

# USE OF DATA VISUALIZATION TOOLS TO UNDERSTAND AND ADVOCATE FOR UNDERREPRESENTED ASIAN PACIFIC AMERICAN GROUPS

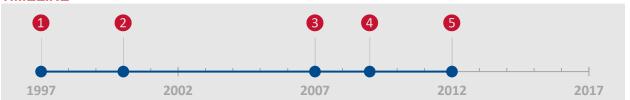
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#### **BACKGROUND**

- Over 1 million Asian Pacific Islander (API) students in college
- Overall, API young adults have high rates of college enrollment and graduation
- In the past 20 years, national-level data have revealed differences within API
  - O Differences between Asians and Pacific Islanders in college enrollment and graduation rates
  - o Enrollment reporting for only Asian subgroups

### **TIMELINE**



- 1 U.S. Office of Management and Budget (OMB) revises standards for race/ethnicity categories
- U.S. Census Bureau starts collecting/reporting data on 25 Asian and 24 Pacific Islander subgroups
- 3 U.S. Department of Education issues final guidance to implement 1997 OMB standards
- 4 23-campus California State University (CSU) lets applicants identify with racial/ethnic subgroups
- 5 California Government Code 8310.5 specifies a minimum of eight Asian and three Pacific Islander subgroups for state collection of demographic data

# **API SUBGROUPS: Nationwide**

These word clouds display the API subgroups reported by the U.S. Census Bureau, with the largest words representing the most populous subgroups in the 2010 census.





Asian subgroups by 2010 U.S. population

Pacific Islander subgroups by 2010 U.S. population

# Who is <u>not</u> represented in these API subgroups?

- Middle Easterners and some Central Asian groups (e.g., Armenians) have typically been categorized as "White."
- Some groups from India with distinct culture and language (e.g., Punjabi) are aggregated in the Asian Indian subgroup.

#### **API SUBGROUPS: Fresno State**

Fresno State is a CSU campus, a Hispanic-Serving Institution (HSI), and an Asian American and Native American Pacific Islander-Serving Institution (AANAPISI) in a region whose API population is mostly Southeast Asian.

These word clouds display the API subgroups represented at Fresno State, with the largest words representing the largest Fall 2016 enrollment. Notice how these word clouds look different from the word clouds on the previous page for the overall U.S. API population:





Asian subgroups by Fall 2016 Fresno State enrollment

Pacific Islander subgroups by Fall 2016 Fresno State enrollment

### How do we know this about Fresno State enrollment?

**Disaggregation** informs Fresno State about its API subgroups. Fresno State uses <u>Tableau data visualization</u> <u>software</u> to produce <u>interactive online dashboards</u> that publicly report API subgroup enrollment.

These tables are adapted from a <u>Race/Ethnicity Detail dashboard</u> publicly available from Fresno State's Office of Institutional Effectiveness:

Asian subgroup enrollment at Fresno State, Fall 2016

Asian	35	0.1%
Asian Indian	459	1.9%
Bangladeshi	4	0.0%
Burmese	2	0.0%
Cambodian	146	0.6%
Chinese	121	0.5%
Filipino	368	1.5%
Hmong	1,501	6.2%
Indo Chinese	2	0.0%
Indonesian	5	0.0%
Japanese	68	0.3%
Korean	51	0.2%
Laotian	143	0.6%
Malaysian	2	0.0%
Nepalese	2	0.0%
Other Asian	250	1.0%
Pakistani	27	0.1%
Sri Lankan	2	0.0%
Taiwanese	10	0.0%
Thai	16	0.1%
Vietnamese	138	0.6%

Pacific Islander subgroup enrollment at Fresno State, Fall 2016

Fijian	14	0.1%
Guamanian or Chamorro	4	0.0%
Native Hawaiian	2	0.0%
Other Micronesian	1	0.0%
Other Pacific Islander	3	0.0%
Other Polynesian	1	0.0%
Palauan	1	0.0%
Samoan	11	0.0%
Tongan	3	0.0%

The dashboard reveals that Hmong students, with a headcount of 1,501, were 6.2% of the overall university enrollment in Fall 2016; the next largest API subgroup, Asian Indian, was 1.9% of overall enrollment, with 459 students.

# STUDENT SUCCESS: API Subgroups at Fresno State

Disaggregation has enabled Fresno State to calculate and analyze key measures of student success for API subgroups. The following are three key student success rates of **full-time**, **first-time freshmen (FTFTF)** universitywide, aggregated since the Fall 2009 entering cohort:

1-Year Retention 83.2% 4-Year Graduation 15.6% 6-Year Graduation 57.5%

The student success data universitywide and for a variety of subgroups are reported to campus users via Tableau online interactive dashboards.

These two views, from a Fresno State dashboard on persistence and graduation, compare the one-year retention, four-year graduation, and six-year graduation rates of FTFTF, for the university vs. all API students:

#### UNIVERSITYWIDE

Entry Cohort	Cohort Size	Avg Entry GPA*	Avg. 1st Term GPA	Retention after 1 Year	Degree within 4 Years	Degree within 6 Years
Fall 2009	2,620	3.29	2.76	86.6%	15.5%	58.4%
Fall 2010	2,583	3.35	2.79	86.2%	16.3%	56.5%
Fall 2011	2,831	3.33	2.81	83.5%	15.3%	
Fall 2012	3,036	3.30	2.72	83.2%	15.5%	
Fall 2013	3,166	3.32	2.74	83.1%		
Fall 2014	3,387	3.36	2.73	82.7%		
Fall 2015	3,537	3.35	2.65	78.6%		
Fall 2016	3,208	3.46				
Grand Total	24,368	3.35	2.74	83.2%	15.6%	57.5%

### **ALL API**

Entry Cohort	Cohort Size	Avg Entry GPA*	Avg. 1st Term GPA	Retention after 1 Year	Degree within 4 Years	Degree within 6 Years
Fall 2009	416	3.40	2.72	88.2%	7.9%	53.1%
Fall 2010	468	3.40	2.68	85.3%	5.8%	45.7%
Fall 2011	518	3.42	2.69	84.2%	8.1%	
Fall 2012	553	3.37	2.62	84.6%	8.0%	
Fall 2013	540	3.41	2.76	83.1%		
Fall 2014	528	3.47	2.72	84.7%		
Fall 2015	495	3.49	2.65	78.8%		
Fall 2016	469	3.57				
Grand Total	3,987	3.44	2.69	84.0%	7.5%	49.2%

# Why are the API graduation rates lower than the university rates?

Even though API FTFTF entered Fresno State with a higher high school GPA than the university overall (3.44 vs. 3.35), they had lower first-term GPA, 1-year retention, and graduation rates. Why?

- There is wide variation in student success among API subgroups.
- About 50% of all API FTFTF at Fresno State are Hmong, a historically underrepresented population in higher education compared to other API subgroups such as Asian Indian.

Across multiple cohorts since Fall 2009, Hmong FTFTF had <u>lower</u> retention and graduation rates than the university overall. Conversely, Asian Indian FTFTF had <u>higher</u> rates in these measures of student success compared to the university.

The following two views, from the same dashboard, compare the one-year retention, four-year graduation, and six-year graduation rates of FTFTF, for Hmong vs. Asian Indian students:

#### **HMONG**

Entry Cohort	Cohort Size	Avg Entry GPA*	Avg. 1st Term GPA	Retention after 1 Year	Degree within 4 Years	Degree within 6 Years
Fall 2009	191	3.39	2.65	85.3%	2.6%	45.0%
Fall 2010	249	3.38	2.54	83.1%	1.2%	36.5%
Fall 2011	316	3.42	2.59	82.9%	4.7%	
Fall 2012	325	3.34	2.44	79.7%	4.3%	
Fall 2013	323	3.39	2.63	79.3%		
Fall 2014	305	3.47	2.68	84.3%		
Fall 2015	291	3.51	2.51	73.5%		
Fall 2016	253	3.54				
Grand Total	2,253	3.43	2.57	80.9%	3.4%	40.2%

## **ASIAN INDIAN**

Entry Cohort	Cohort Size	Avg Entry GPA*	Avg. 1st Term GPA	Retention after 1 Year	Degree within 4 Years	Degree within 6 Years
Fall 2009	42	3.45	2.59	83.3%	23.8%	61.9%
Fall 2010	37	3.43	2.90	94.6%	18.9%	70.3%
Fall 2011	28	3.45	2.97	92.9%	17.9%	
Fall 2012	55	3.44	3.15	96.4%	12.7%	
Fall 2013	63	3.43	3.01	92.1%		
Fall 2014	70	3.44	2.79	90.0%		
Fall 2015	61	3.43	3.17	86.9%		
Fall 2016	70	3.58				
Grand Total	426	3.46	2.95	90.7%	17.9%	65.8%

# Why do you think the API subgroup student success rates are so different?

We may not immediately know the reasons why API subgroups at a specific institution have different rates of student success. However, disaggregation and the use of data visualization tools can be combined with our qualitative knowledge of a campus community to develop data-driven decisions that benefit student populations throughout the institution.

# **DATA VISUALIZATION TOOLS**

# Advantages

- Data are displayed to help users understand and advocate for historically underrepresented API groups
- Dashboards can further disaggregate API subgroup data by other variables (e.g., gender, first-generation status)
- Dashboards are built in-house with commercially available Tableau software that connects to data in Excel, Access, Qualtrics, and other programs

 Campus and community users can navigate dashboards with little or no training

# **Applications**

- Culturally sensitive student interventions (academic, personal, social)
- Campus conversations about equity and advocacy (whether to disaggregate, which groups to disaggregate)
- Grant applications
- Outreach to prospective students and families
- Community outreach and partnerships

# QUESTIONS OF EQUITY AND ADVOCACY

- 1. What are the disaggregation guidelines of your campus, system, or state government?
- 2. Which API subgroups do you disaggregate?
- 3. How do the disaggregated API subgroups align with the population of your region?
- 4. Is any API group not represented properly?
- 5. What types of data do you report for disaggregated API subgroups?
- 6. How do student success rates for a disaggregated API subgroup compare to other subgroups? To other races? To the campus at large?
- 7. How will your campus address any achievement and opportunity gaps revealed by disaggregation?
- 8. Who is prepared to address these gaps?

#### **CASE STUDY**

Research by Gong, Kubo, and Takahashi (2014) led to the launch of an Action Research Project at Fresno State, funded by a CSU Chancellor's Office grant. Disaggregated API subgroup data identified Southeast Asian FTFTF who were invited to join Supporting Southeast Asian Student Success (SSASS). A 2015 SSASS cohort of 27 students participated in activities intended to increase Southeast Asian student success rates and campus-student "fit," including:

- A three-day on-campus summer orientation
- Mentoring from a Peer Navigator who met with SSASS participants weekly
- A tablet-based course called "Writing for College Success"
- Student development workshops on leadership, financial management, and other topics



2015 SSASS Peer Navigators

Without institutional disaggregation for API subgroups, it would have been extremely challenging or impractical

to design, recruit for, and evaluate such a program for Southeast Asian students.

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## **CREDITS**

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Dashboards and data: Office of Institutional Effectiveness (OIE), Fresno State

Poster design: Marie Fernandez, OIE, Fresno State