

# National Survey of Student Engagement: 2019 Data Quality Report

The National Survey of Student Engagement (NSSE) is a brief and confidential online survey that helps CSU better understand the campus environment and student behavior by asking students about their study habits, educational plans and experiences, how they spend their time, and their satisfaction with the campus, the faculty and the curriculum. The NSSE yields data that CSU can use to improve the undergraduate experience both in and out of the classroom. However, survey data are inherently subject to response bias and for the NSSE results to be meaningful, the quality of the data needs to be evaluated. The purpose of this report is to examine the quality of CSU’s NSSE data by comparing the sample demographic statistics to the overall population parameters in order to assess the degree to which the sample represents the population.

## Key Findings

Over the last three NSSE surveys, CSU has a response rate that greatly exceeds our peers. Table 1, below, displays the response rate for the 2019 NSSE administration across both class levels.

**Table 1: NSSE 2019 Population, Sample Size, and Response Rate by Class Level**

	Population	NSSE Participants	Response Rate	Comparison Group <sup>1</sup>
<b>First-Year</b>	5371	1873	34.9%	19%
<b>Seniors</b>	5923	2084	35.2%	17%

<sup>1</sup>Comparison group is large land grant institutions that participated in the 2019 NSSE survey

A higher response rate does not necessarily eliminate the possibility of response bias since bias can be an issue when sub-groups of students respond to the NSSE survey invitation at different rates. The results from this analysis indicate that the NSSE sample does appear to be biased towards higher achieving students, females, as well as full time students. Importantly, the 2019 CSU NSSE sample does not appear to underrepresent demographic groups that have been historically underserved by higher education. For instance, first-generation, racially minoritized and Pell Grant recipients have equivalent or higher representation in the NSSE sample compared to CSU population parameters. The results from the 2019 NSSE data are in line with prior NSSE surveys.

## Methodology

Proportional representation is evaluated by comparing the sample statistic to the population parameter. If CSU’s population demographics fall within the sample statistics’ margin of error (confidence interval), we can be relatively confident that the NSSE sample proportionally represents CSU’s population. If CSU’s parameters fall outside the confidence interval, it indicates that our NSSE respondents demographically differ from the general student population which could indicate response bias.

## First-Year Sample

Table 2 displays CSU’s first-year population parameters and NSSE sample statistics with their corresponding confidence interval for each attribute that is being evaluated.



Table 2: NSSE 2019 First-Year Sample Demographics and Population Parameters

	CSU Mean (N=5371)	NSSE Mean (n=1873)	95% Confidence Interval			Conclusion
% Male	46.5%	36.7%	34.5%	to	38.9%	Males underrepresented in NSSE
% Colorado Resident	62.2%	64.5%	62.4%	to	66.7%	CO Residents are overrepresented in NSSE
% First Generation	22.1%	22.2%	20.3%	to	24.0%	
% Pell Recipient	20.4%	22.7%	20.8%	to	24.6%	Pell recipients overrepresented in NSSE
% Racially Minoritized	27.3%	26.2%	24.2%	to	28.2%	
% Full Time	94.3%	97.4%	96.7%	to	98.2%	Full-time students are overrepresented in NSSE
% STEM	38.6%	42.5%	40.3%	to	44.7%	STEM majors are overrepresented in NSSE
High School GPA	3.64	3.74	3.72	to	3.76	HS GPA is higher among NSSE respondents
CCHE Index	115.3	117.9	117.3	to	118.4	Index is higher among NSSE respondents
CSU GPA (eot FA18)	2.99	3.18	3.14	to	3.21	CSU GPA is higher among NSSE respondents

Among the first-year NSSE population male students are substantially underrepresented (36.7% NSSE, 46.5% CSU); this finding is in line with most survey research at CSU and nationwide. First generation students and racially minoritized students are proportionally represented while Pell, CO Residents, STEM majors and Full Time students are slightly overrepresented in the NSSE sample. On measures of academic preparation, (high school GPA and CCHE index) NSSE first-year measures are substantially higher than the first-year population. First-year NSSE participants also significantly outscore freshman overall on first-year CSU GPA.

## Senior Sample

Table 3 displays CSU's senior population parameters and NSSE sample statistics with their corresponding confidence interval for each attribute that is being evaluated.

Table 3: NSSE 2019 Senior Sample Demographics and Population Parameters

	CSU Mean (N=5923)	NSSE Mean (N=2084)	95% Confidence Interval			Conclusion
% Male	49.6%	40.7%	38.6%	to	42.9%	Males underrepresented in NSSE
% Colorado Resident	75.2%	76.0%	74.2%	to	77.8%	
% First Generation	26.2%	25.2%	23.4%	to	27.1%	
% Pell Recipient	23.3%	23.1%	21.3%	to	24.9%	
% Racially Minoritized	19.6%	19.2%	17.5%	to	20.9%	
% Full Time	75.2%	80.8%	79.1%	to	82.5%	Full-time students are overrepresented in NSSE
% STEM	49.9%	51.0%	48.8%	to	53.1%	
High School GPA	3.70	3.79	3.77	to	3.81	HS GPA is higher among NSSE respondents
CCHE Index	116.8	119.0	118.2	to	119.7	Index is higher among NSSE respondents
CSU GPA (eot FA18)	3.16	3.27	3.25	to	3.30	CSU GPA is higher among NSSE respondents

Among seniors we observe that CSU population proportions for Colorado residency, first generation status, Pell status, and racially minoritized status all fall within the NSSE seniors 95% confidence interval. Males remain underrepresented, as expected. NSSE senior have significantly higher measures of pre-CSU academic preparation (High School GPA and CCHE Index) and on CSU GPA compared to seniors overall. Part time students are also overrepresented among NSSE seniors compared to the overall senior population.

## Conclusions

CSU's NSSE sample is not a perfect representation of CSU's population because female and full-time students are overrepresented. However, it does appear to be representative of first-generation students, Pell Grant recipients, and racially minoritized students. Thus, the sample is not proportionally representative in some expected ways, but overall is a useful data source for exploring levels of student engagement.