Equity in Assessment and Data Science

2021 Employee Climate Survey

Dr. Nozipho Becker, Senior Research Analyst

Office for Inclusive Excellence

- CSU Mission and Principles of Community
- Ethical conduct of research/assessment
- Definition of terms
  - Assessment
  - Research
  - Diversity, Equity, Inclusion, Anti-racism (DEIA)
  - Race and Ethnicity
  - Equity in Data Science
  - 2021 Employee Climate Survey Intersectional Report

Presentation Outline

December 6, 2023

CSU Mission & Values

- Mission and Commitment to Diversity: Inspired by its land-grant heritage, Colorado State University is committed to excellence, setting the standard for public research universities in teaching, research, service and extension for the benefit of the citizens of Colorado, the United States and the world.
- **Values**
  - Be accountable
  - Promote civic responsibility
  - Employ a customer focus
  - Promote freedom of expression
  - Demonstrate inclusiveness and diversity
  - Encourage and reward innovation
  - Act with integrity and mutual respect
  - Provide opportunity and access
  - Support excellence in teaching and research

Principles of Community

INCLUSION

We create and nurture inclusive environments and welcome, value and affirm all members of our community, including their various identities, skills, ideas, talents and contributions

INTEGRITY

We are accountable for our actions and will act ethically and honestly in all our interactions.

RESPECT

We honor the inherent dignity of all people within an environment where we are committed to freedom of expression, critical discourse and the advancement of knowledge.

SERVICE

We are responsible, individually and collectively, to give of our time, talents and resources to promote the well-being of each other and the development of our local, regional and global communities.

SOCIAL JUSTICE

We have the right to be treated and the responsibility to treat others with fairness and equity, the duty to challenge prejudice and to uphold the laws, policies and procedures that promote justice in all respects.

Ethical Conduct of Research

- Research Integrity, Safety & Compliance: https://www.research.colostate.edu/safety-and-compliance/
- Human subjects training:
  - -IRB: https://www.research.colostate.edu/safety-and-compliance/irb/
  - -Responsible conduct of research: https://www.research.colostate.edu/safety-and-compliance/ri/
- Research Integrity, Safety & Compliance: https://www.research.colostate.edu/safety-and-compliance/
- Data Classifications (CSU Policy: Central Administrative Data Governance): http://policylibrary.colostate.edu/policy.aspx?id=758
  - **Public data-** available open access, public web pages, or in other unrestricted publications and venues.
  - **Restricted data-** may be accessed by all eligible CSU employees, public may request restricted data through Office of General Counsel.
  - **Private data-** most sensitive data at CSU, e.g., credit card info, SSN, driver's license, etc. Access may be granted only selectively with final approval from the appropriate Data Authority.
- Reporting:
  - data disaggregation or aggregation: must be meaningful, equitable, and informative.

Guidelines and Ethical Conduct

DEFINITIONS USED IN THIS POLICY

Personally Identifiable Information (PII): Information excluding directory information that, if disclosed alone or in combination with other available information, would make it possible to identify an individual to whom the information pertains. This includes items such as a social security number; a personal identification number; a password; a pass code; an official state or government-issued driver's license or identification card number; a government passport number; biometric data, such as defined in C.R.S. § 24-73-103(1)(a); an employer, student, or military identification number; a financial transaction device as defined in C.R.S. § 18-5-701(3); grades, financial/account information; CSU ID photo; class and work schedules; residency status; class rank; age; birth date and place of birth; and all such sensitive personal information as defined further herein.

Sensitive personal information: Includes social security numbers, personally identifiable health information, personally identifiable financial information including credit card information, driver's license information, personal employment and student performance information; proprietary research and academic information, third-party proprietary information, FERPA-protected non-directory information and any other information that through disclosure would adversely affect an individual or besmirch the reputation of the University.

Family Educational Rights and Privacy Act (FERPA): Federal law protecting students' education records from disclosure by the University to anyone other than the student without the student's consent, unless a specific exception applies.

RamCard: the official student and employee identification card issued by the University, including the official digital photo, the "RamCard ID Photo."

Definition of terms: Assessment

Program or project assessment: a systematic process of evaluating and analyzing the outcomes, performance, and impact of a specific program/project/initiative. Assessments can take various forms and serve different purposes depending on the context.

Purpose of conducting assessments:

1. The purpose of such assessment is to determine whether the program or project has achieved its intended objectives, how effectively it has done so, and what lessons can be learned for future planning and improvement.
2. Program or project assessments are valuable tools for organizations and agencies to ensure that resources are used efficiently, that goals are met, and that the intended benefits are realized.

Types of assessments:

1. Pre or diagnostic assessment occurs before program/project implementation, i.e., acts as baseline for expectations.
2. Formative assessment occurs as a program or activity is happening.
3. Summative assessment occurs after a program or activity has concluded.

Definition of terms: Research

Research: systematic and organized process of inquiry aimed at discovering, interpreting, and expanding our understanding of a particular topic, issue, or problem. Research can be conducted in various fields, including science, social sciences, humanities, and many others.

- Research methods
  - Quantitative- focuses on collection and analysis of numerical data (quantifiable) to answer research questions or test hypotheses.
  - Qualitative- focuses on understanding and exploring complex phenomena, experiences, and social contexts by collecting and analyzing non-numerical data.
  - Mixed-methods- an approach to research that combines elements of both quantitative and qualitative research methods within a single study or research project.

Definitions: Ethnicity, Race, Racism

- **Ethnicity:** The Smithsonian describes ethnicity as another human-invented term used to describe people from a similar national or regional background who share common cultural, historical, and social experiences. An ethnic group likely contains a subgroup of people who share distinct beliefs, values, and behaviors. Race, even though as mentioned above is not a valid biological construct, does contain reference to biological features, while ethnicity addresses social, cultural, and historical commonalities.
- **Race:** Many researchers choose to recognize race as a social construction, "based on observed phenotypic manifestations of presumed, underlying genetic differences". Smithsonian Institution definition of race: "a human-invented, shorthand term used to describe and categorize people into various social groups based on characteristics like skin color, physical features, and genetic heredity. Race, while not a valid biological concept, is a real social construction that gives or denies benefits and privileges" .
- **Racism** is a combination of policies, practices, attitudes, cultures, and systems that affect individuals, institutions, and structures unequally and that confer power and privilege to certain groups over others.

Sources: NASEM-National Academies of Science, Engineering, & Medicine (Advancing Antiracism, Diversity, Equity, and Inclusion in STEMM Organizations)
NADOHE-National Association of Diversity Officers in Higher Education (A Framework for Advancing Anti-Racism Strategy on Campus)

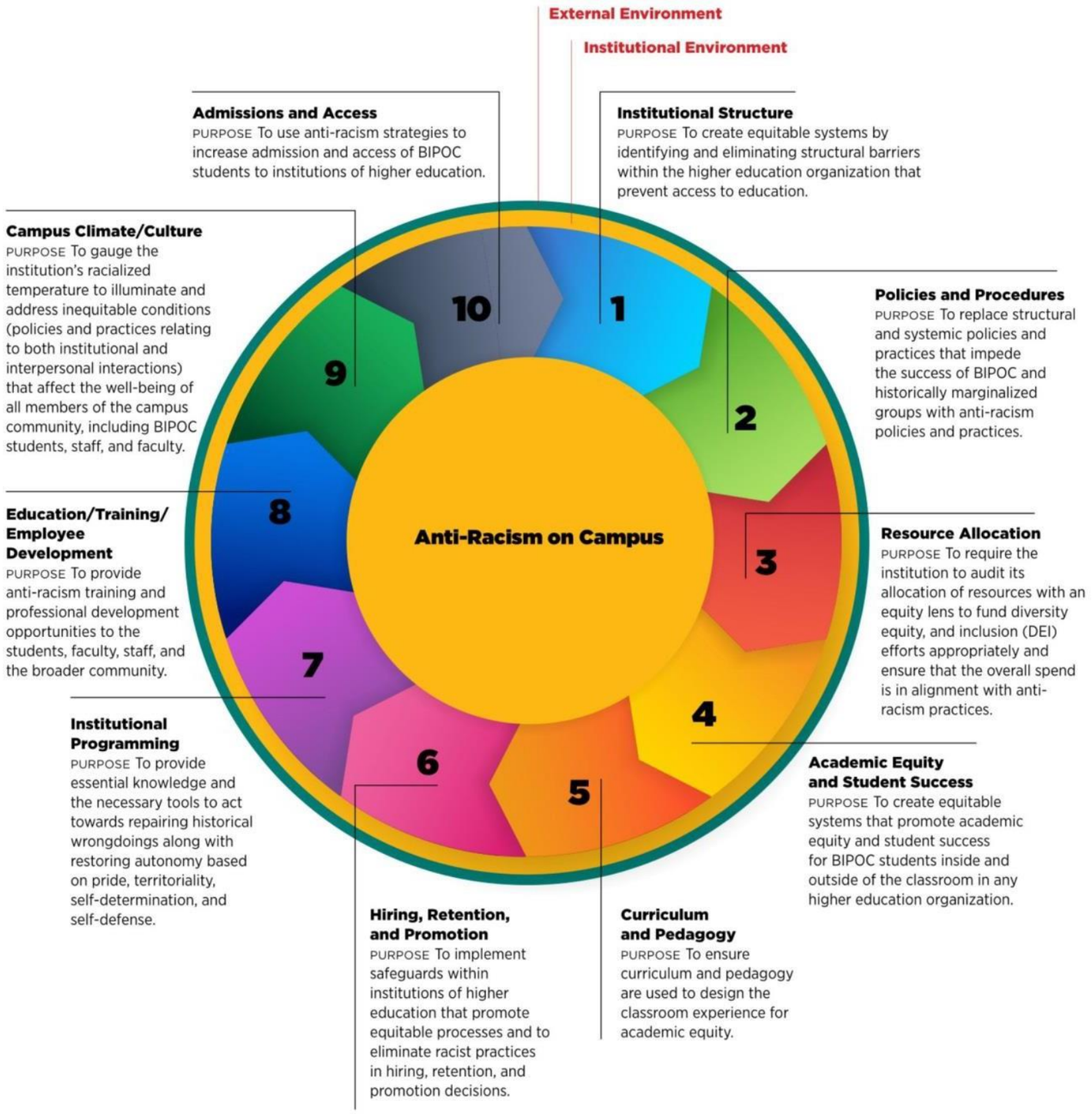
Definition of terms: DEIA

Diversity is the fair representation of different aspects of human characteristics, identities, and perspectives in the composition of a group. Diversity is contextual and benefits from specific definitions for the areas to which it applies. It can be a product of antiracist actions as well as a measure against racism.

Equity is an outcome from fair conditions (policies, practices, structures, cultures, and norms) in which all individuals and groups have the opportunities and resources they need for general well-being or success in specific metrics (such as pay or advancement). Equity is aligned with justice and may require the systemic redistribution of power, access, and resources.

Inclusion is the feeling or sense of belonging in an environment, where all individuals, regardless of and with respect to their backgrounds, feel that they have a voice and the support for full participation in that environment. An inclusive culture is reinforced with equitable policies, practices, programs, and structures. In an inclusive environment, leaders take an active role in reflecting, learning, and listening to all members of the community to sustain a culture of dignity, respect, and trust.

Anti-racism is the active process of identifying, challenging, and confronting racism. This active process requires confronting systems, organizational structures, policies, practices, behaviors, and attitudes. This active process should seek to redistribute power in an effort to foster equitable outcomes.



A Framework for Advancing Anti-Racism Strategy on Campus

Seeks to address multilevel racism in higher education.

DEIA in Data Science

- **Data equity/fairness/justice:** fair and unbiased collection, use/documentation, interpretation, and management or dissemination of data in research, assessments, or evaluations.
- It emphasizes the importance of ensuring that data-related processes do not discriminate against or disadvantage certain individuals or groups based on their characteristics, such as race, ethnicity, gender, socioeconomic status, or other protected attributes.
  - Diversity: to what extent does our {programs, research, mentorship, etc.} population reflect our university/state/country demographics (e.g., gender, race/ethnicity, SES, disability status, nativity, language, etc.
  - Equity: to what extent are outcomes from {....} program/project are attributable to or predictable by participants/beneficiary/population demographics.
  - Inclusion: to what extent do our DIVERSE populations feel comfortable and included in institutions, communities, programs, projects, or initiatives.

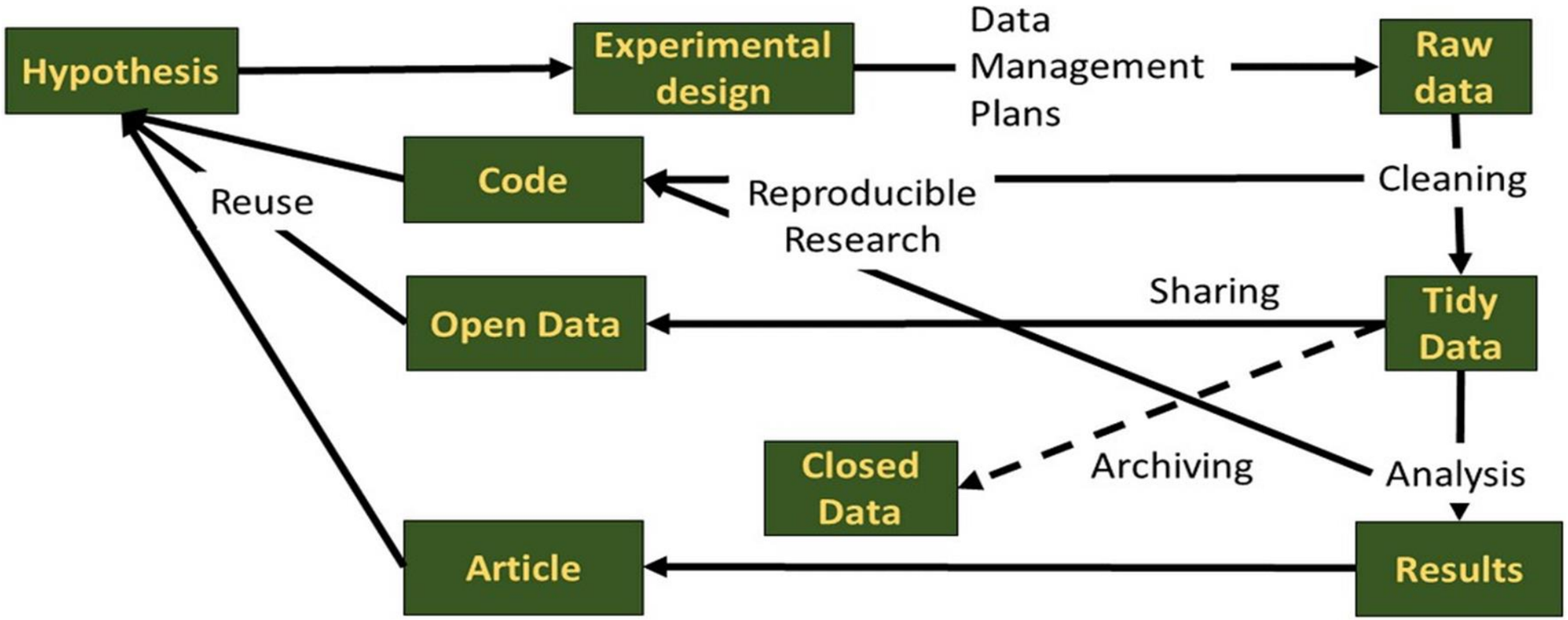
Definitions: Equity in Data Science

- Data science is a multidisciplinary field that involves using scientific methods, processes, algorithms, and systems to extract insights and knowledge from structured and unstructured data. It combines various aspects of statistics, mathematics, computer science, and domain expertise to analyze complex datasets and uncover patterns, trends, correlations, and other valuable information.
- In the context of data science, equity refers to the fair and unbiased treatment of individuals or groups, particularly concerning the collection, analysis, and application of data-driven insights. It involves ensuring that the processes, algorithms, and models used in data science do not perpetuate or reinforce biases, discrimination, or unfair advantages against specific demographics or communities.

Data Management and Safety

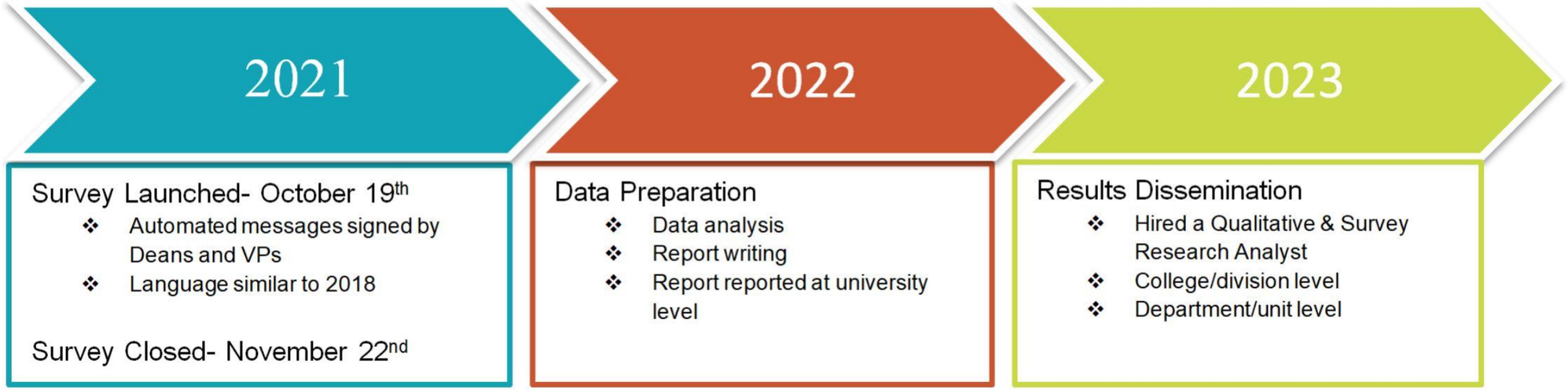
Data management and safety: http://policylibrary.colostate.edu/policy.aspx?id=737

- procedures that govern how you create, organize, store and share your data with colleagues.
- occurs through the research lifecycle

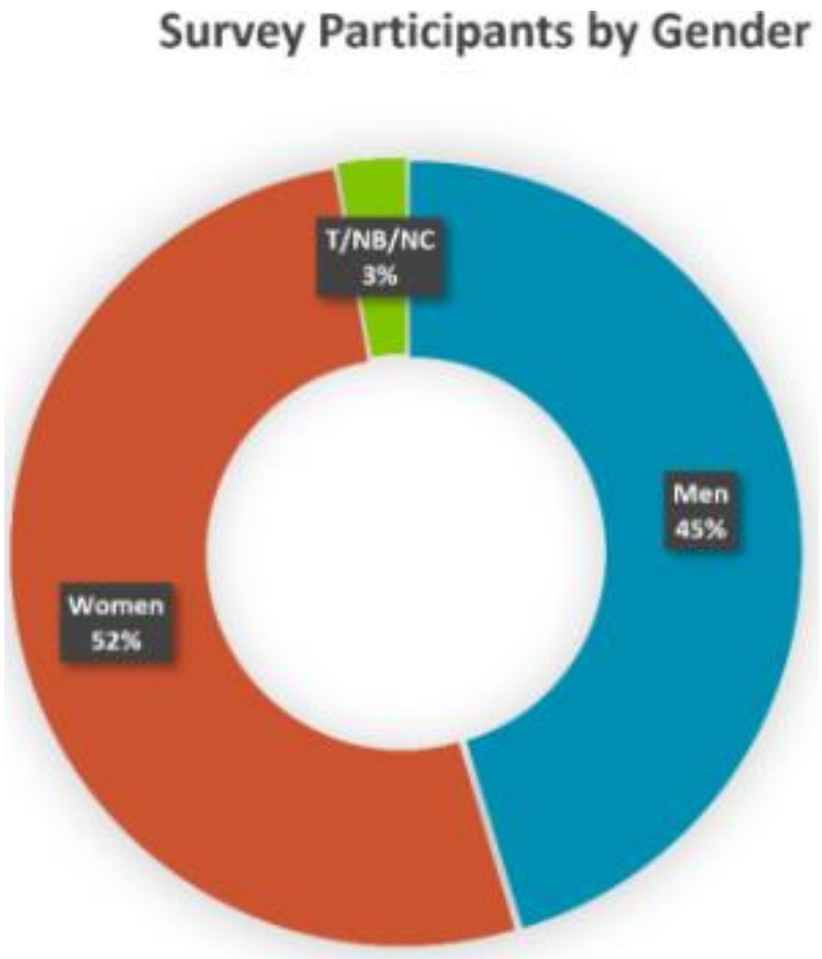


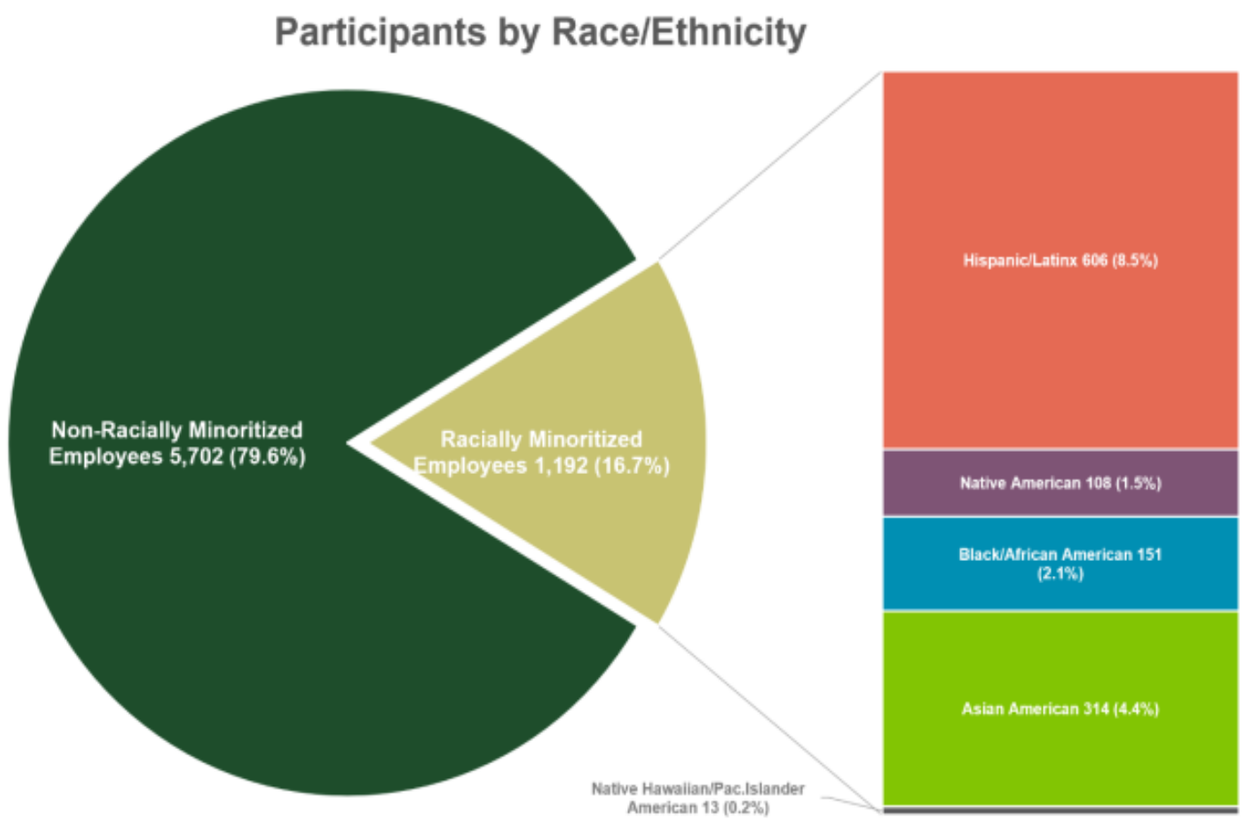
CSU 2021 Employee Climate Survey

- Purpose is to assess the current employee climate
- Language similar to 2018
- 2018-2021 comparison is priority
- Emphasis on disaggregated data
- Cross tabs by gender, racial minoritized status, and employee type
- College/Division level reports posted
  - Department/unit level reports available by request
- Survey Timeline

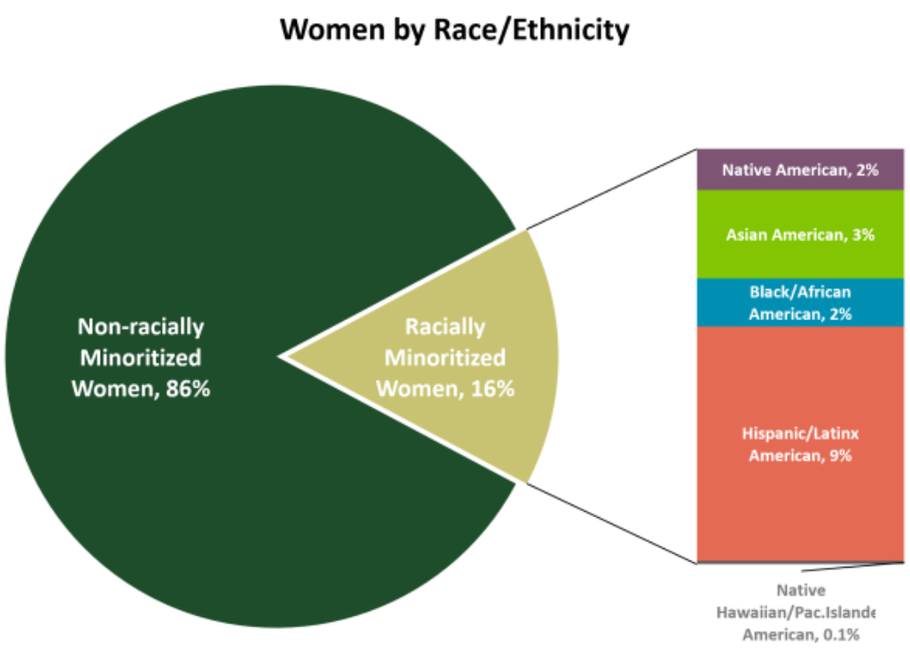


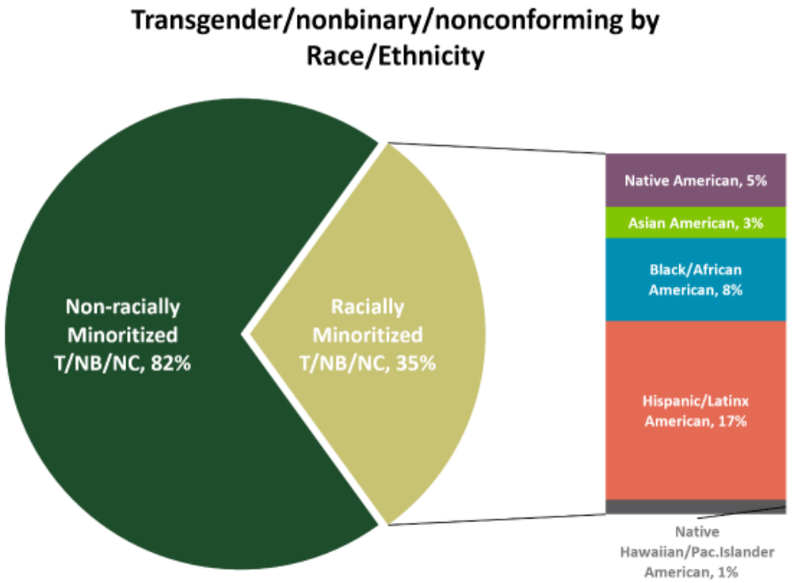
Participants by Gender & Race/Ethnicity

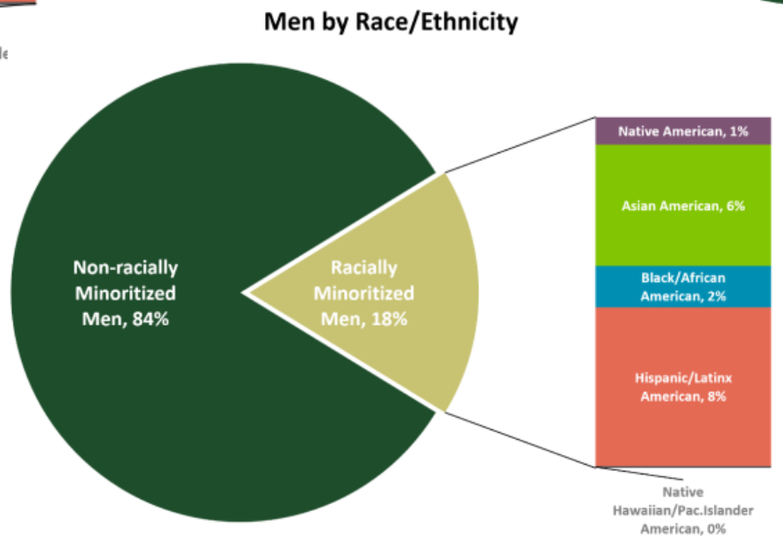




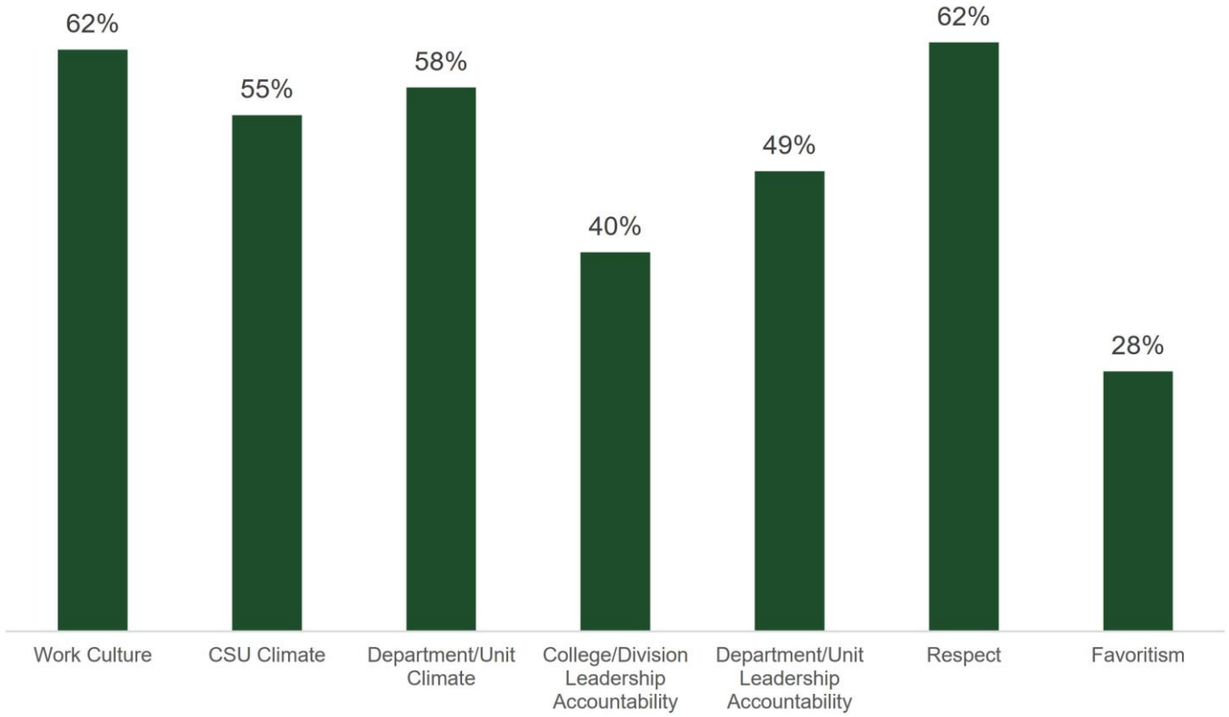
Demographics: Gender & Race/Ethnicity

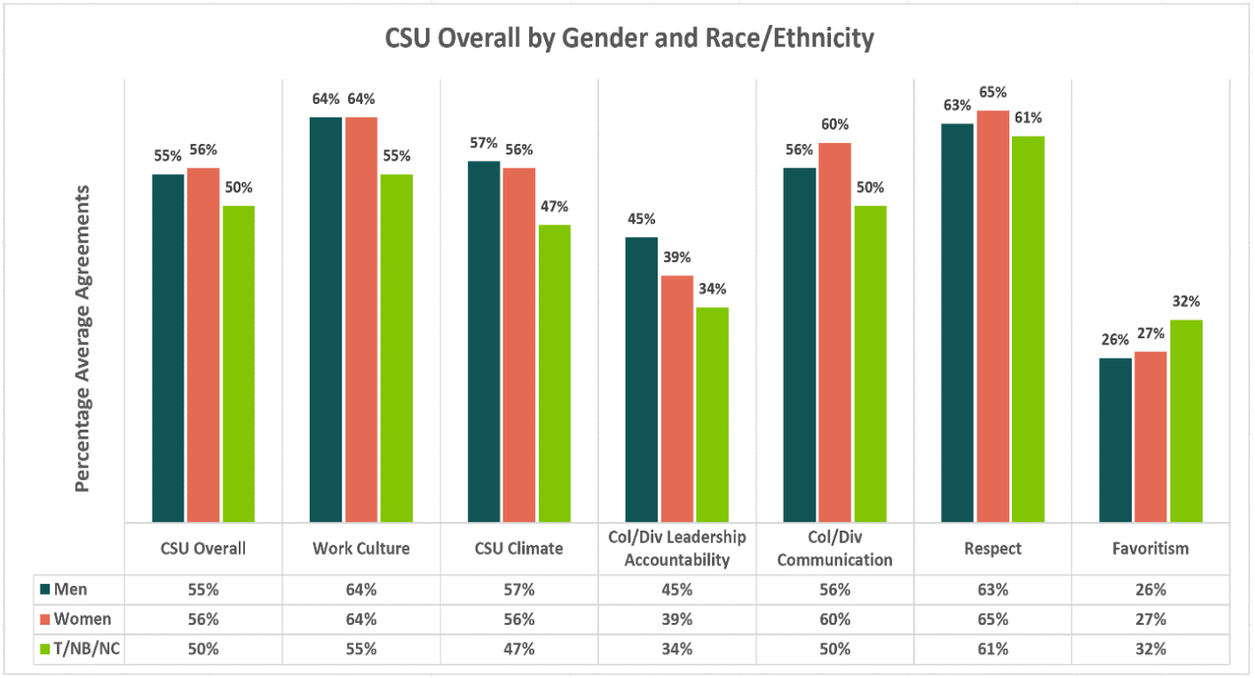






Organizational Themes

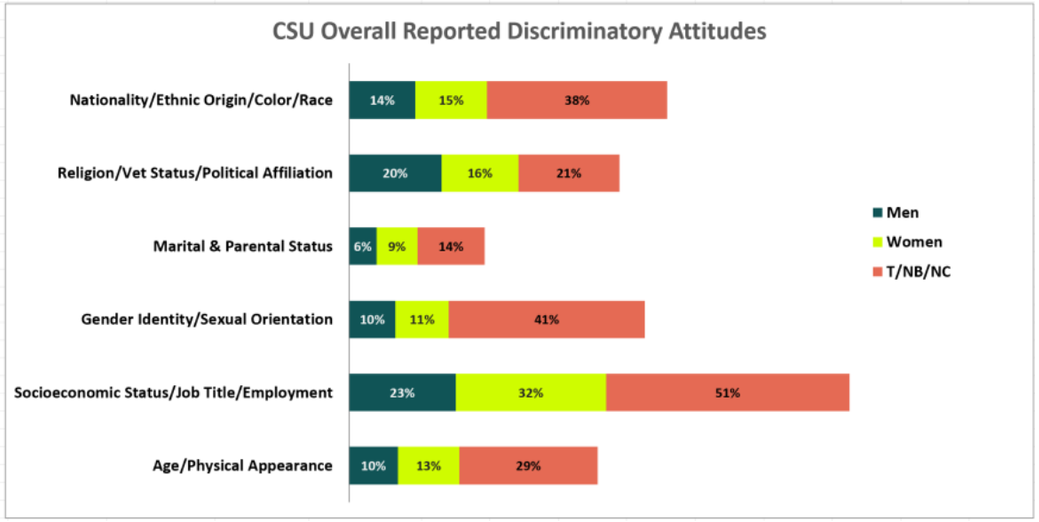


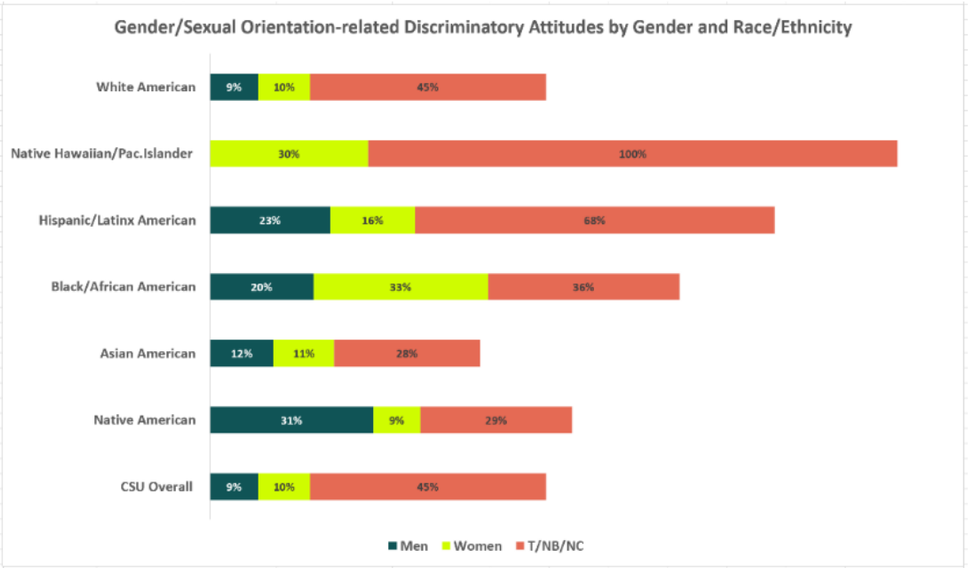


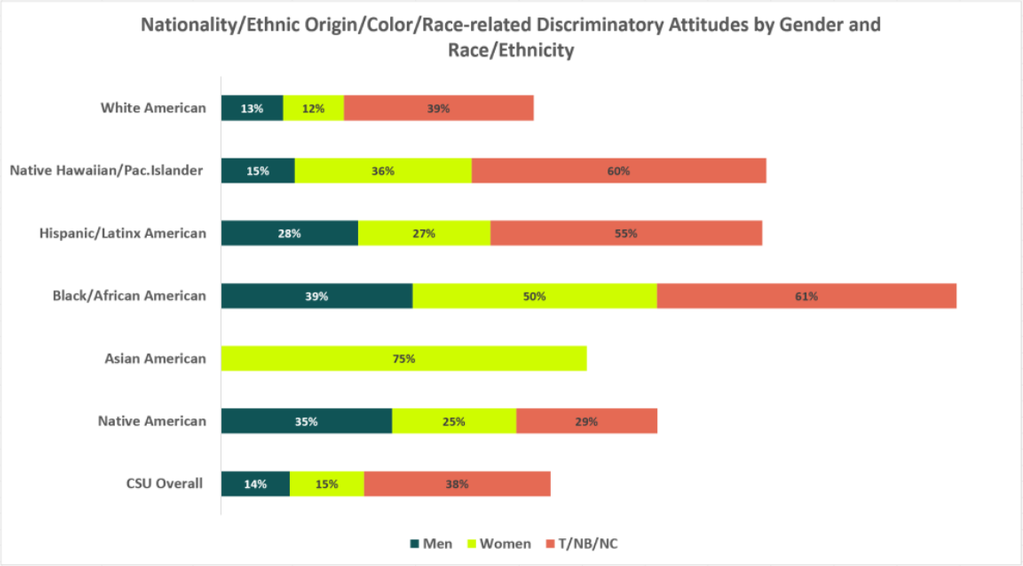
	CSU Overall	Work Culture	CSU Climate	Col/Div Leadership Accountability	Col/Div Communication	Respect	Favoritism
Men	55%	64%	57%	45%	56%	63%	26%
Women	56%	64%	56%	39%	60%	65%	27%
T/NB/NC	50%	55%	47%	34%	50%	61%	32%

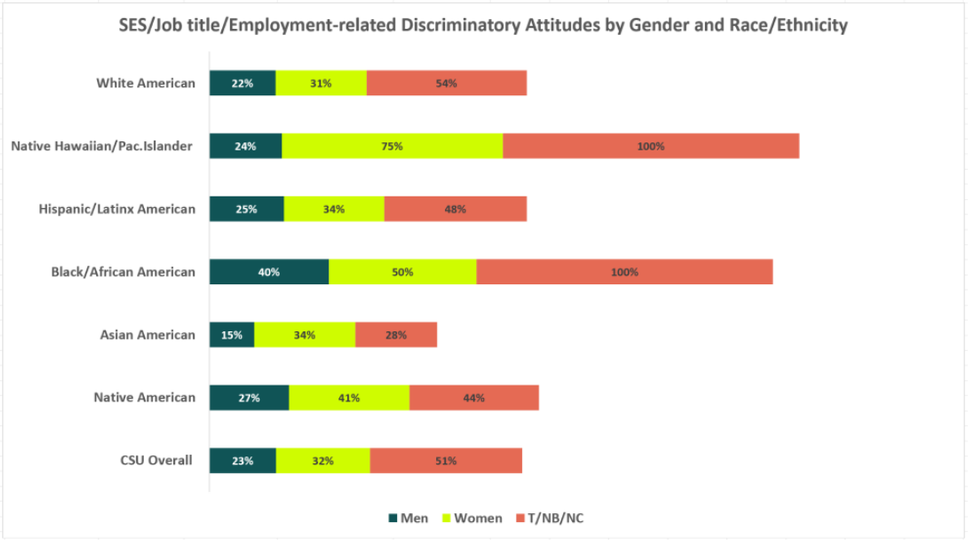
Average Percent Agreement

Discriminatory Attitudes

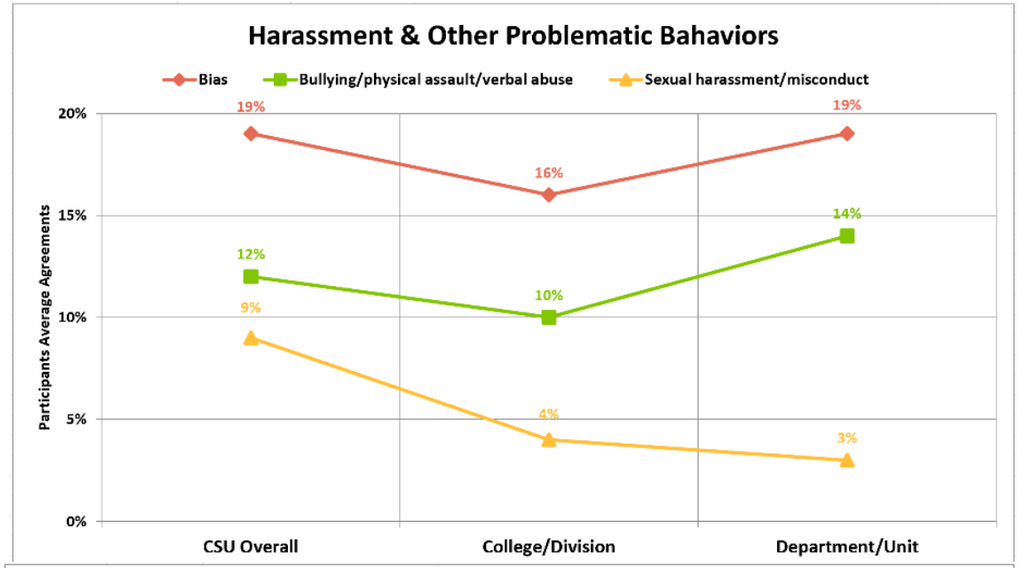


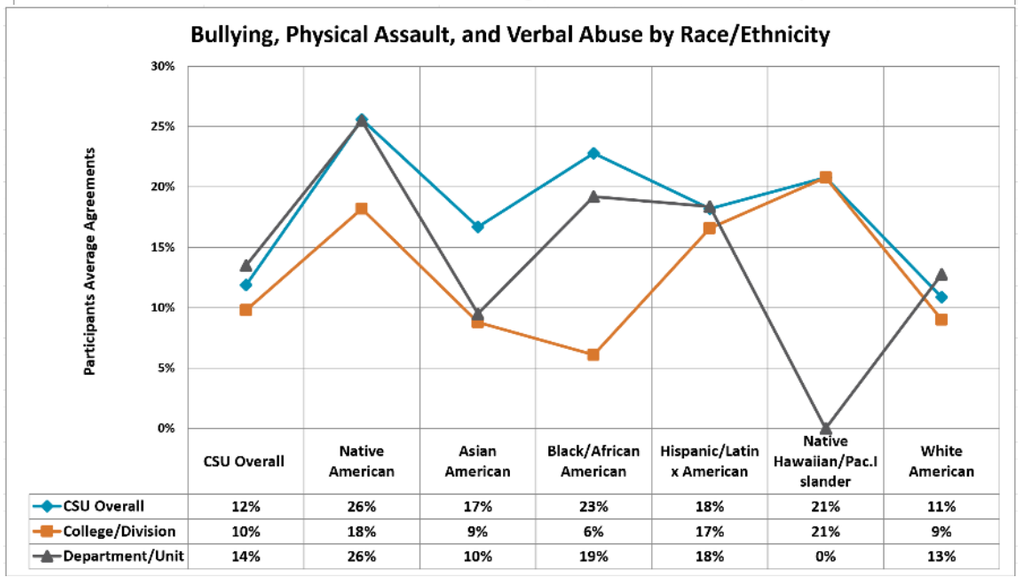




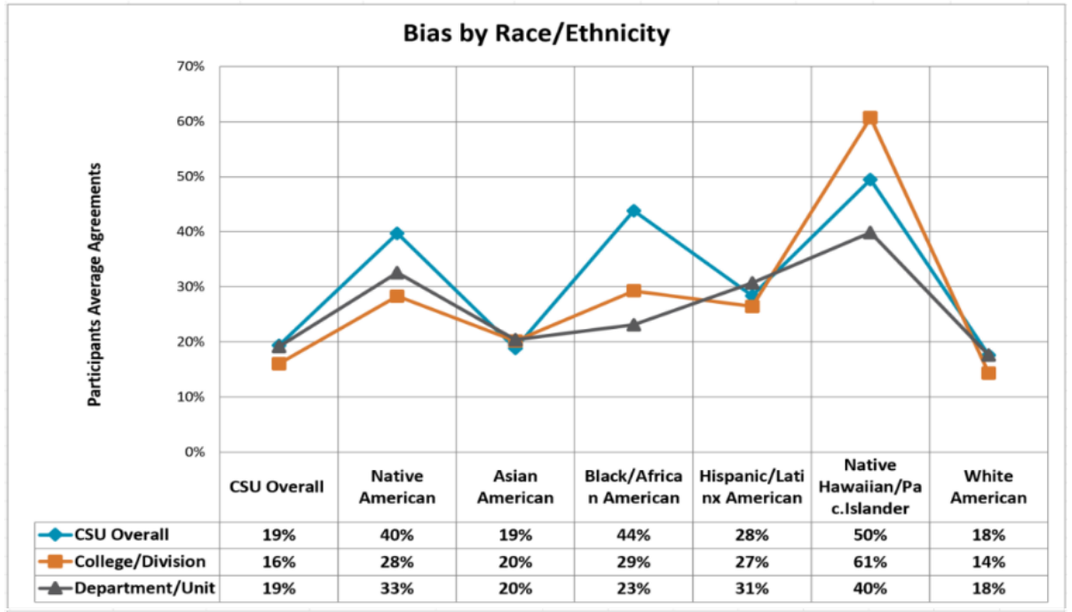


Harassment and Other Problematic Behaviors

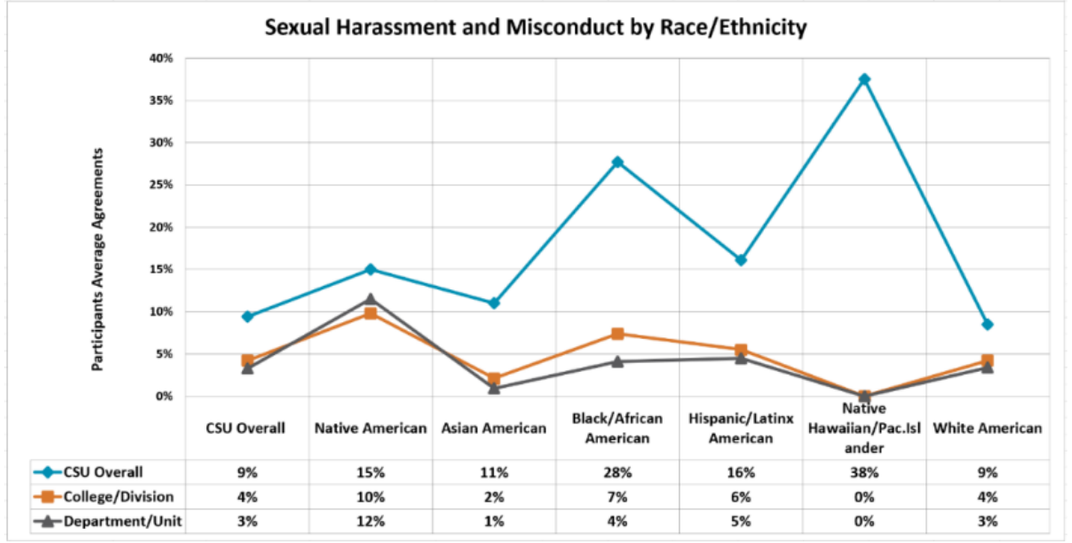




	CSU Overall	Native American	Asian American	Black/African American	Hispanic/Latinx American	Native Hawaiian/Pac.Islander	White American
CSU Overall	12%	26%	17%	23%	18%	21%	11%
College/Division	10%	18%	9%	6%	17%	21%	9%
Department/Unit	14%	26%	10%	19%	18%	0%	13%

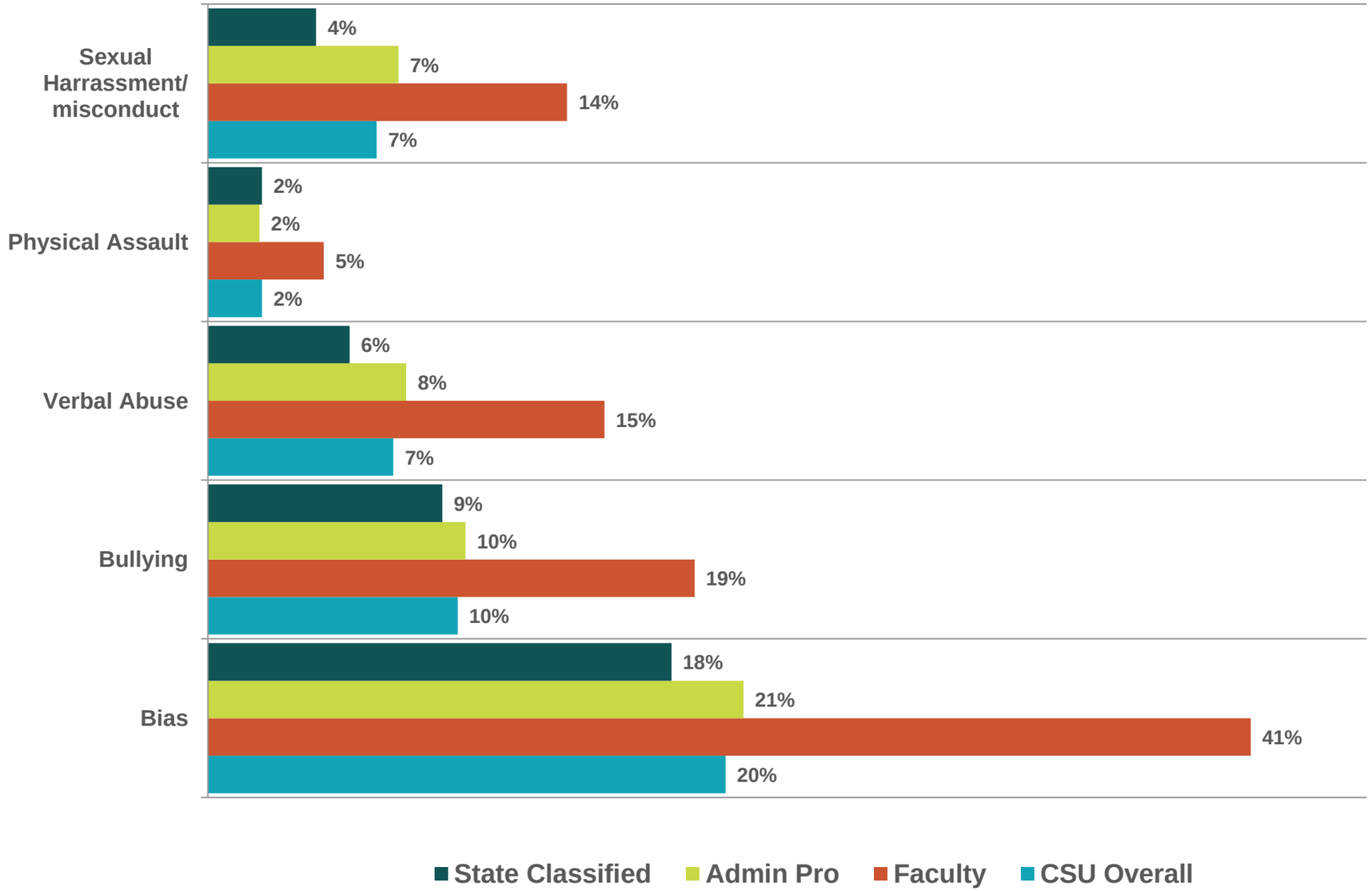


	CSU Overall	Native American	Asian American	Black/African American	Hispanic/Latinx American	Native Hawaiian/Pac.Islander	White American
CSU Overall	19%	40%	19%	44%	28%	50%	18%
College/Division	16%	28%	20%	29%	27%	61%	14%
Department/Unit	19%	33%	20%	23%	31%	40%	18%



	CSU Overall	Native American	Asian American	Black/African American	Hispanic/Latinx American	Native Hawaiian/Pac.Islander	White American
CSU Overall	9%	15%	11%	28%	16%	38%	9%
College/Division	4%	10%	2%	7%	6%	0%	4%
Department/Unit	3%	12%	1%	4%	5%	0%	3%

Harassment and Other Problematic Behaviors



Additional Resources

Please visit the Office for Inclusive Excellence (OIE) website and review the following reports:

- Overall CSU report
- College/Division Report

Visit the Office of Institutional Research, Planning, and Effectiveness (IR) and review detailed CSU Employee Data for additional information.

Please visit the following websites and explore a variety of resources and training opportunities (FREE) available to support faculty and staff across CSU:

DEI training opportunities (OIE)

Faculty Success (Office of the Provost, OIE, IR)

Faculty Institute for Inclusive Excellence (OIE)

Chairs & Heads Institute for Inclusive Excellence (Office of the Provost, OIE, IR)

DEIA Definitions:

NASEM-National Academies of Science, Engineering, & Medicine (Advancing Antiracism, Diversity, Equity, and Inclusion in STEMM Organizations)

NADOHE-National Association of Diversity Officers in Higher Education (A Framework for Advancing Anti-Racism Strategy on Campus)

Thank you

Colorado State University