Bodford, Oliver
Graudejus, Morris A. Okun & Virginia S. Y. Kwan

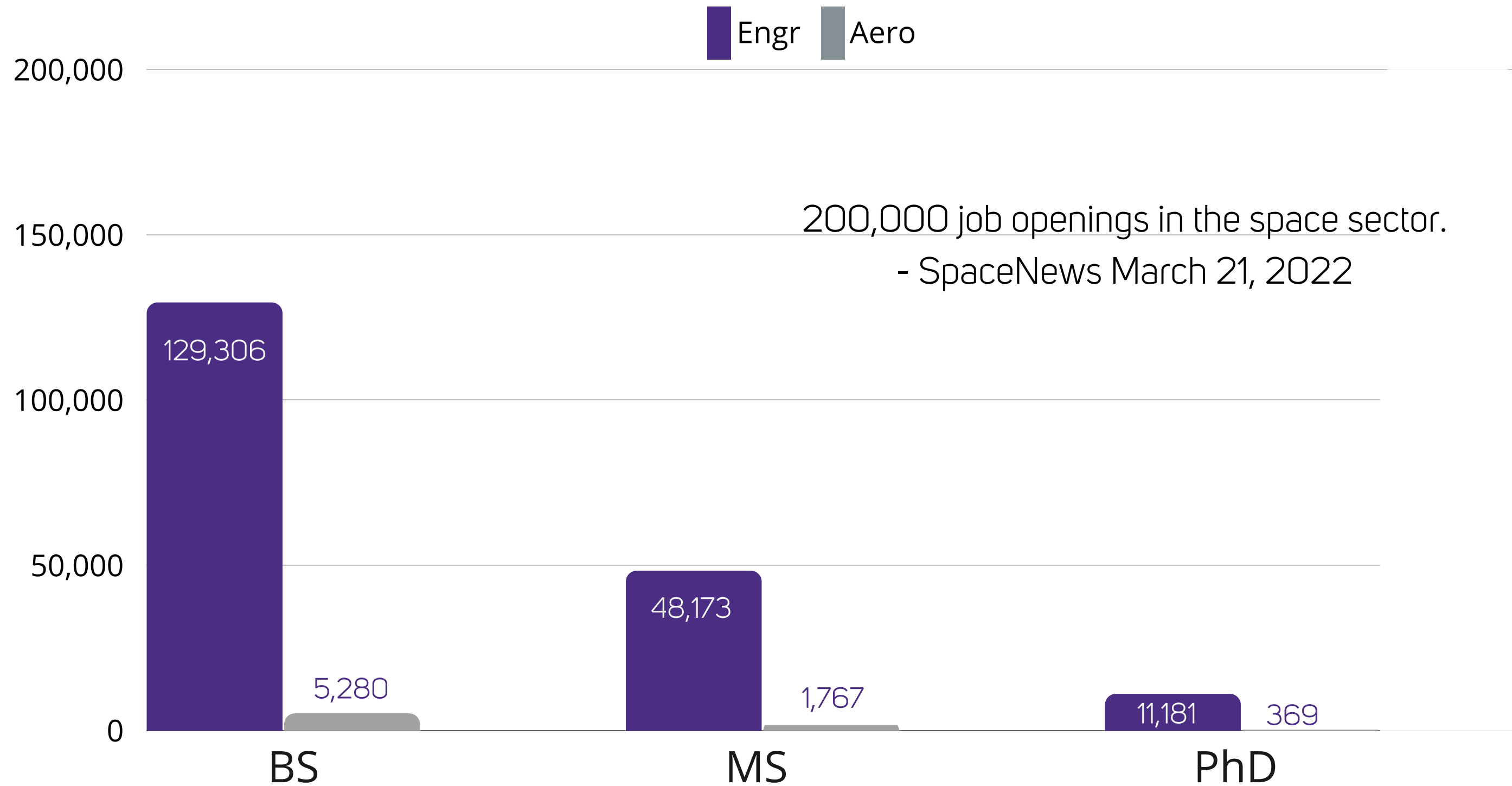
Dissertators with Distantly Related Foci Face Divergent Near-Term Outcomes

Kevin M. Kniffin, Andrew S. Hanks, Xuechao Qian, Bo
Wang & Bruce A. Weinberg

Trends in aerospace diversity

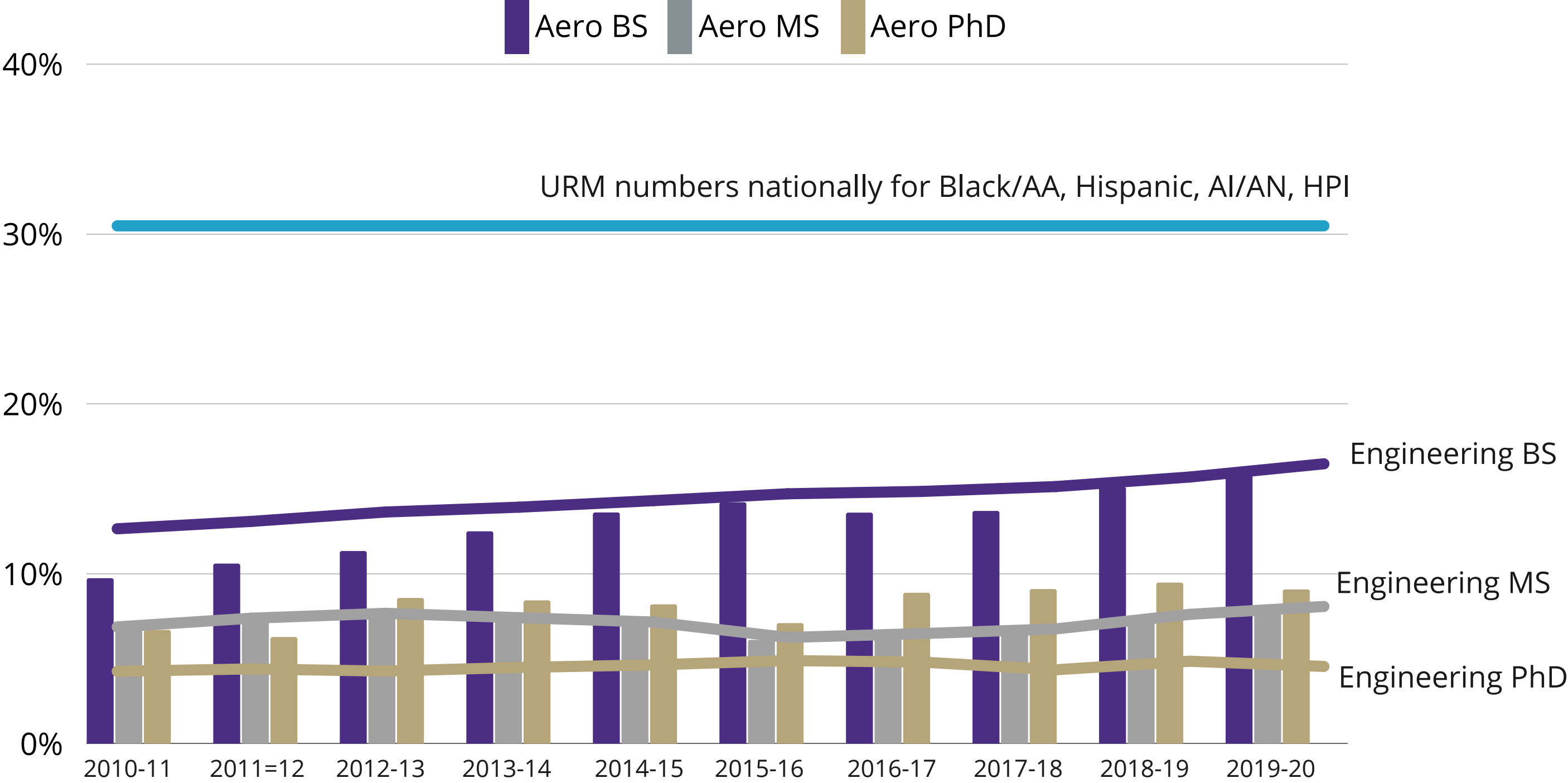


Total degrees granted – 2020



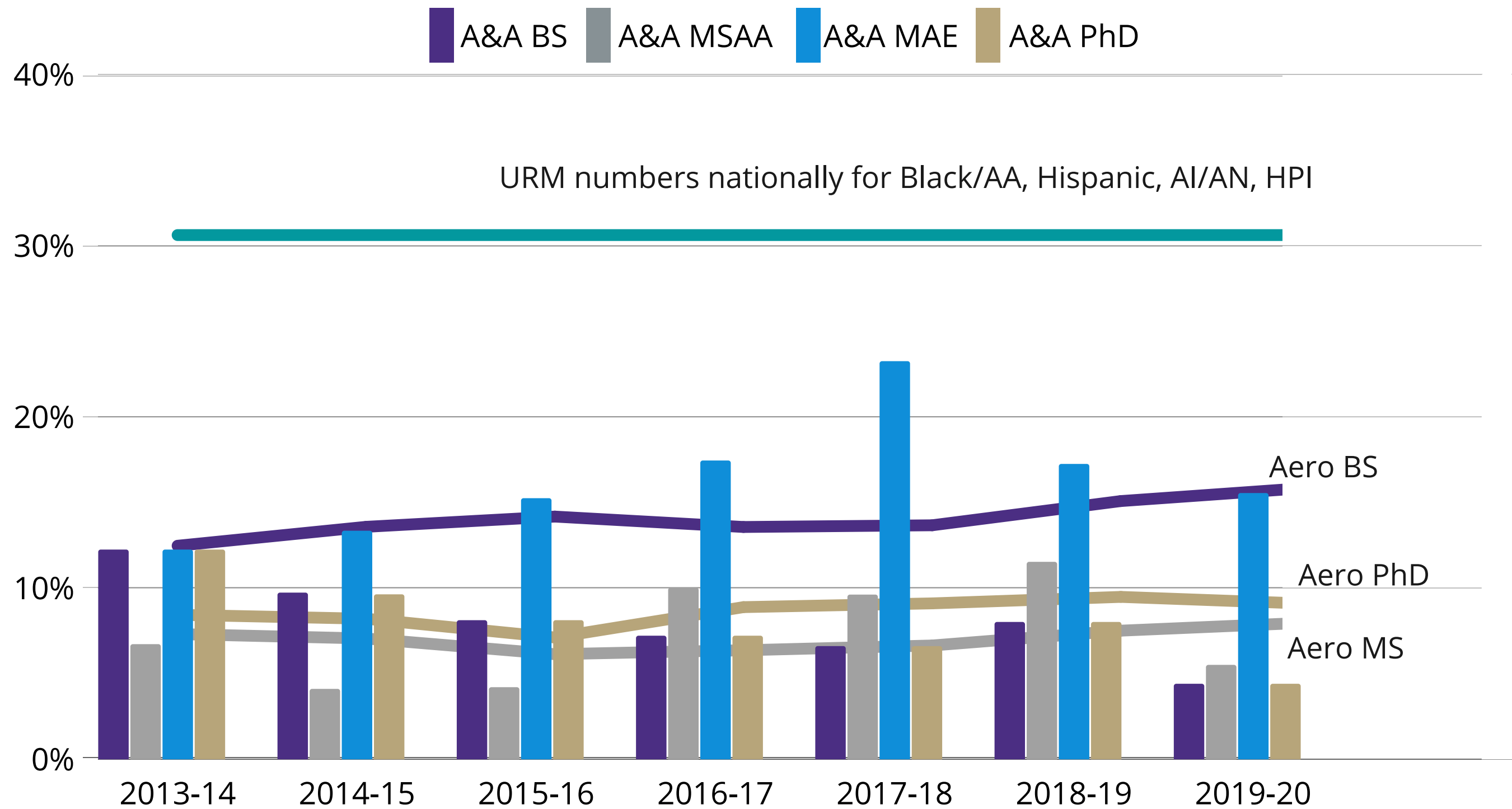
Source: IPEDS/NCSES

Underrepresented minority (URM) degrees in aerospace v all engineering programs



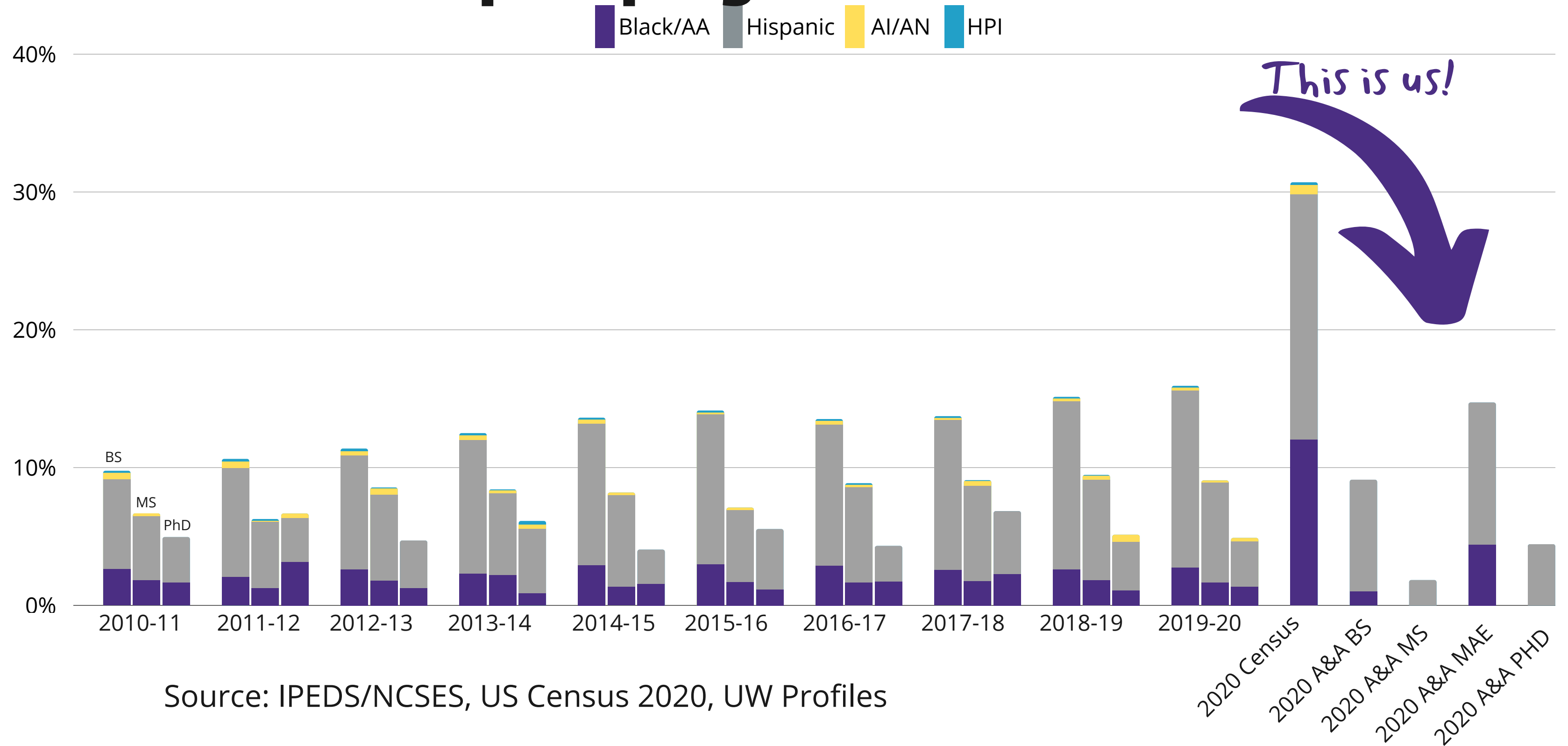
Source: IPEDS/NCSES, US Census 2020

Underrepresented minority (URM) degrees in UW A&A v nat'l aerospace programs



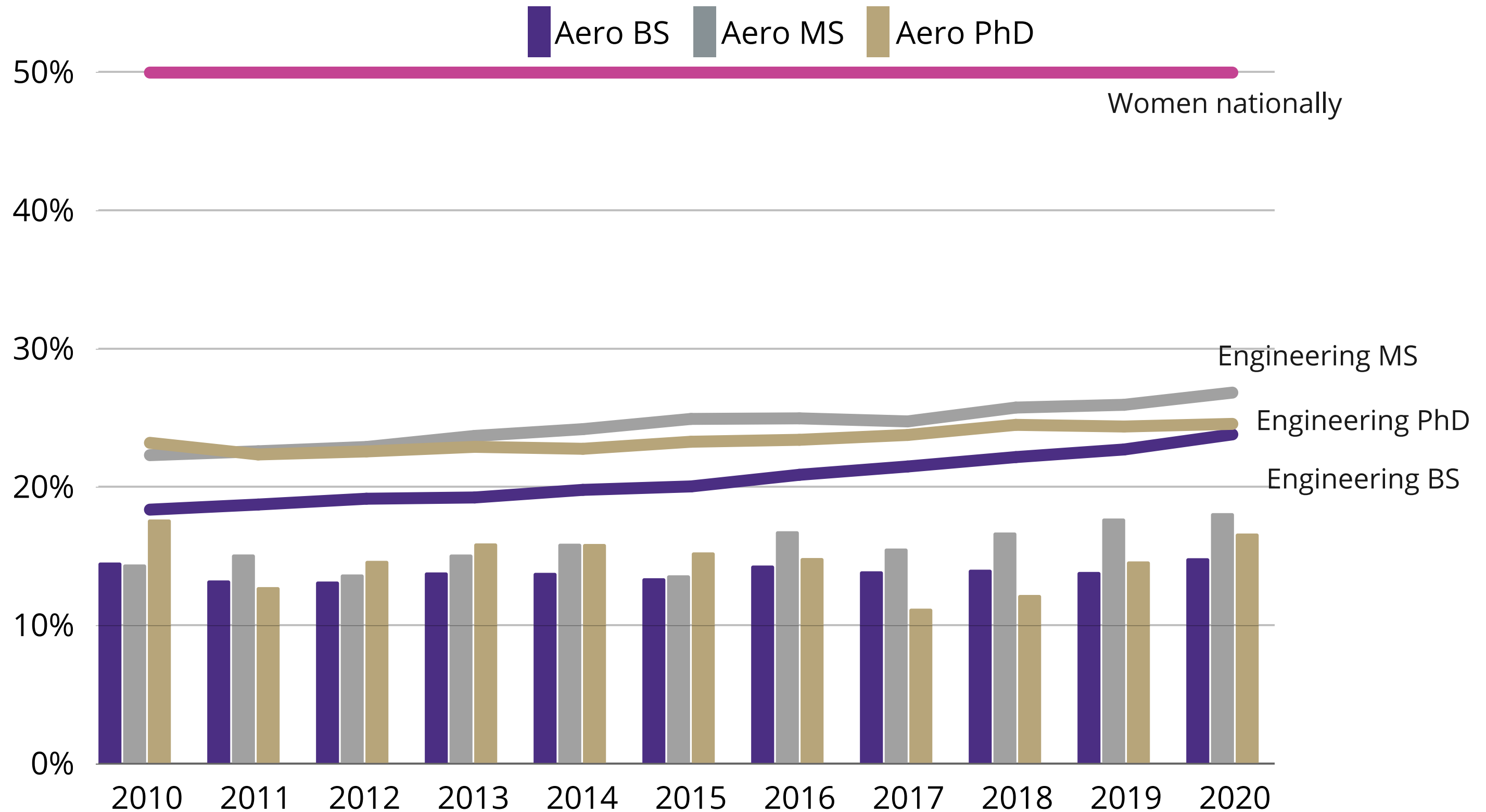
Source: IPEDS/NCSES, US Census 2020, UW Profiles

URM degrees by race/ethnicity in aerospace programs and UW A&A



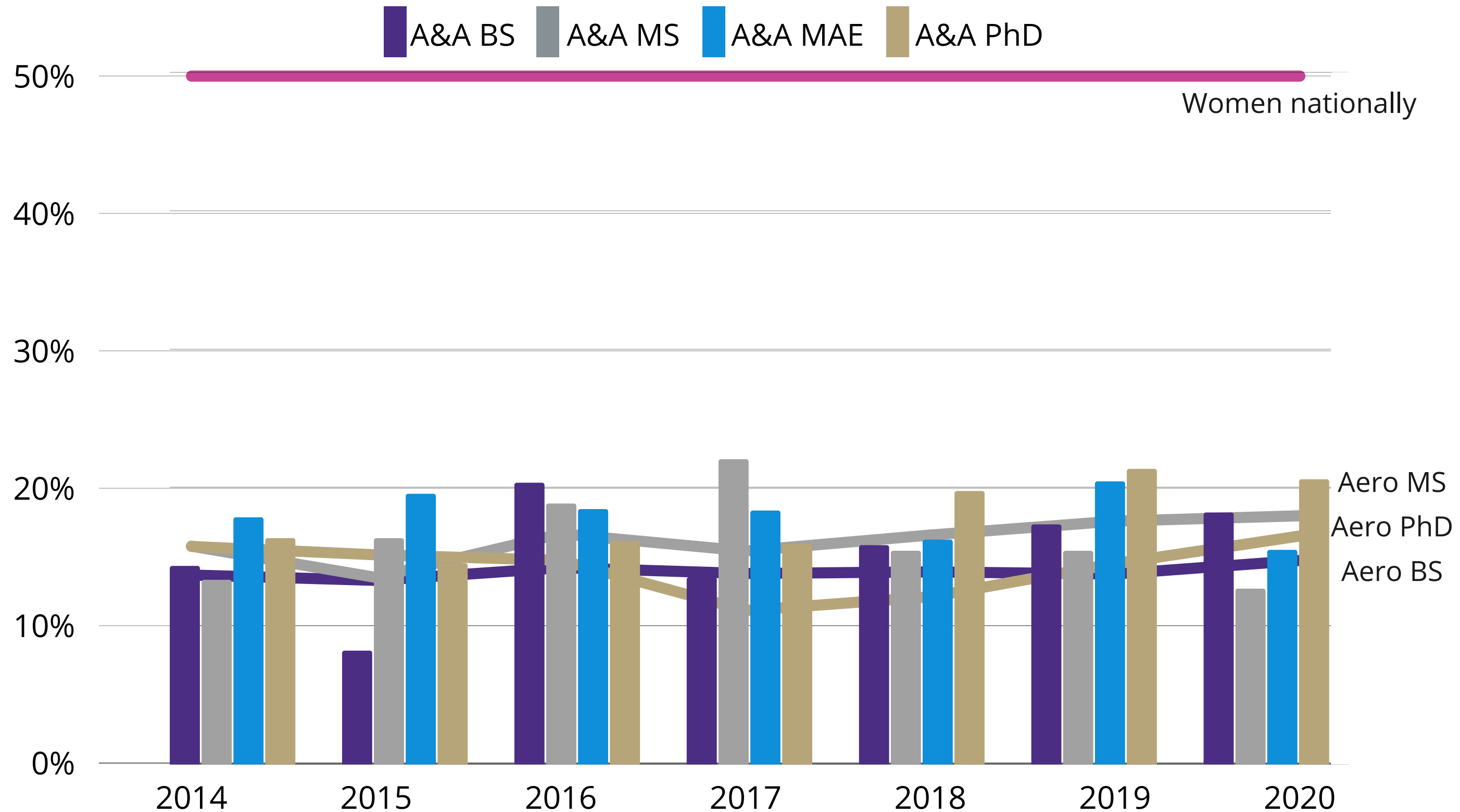
Source: IPEDS/NCSES, US Census 2020, UW Profiles

Women degrees in aerospace v engineering programs



Source: NSF/NCSES derived from IPEDS

Women degrees in national aerospace programs v UW A&A

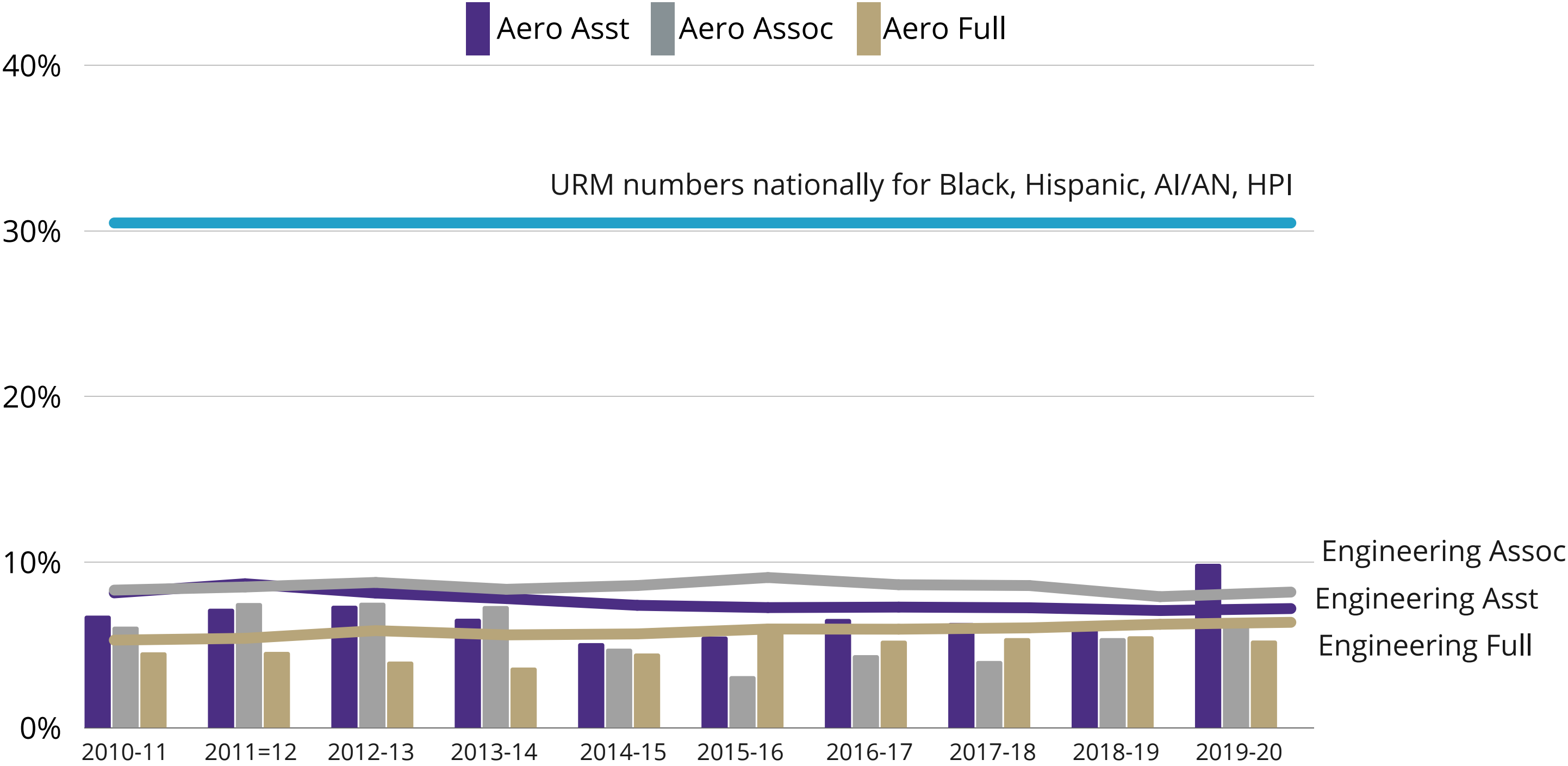


Source: NSF/NCSES derived from IPEDS, UW Profiles

Demographically underrepresented students innovate at higher rates than majority students, but their novel contributions are discounted and less likely to earn them academic positions. The discounting of minorities' innovations may partly explain their underrepresentation in influential positions of academia.

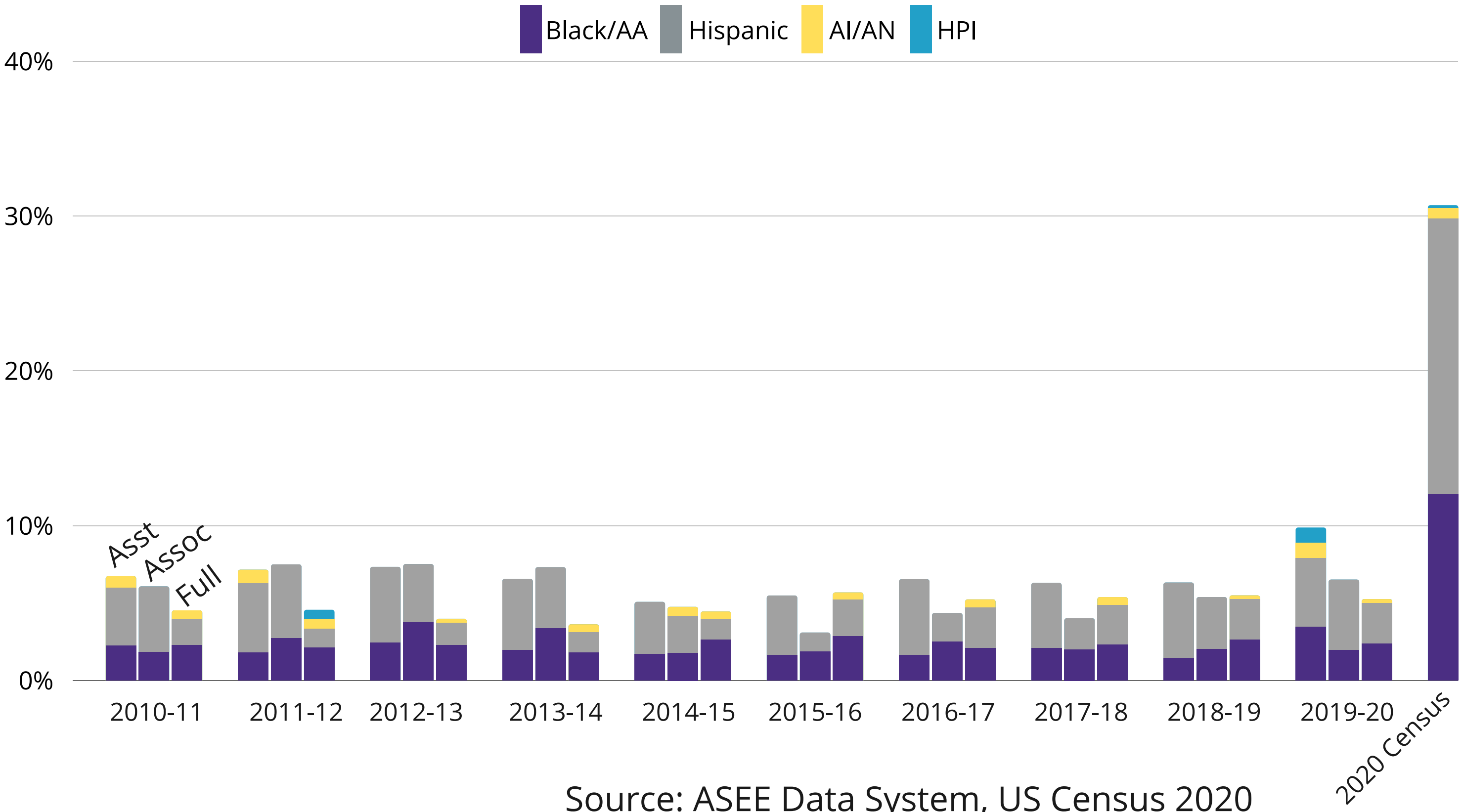
The Diversity-Innovation Paradox in Science: Bas Hofstra, Vivek V. Kulkarnib, Sebastian Munoz-Najar Galveza, Bryan Heb, Dan Jurafsky and Daniel A. McFarlanda (Stanford University), March 16, 2020

URM tenure-track faculty in aerospace v all engineering programs

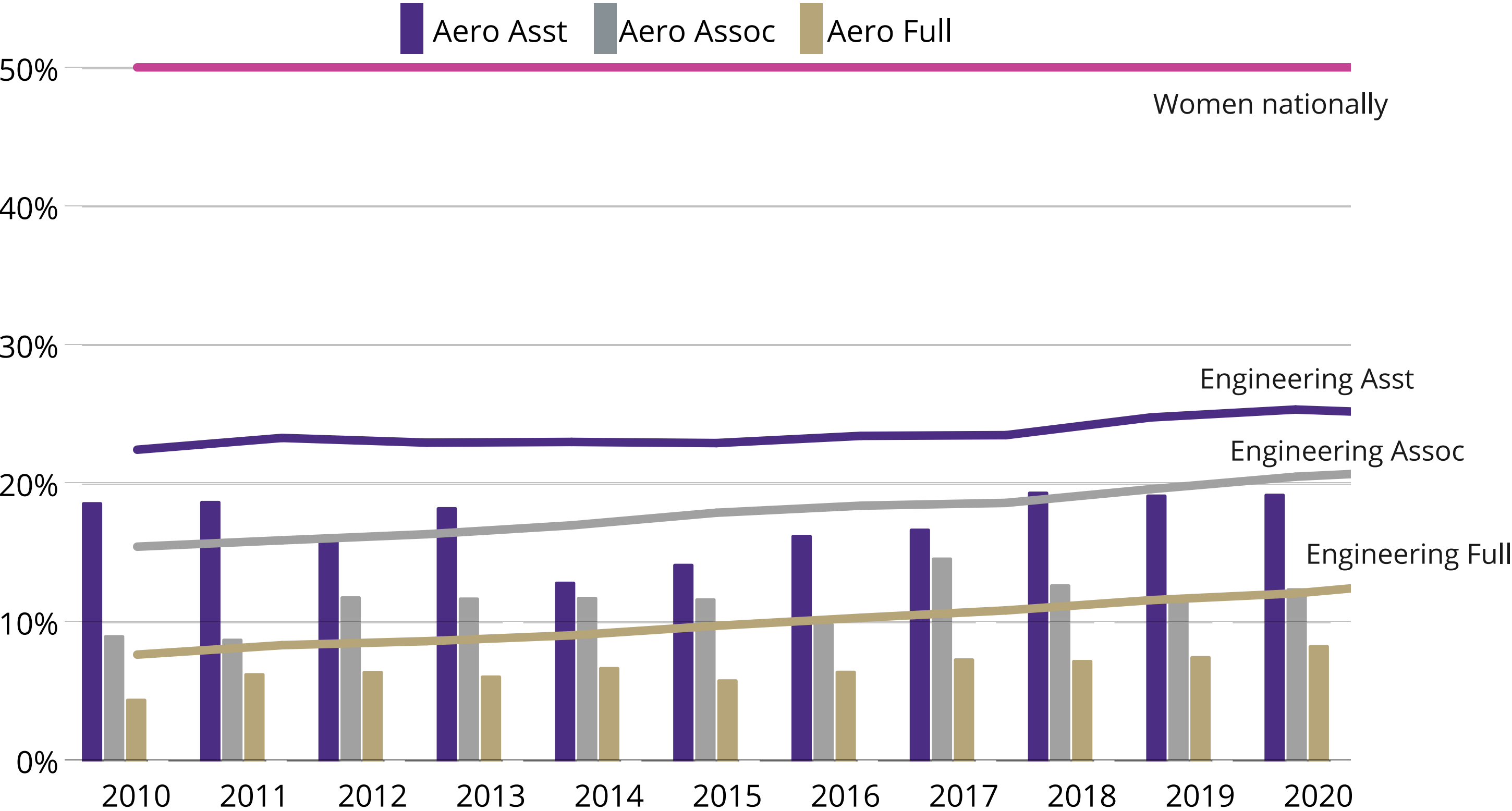


Source: IPEDS/NCSES, US Census 2020

URM tenure-track faculty by race/ethnicity in aero programs



Women tenure-track faculty in aerospace v engineering programs

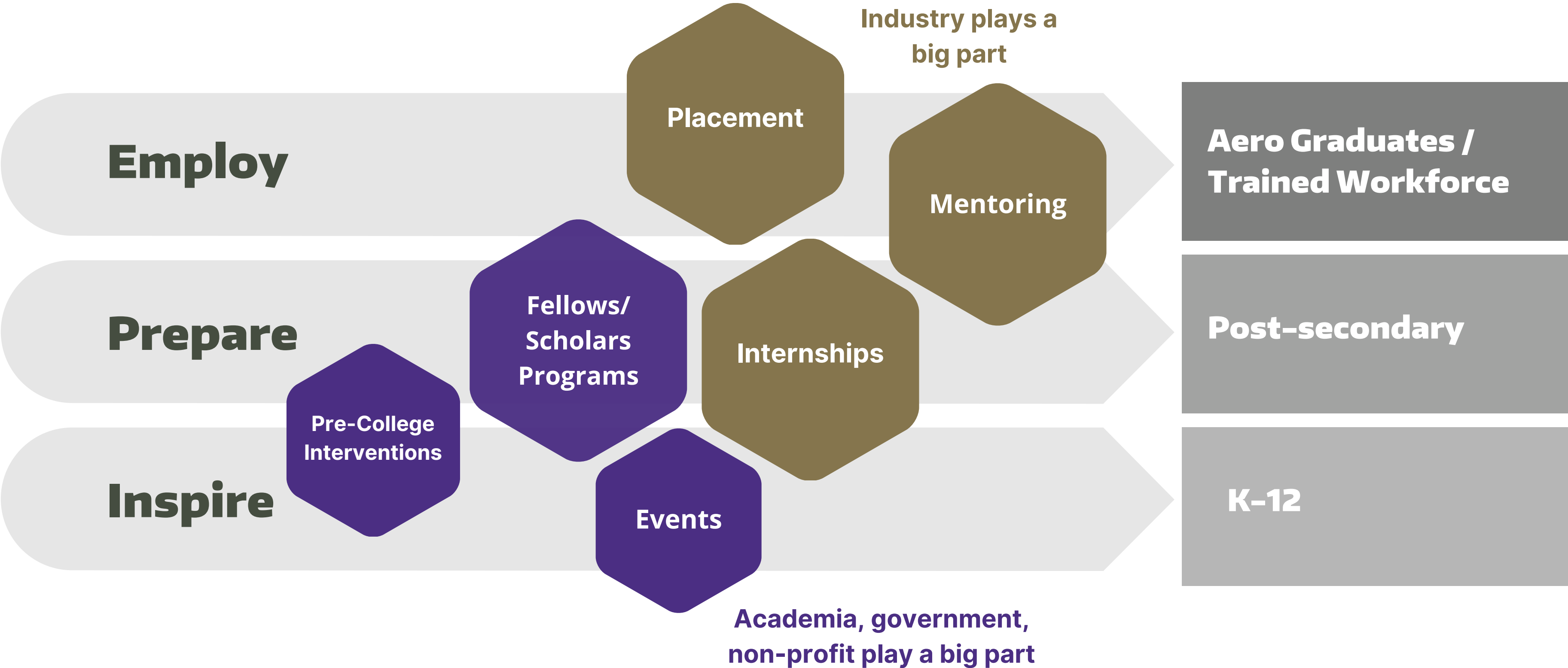


Source: ASEE Data System

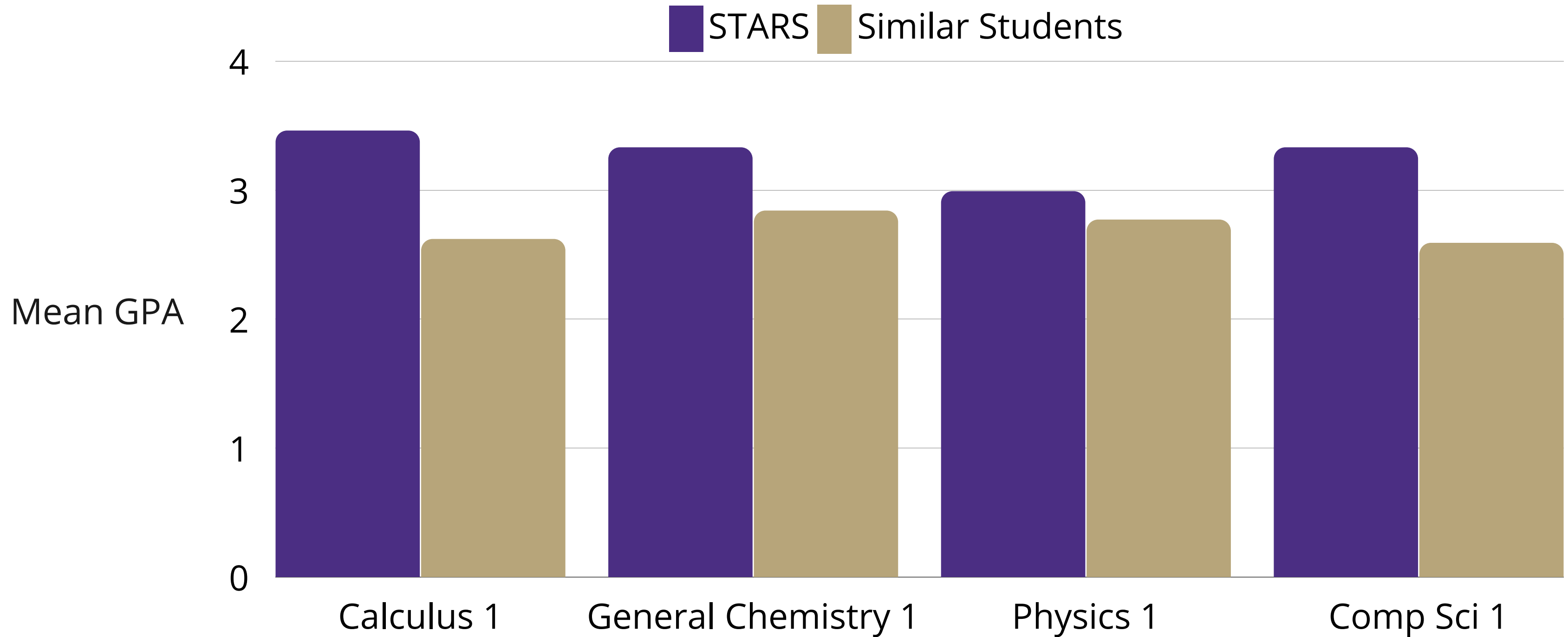
**Aligning for
success**



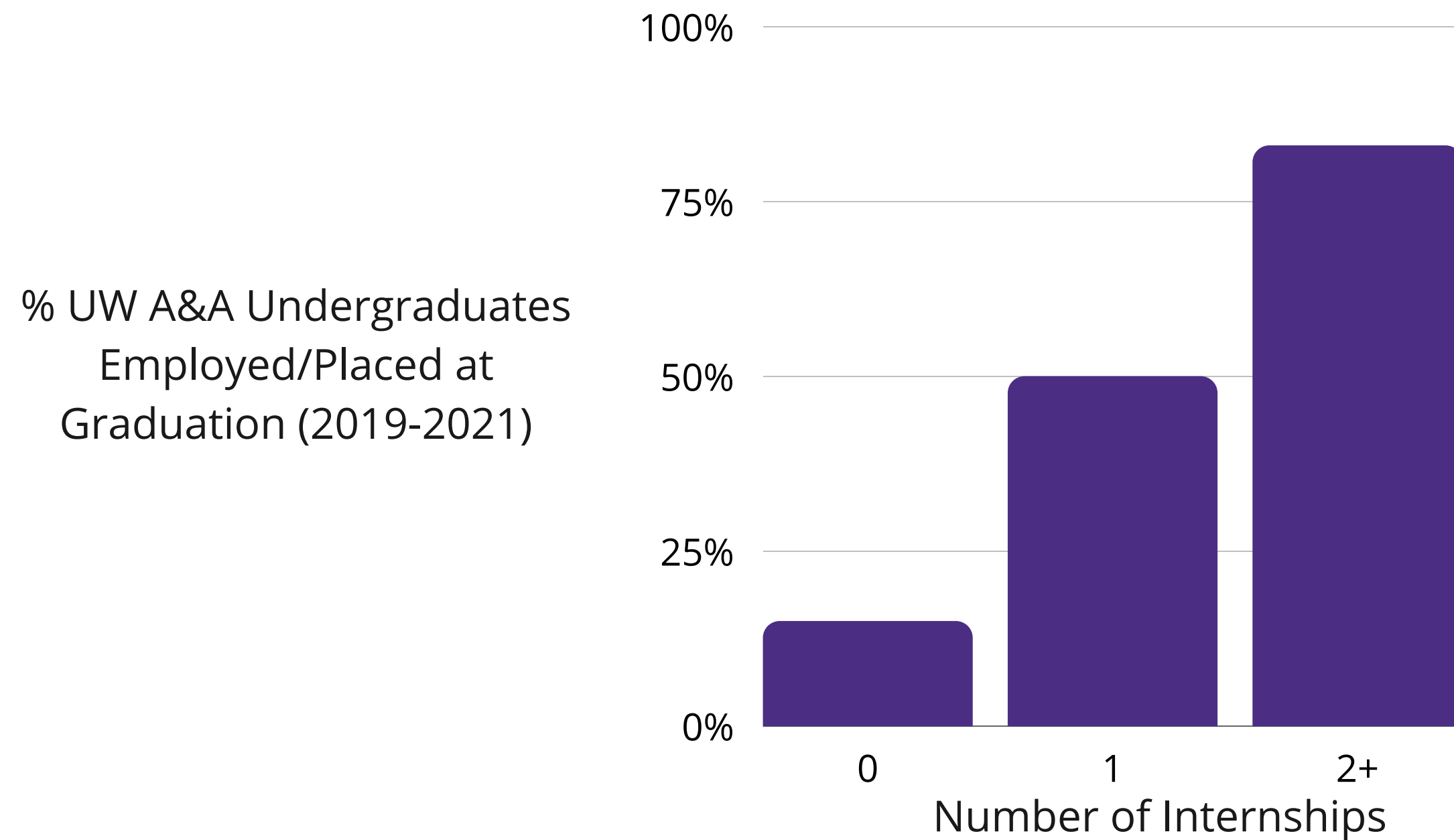
Stacked strategies



College readiness programs make a difference



Internships make a difference



SPACE WORKFORCE 2030

Streamlined coordination, communications and alignment

**Partner
Amplify
Account**

Industry

Boost efficiency for internships,
mentoring and employment

Academia

ADCA Pledge for DEI in Faculty Merit;
Readiness programs

**Gov't /
NASA Space Grant**

NASA STEM Engagement currently
reaching 1.6M K-12, 192K higher ed

**Industry
Associations**

National awards should add
requirement of DEI activity reporting