

## QUANTITATIVE REASONING QUIZ REPORT - 2019

### University of San Francisco

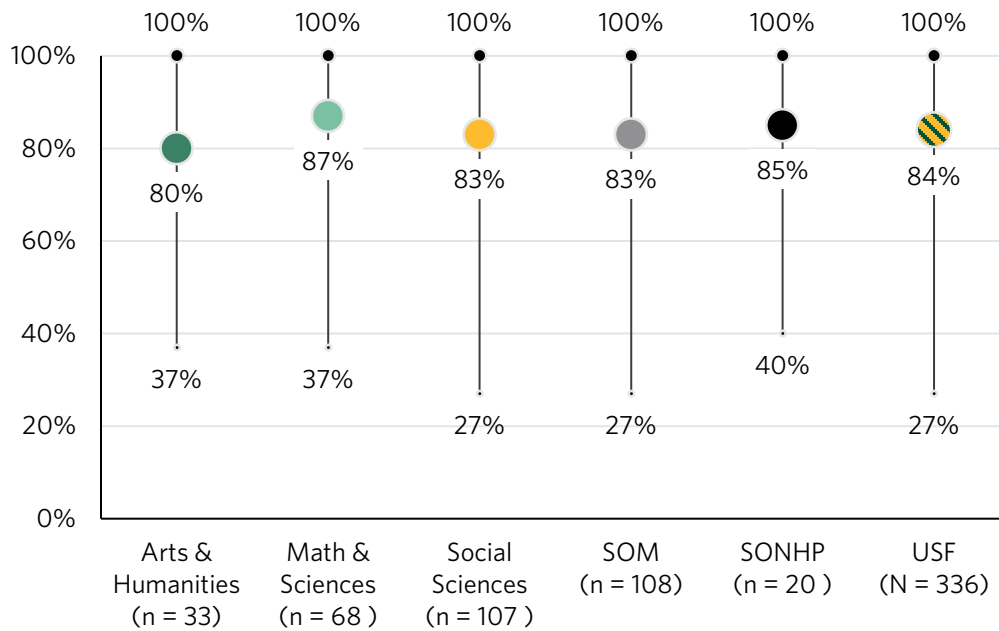
#### The Process

Quantitative reasoning was assessed using the same 15-item quiz administered during the previous two iterations of the Core Graduation Competencies Project in 2017 and 2018. This quiz measures graduating seniors' ability to define, describe, and apply basic statistical terminology, figures and tables, and the information communicated in them to real-world empirical questions. This quiz was developed by Math & Sciences faculty in the College of Arts and Sciences and piloted by the University Assessment Committee prior to its administration to students in 2017. Participation in the quiz was incentivized with a \$10 gift card.

#### How Did Students Perform?

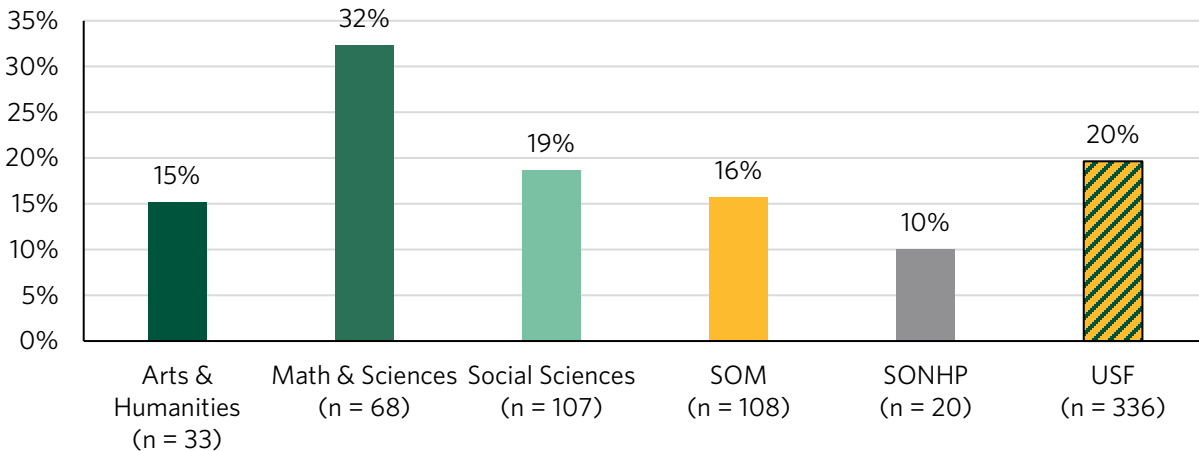
The figure below depicts the average and range of scores broken down by the three school/college that graduate seniors. The College of Arts & Sciences is broken into three areas: Arts & Humanities, Math & Sciences, and Social Sciences.

- The average score was **84%**, with students in the Math & Sciences area in the College of Arts and Sciences scoring the highest (**87%**) and students in the Arts & Humanities area in the College of Arts and Sciences scoring the lowest (**80%**).



The figure below depicts the proportion of students who received 100% on the quiz.

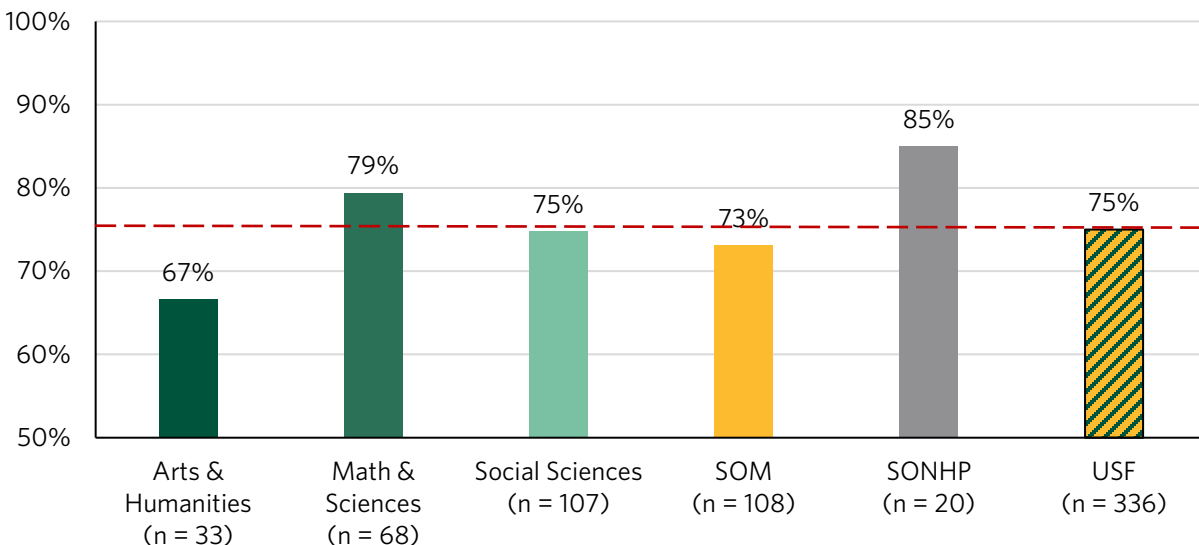
- Overall, **20%** of the students who participated in the quiz received a 100%, with Math & Sciences students scoring the highest proportion (**32%**) and School of Nursing & Health Professions students scoring the lowest proportion (**10%**).



### Meeting and Achieving Standards

Before administering the quiz, we expected that 75% of graduating seniors would score an 80% or higher on the quiz. The figure below depicts the percentage of students who scored an 80% or higher.

- With the exception of Arts & Humanities (**67%**) and SOM (**73%**), students from all areas and schools met and achieved this standard.

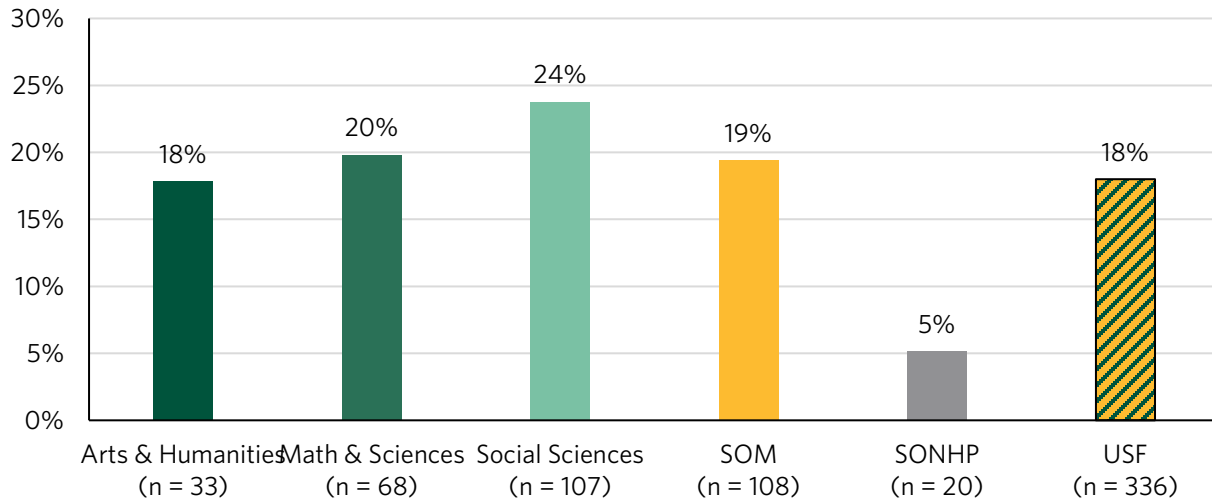


### Sample Size and Response Rate

Three hundred thirty-six graduating seniors completed this quiz, which is 18% of the 1,925 seniors invited to participate in spring 2019.

The figure below depicts the overall response rates.

- The average response rate across USF was **18%**, with the highest response rates from the Social Sciences area of the College of Arts & Sciences (**24%**) and the lowest response rates from the School of Nursing & Health Professions (**5%**).



### Reliability and Validity

The quiz demonstrated good reliability<sup>1</sup> ( $\alpha > .86$ ) and discriminant validity<sup>2</sup> (point-biserial  $r_s = .39 - .61$ ).

<sup>1</sup>**Reliability** - The degree of measurement consistency. Alphas ( $\alpha$ ) range from .00 to 1.00, with scores greater than .70 regarded as acceptable.

<sup>2</sup>**Discriminant validity** - A measure's ability to discriminate between high and low scorers. Point-biserial correlation coefficients ( $r$ ) range from .00 to  $\pm 1.00$ . Questions with coefficients .30 or greater are considered to be very good.