



UNDERSTANDING *our* VISITORS

Multi-Institutional
Science Center Study
JULY 2017–JUNE 2018



COVES



COVES was established as a grant-funded project in October 2014 through the generous support of the Institute for Museum and Library Services, and the project became an independent, membership-supported entity in October 2018. As of October 2018, the collaboration includes 22 science centers in the United States and Canada.

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This project was made possible in part by the Institute of Museum and Library Services

(MG-20-14-0060-14)



Report designed by



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“We envision a collaborative museum community seeking to better understand and improve the visitor experience.”

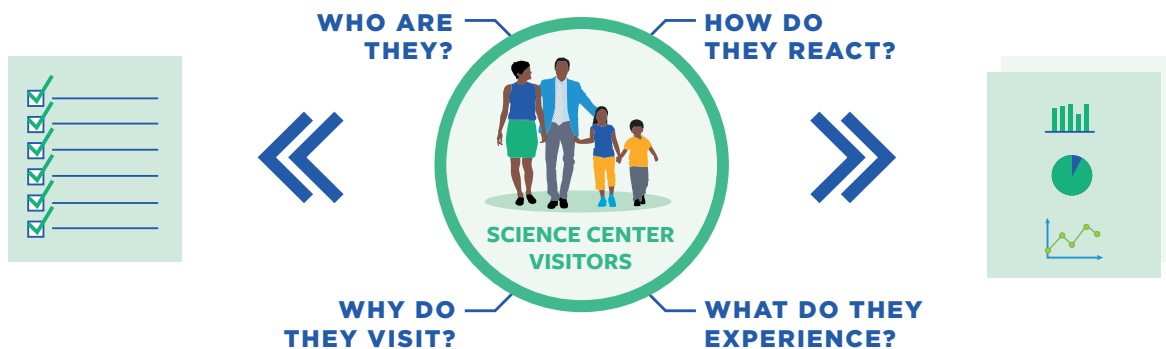


The COVES Governing Body represents individuals from seven museums, plus the Association of Science-Technology Centers (ASTC).

WHAT IS COVES?

The Collaboration for Ongoing Visitor Experience Studies (COVES) is designed to unite science centers across the country to systematically collect, analyze, and report on visitor experience data.

We envision a collaborative museum community seeking to better understand and improve the visitor experience. We believe that studying the visitor experience in science centers—who visits a particular museum, why they visit, what they experience during their visit, and how they react to different aspects of their experience—can help organizations learn about their visitors, make evidence-based decisions about services and programming, and respond to challenges, interests, and concerns in a visitor-centered manner. This report represents the first presentation of our aggregate data and findings to the science center field. It contains data collected between July 2017 and June 2018 in multiple science centers in the United State and Canada.



Participating institutions can make evidence-based decisions.

COVES collects, analyzes, and reports data about science center visitors.

Aggregate data (shown in this report) can inform the museum field as a whole.

JULY 2017-JUNE 2018 PARTICIPANTS

Data from the following institutions are included in this report



LARGE INSTITUTIONS

- COSI** | Columbus, OH
- Exploratorium** | San Francisco, CA
- The Franklin Institute** | Philadelphia, PA
- Museum of Science** | Boston, MA
- Saint Louis Science Center** | St. Louis, MO
- Science Museum of Minnesota** | St. Paul, MN
- Science World British Columbia** | Vancouver, BC Canada



MEDIUM INSTITUTIONS

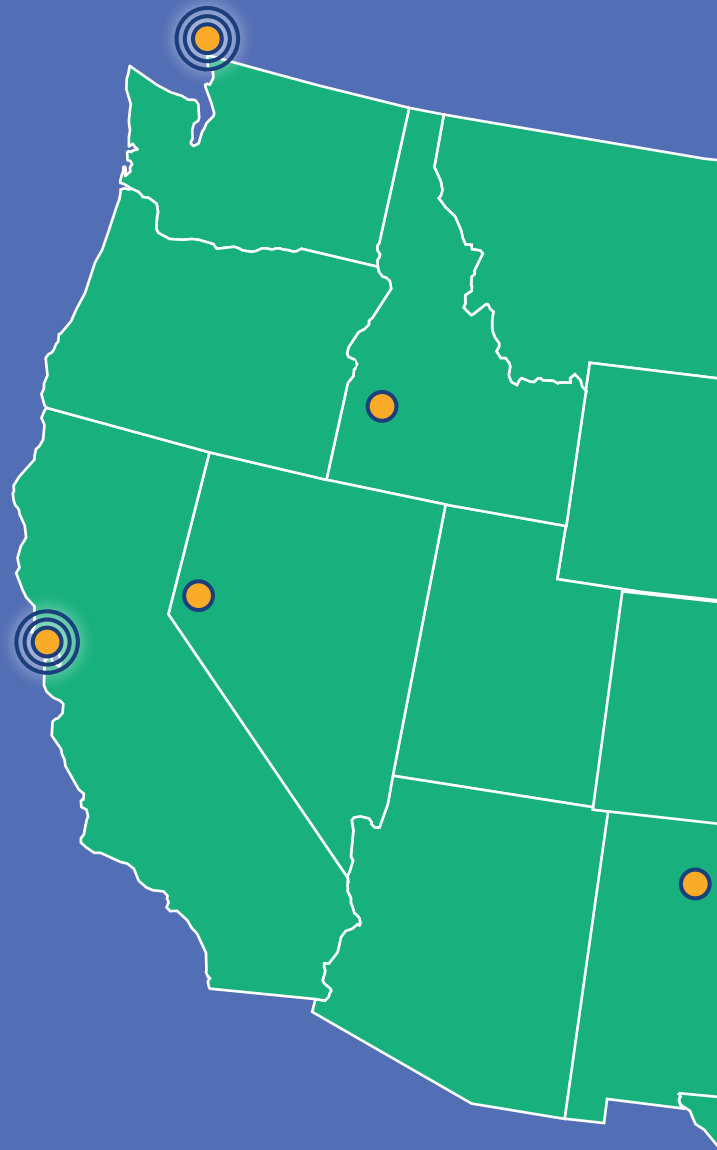
- The DoSeum** | San Antonio, TX
- EcoTarium** | Worcester, MA
- Great Lakes Science Center** | Cleveland, OH
- Maryland Science Center** | Baltimore, MD
- New York Hall of Science** | New York, NY

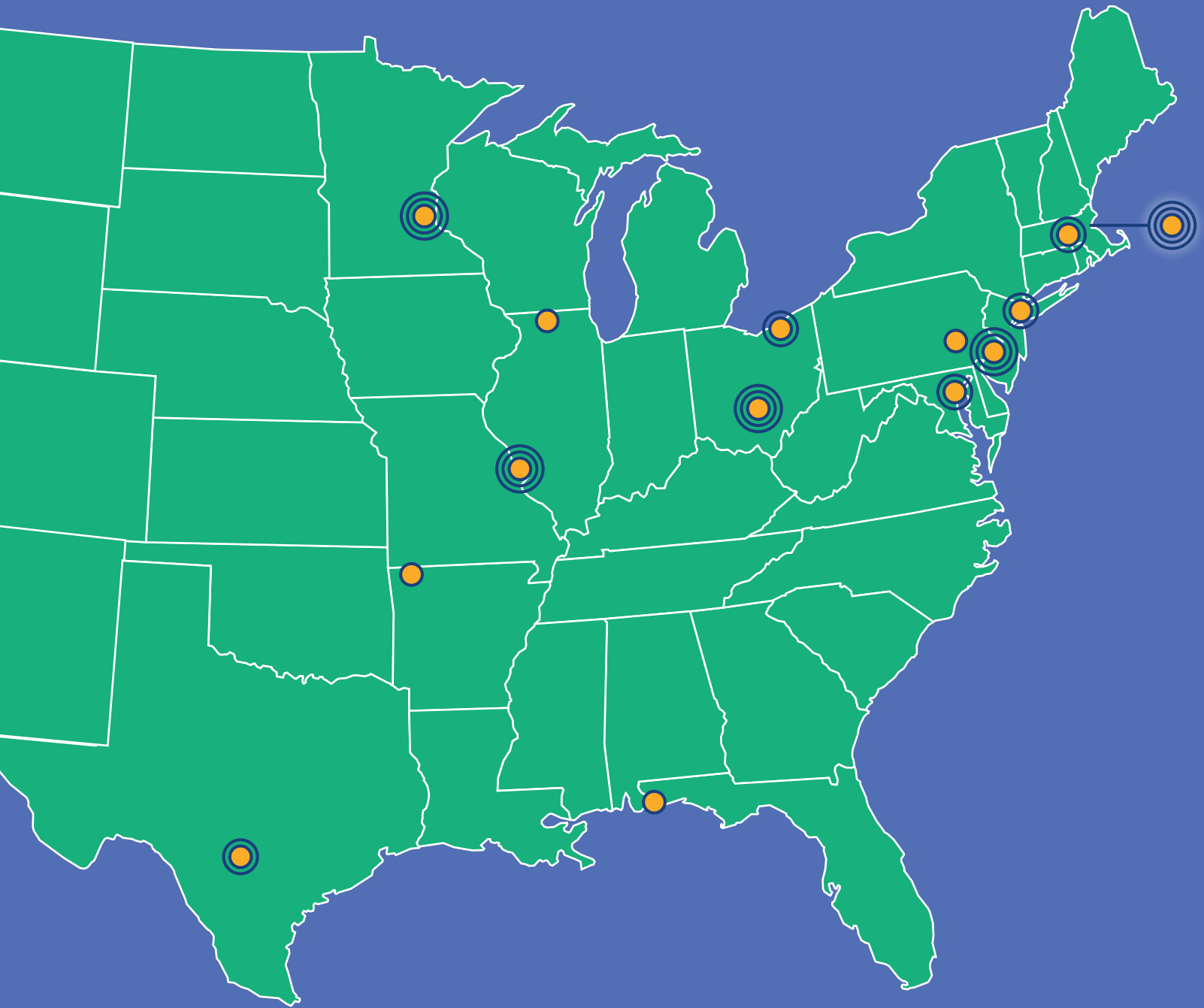


SMALL INSTITUTIONS

- Amazeum** | Bentonville, AR
- Bradbury Science Museum** | Los Alamos, NM
- Discovery Center of Idaho** | Boise, ID
- Discovery Center Museum** | Rockford, IL
- Lancaster Science Factory** | Lancaster, PA
- Pensacola MESS Hall** | Pensacola, Florida
- Terry Lee Wells Nevada Discovery Museum** | Reno, NV

COVES uses several factors to categorize institutional size, including annual attendance, total interior exhibit space, and annual operating income.





This report includes visitor data from 19 different institutions

DATA COLLECTION PILOT

To standardize the data collection protocol, COVES used part of its first year as a pilot period. Between October 1, 2015 and March 21, 2016, the initial eight COVES institutions piloted three data collection techniques using identical data collection instruments: an **onsite survey method**, an **emailed survey method**, and an **interview method**.

To ensure that the methods were feasible across sites, we assigned the data collection methods across different sized institutions. Two institutions (one large and one small) did all three data collection methods.

As a result of the pilot testing, COVES institutions collect data using an **electronic onsite exit survey**. Groups complete the survey onsite at the completion of their time in the museum. All COVES sites use this method. Prior to starting COVES data collection, participating sites used a variety of different data collection methods, and it was critical to settle on one method.

METHODS PILOTED

★ CHOSEN METHOD



ONSITE SURVEY



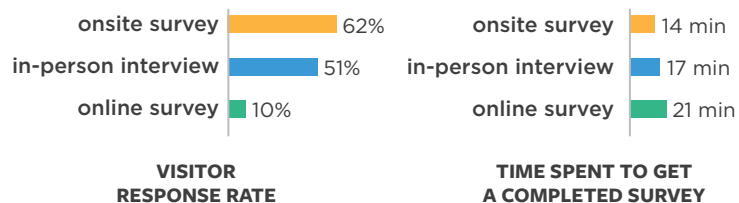
IN-PERSON INTERVIEW



ONLINE SURVEY

RESULTS

At the end of the pilot, **the onsite survey emerged as the most efficient method**, with both the highest response rate and lowest amount of time spent to collect a completed response.

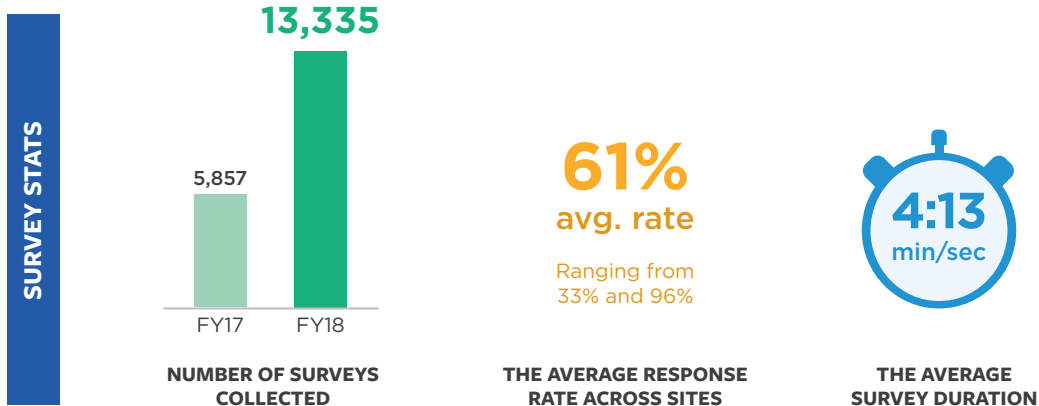


SAMPLE SIZE

The COVES reporting cycle follows a July to June Fiscal Year (FY) structure. This report includes data from FY18, or July 2017 to June 2018. In FY18, COVES sites collected **13,335 surveys**, much higher than the FY17 total of 5,857 surveys. This is for two reasons: first, the COVES Research Team raised sample size targets for all institutions in FY18, and second, the number of participating institutions increased from 13 to 19.

The COVES Research Team sets yearly sample size targets for small (about 500 responses), medium (about 850 responses), and large institutions (about 1400 responses). The Research Team then uses general public attendance data from participants to establish proportional sampling by month. For example, most participants collect the highest number of surveys in July when many science centers get the highest number of visitors and the lowest number in September when visitation tends to drop.

In FY18, actual institutional sample sizes ranged from 145 to 1,508. Differences between target and actual sample sizes are largely due to several institutions joining halfway through the year, along with data collection difficulties. To account for the differences in sample sizes across institutions and avoid over-representing large institutions, statistical weights were applied to the data prior to analysis.



WHY ARE THE DATA INTERESTING?

These data represent a collaborative, ongoing, multi-institutional science center visitor study. Because the data were collected using a common method and survey instrument, they can be combined—or aggregated—together. The resulting aggregate data can help us learn more about visitors not just at one science center, but across several different science centers. Although many science centers collect visitor experience data, this ongoing collaboration is the first of its kind in our field.

The aggregate data are not representative of any individual institution, but instead represent the group as a whole. This obscures individual differences between institutions, but provides insight into broad trends in science center visitors. Although this group is not representative of the science center field as a whole, the institutions included here are diverse in size and location within North America.

Pages 12–15 provide a comprehensive basic overview of the data, while pages 16–22 describe trends and comparisons between different sub-groups, such as members or first-time visitors. These comparisons are descriptive in nature and do not present statistical findings from inferential analyses.

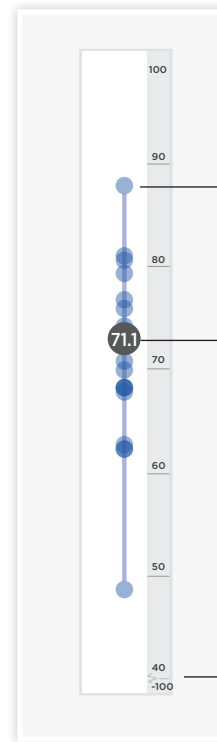
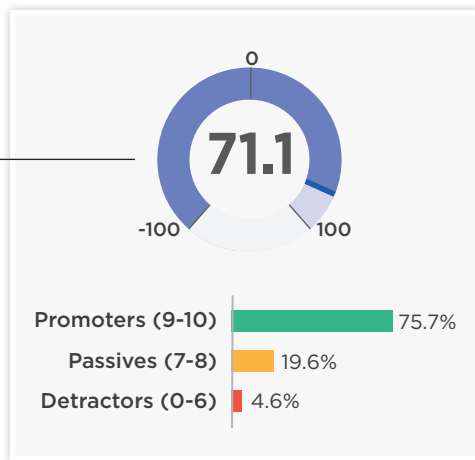
AS YOU REVIEW THESE DATA, CONSIDER THE FOLLOWING QUESTIONS

- Are any of these findings surprising?
- Do any of these findings confirm assumptions or expectations?
- If you work at a museum that is not part of COVES, how do you think your institution's data would compare to the aggregate data in this report?
- What do these data suggest about trends among science center visitors?
- What types of actions might we take as a field based on these data?
- What further questions arise after seeing these data?

HOW TO READ AND INTERPRET THE GRAPHS IN THIS REPORT

NET PROMOTER SCORE (NPS)

“On a scale from 0 to 10, how likely are you to recommend [Institution Name] to a friend or colleague?”



Net promoter scores from different institutions are presented on the blue pages (pages 16–22) on these vertical scales. Each dot represents an institution’s NPS.

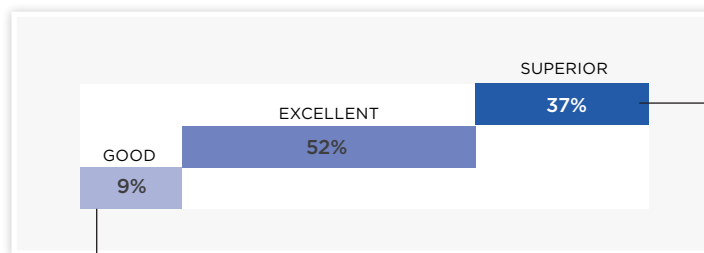
This dark gray circle represents the average NPS across institutions.

The NPS scale goes from -100 to 100, but we are representing a truncated version. The scale on each blue page is the same so they can be compared.

Net Promoter Score is calculated by subtracting the percentage of “Detractors” (ratings of 0-6) from the percentage of “Promoters” (ratings of 9-10). In this example, $75.7\% - 4.6\% = 71.1\%$. The net score has a possible range of -100

OVERALL EXPERIENCE RATING (OER)

“Please rate your overall experience at [Institution Name] today.”



Each colored bar represents the average percentage of visitors across institutions who selected that rating (i.e. “Superior”).

“Fair” and “Poor” are additional response options on the OER scale, but are not displayed because they represent such small percentages (less than 2% combined).

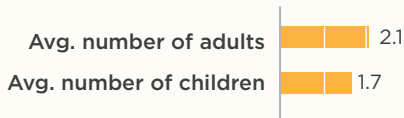
GROUP DEMOGRAPHICS

The COVES protocol involves selecting one adult from a visitor group to be the primary respondent, but the survey asks for some information that describes the entire visiting group. This information is summarized below.



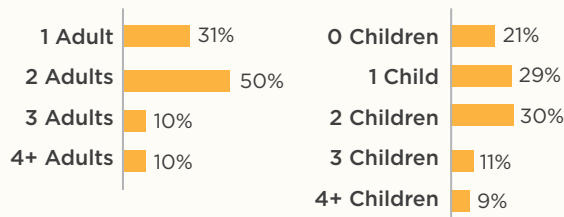
AVERAGE GROUP SIZE

n=11,601 (adults), n=11,480 (children)



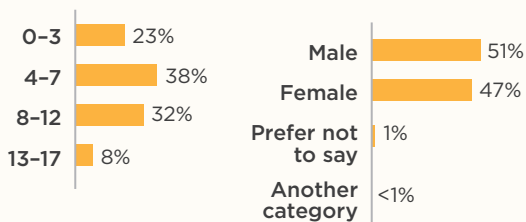
GROUP COMPOSITION

n=11,601 (adults), n=11,480 (children)



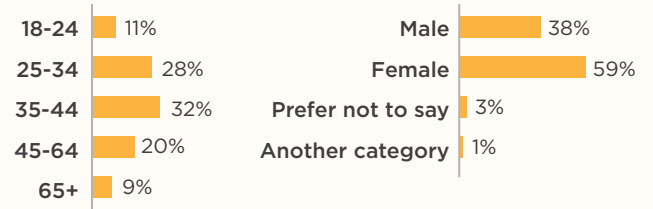
CHILD AGE AND GENDER BREAKDOWNS

n=11,786



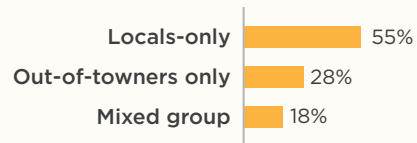
ADULT AGE AND GENDER BREAKDOWNS

n=11,786



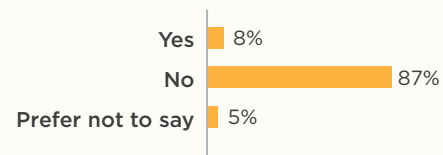
RESIDENCE OF GROUP

n=11,044



PERMANENT OR TEMPORARY DISABILITY

n=11,468



INDIVIDUAL RESPONDENT DEMOGRAPHICS

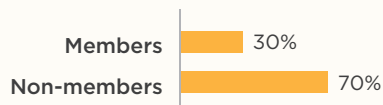
The survey also asks for some information from the primary respondent only.

This information is summarized below.



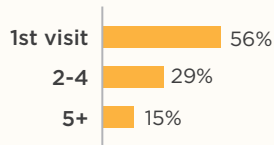
MEMBERSHIP

n=11,497



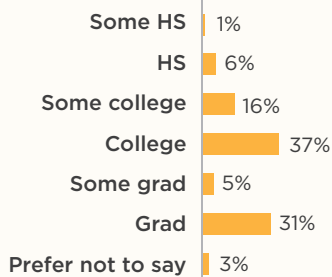
NUMBER OF VISITS IN THE LAST YEAR

n=10,314



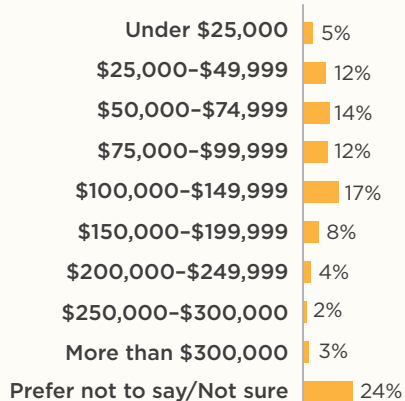
EDUCATION

n=11,600



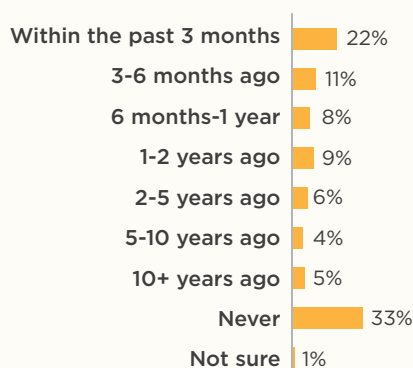
HOUSEHOLD INCOME

n=11,431



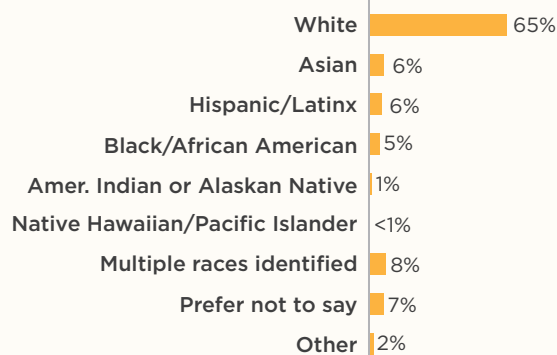
DATE OF LAST VISIT

n=11,540



RACE/ETHNICITY

n=11,430



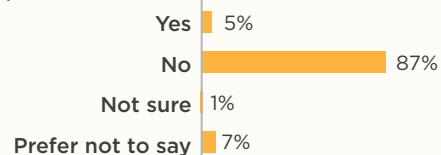
US RESIDENCE

n=11,066



LGBT+ IDENTIFICATION

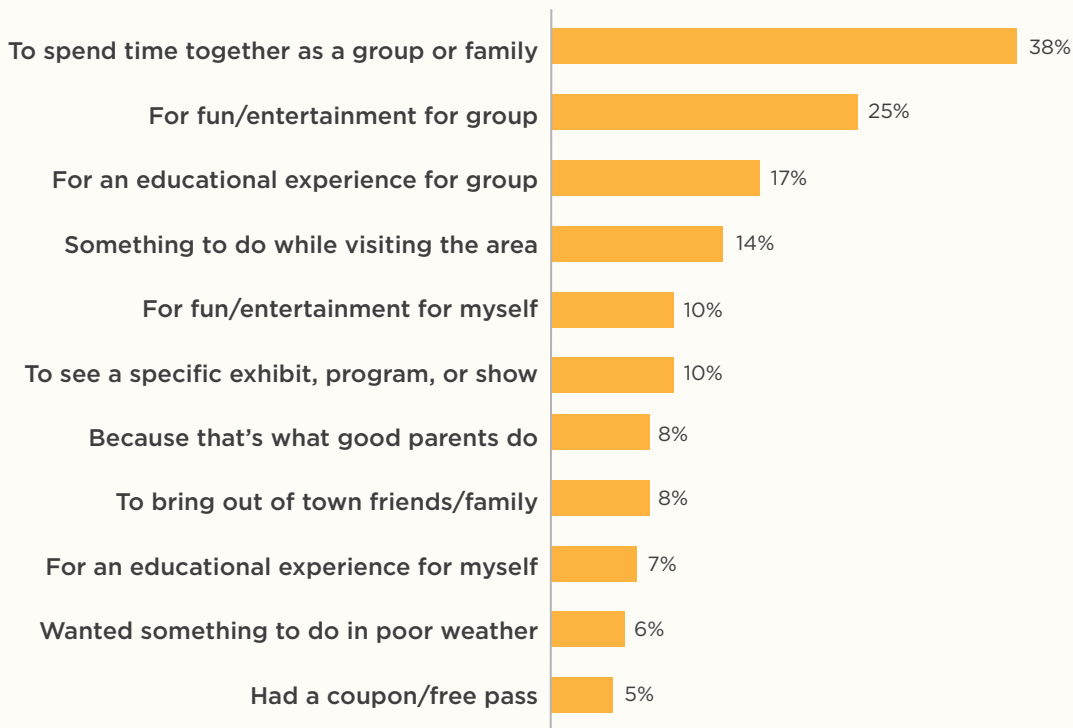
n=11,471



MOTIVATIONS

n=11,786

Visitors may have several reasons for deciding to come to a science center or museum. In the COVES survey, they select the two most important reasons for visiting from the list below, which displays in a random order.



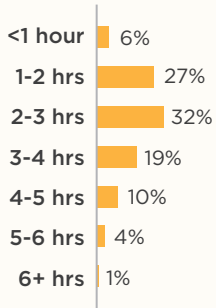
LENGTH OF STAY

STAY TIME

n=11,455



Avg. stay time was 2 hours and 40 minutes

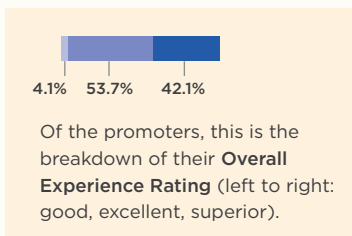
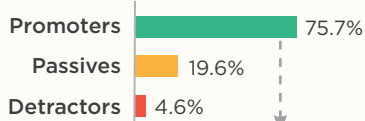
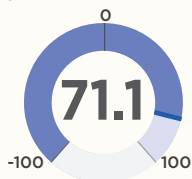


NET PROMOTER SCORE & EXPERIENCE RATINGS

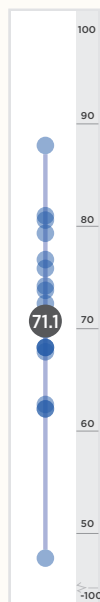
Two commonly-used metrics in the science centers are Net Promoter Score and Overall Experience Rating. Overall Experience Rating is a direct experience rating, while Net Promoter Score asks how likely the respondent is to recommend the institution. The COVES survey also asks respondents to rate their agreement with eight statements about specific aspects of the visit.

NET PROMOTER SCORE

n=11,631

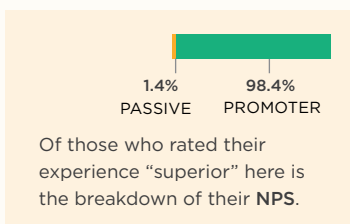
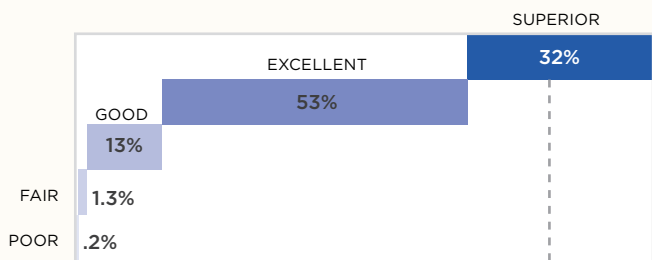


NET PROMOTER SCORE RANGE ACROSS INSTITUTIONS



OVERALL EXPERIENCE RATING

n=7,088



EXPERIENCE RATINGS

Average rating, scale from 0 to 10 where 10 is highest n varies



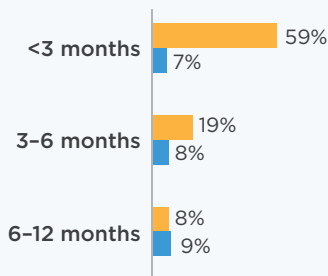
MEMBERS (30%) VS. NON-MEMBERS (70%)

Museum members have strong connections with their home institution. As seen below, 86% of members report visiting multiple times in the last 12 months (compared with only 23% of non-members), with 43% visiting 5 or more times. These visitors also rate their experience more positively across the board, including NPS, OER, and all experience ratings.

WHY IT MATTERS: Members are an integral part of museum audiences. They visit often and rate the museum experience highly. In fact, member and non-member differences are so strong that they influence the differences between other groups, such as locals vs. out-of-town visitors.

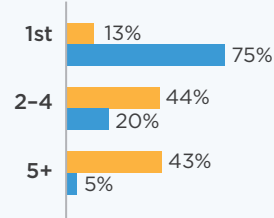
DATE OF LAST VISIT

n=3,404 / n=7,938



NUMBER OF VISITS IN THE LAST YEAR

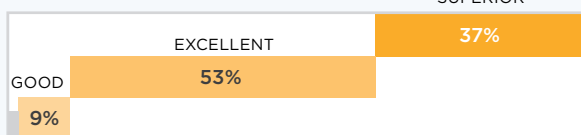
n=3,152 / n=6,988



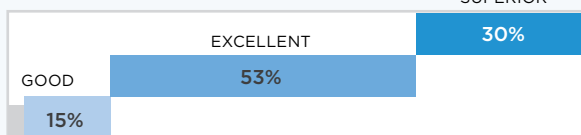
OVERALL EXPERIENCE RATING

n=1,378 / n=4,811

MEMBERS

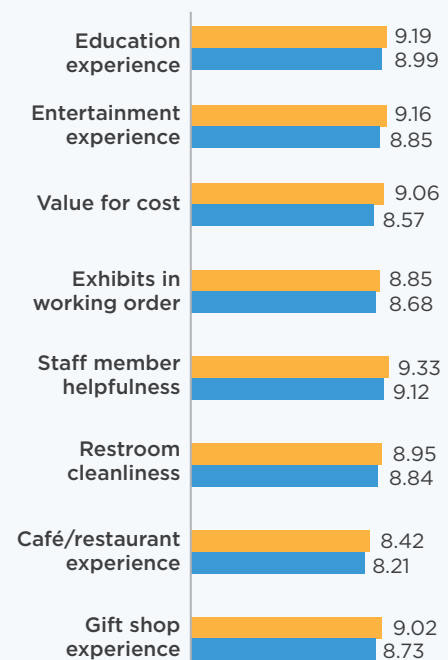


NON-MEMBERS



EXPERIENCE RATINGS

Average rating, scale from 0 to 10 where 10 is highest
n varies



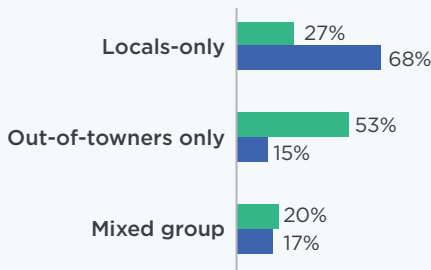
FIRST-TIME (33%) VS. REPEAT VISITORS (67%)

While both repeat and first-time visitors come primarily to spend time with their groups, first-timers more often come as something to do while visiting the area. These first-time visitors also rate lower than repeat visitors on NPS and OER.

WHY IT MATTERS: Museums often grapple with converting first-time visitors to repeat visitors, members, and donors, but it is important to acknowledge that this is unlikely for out-of-town groups. Distinguishing between different types of first-time visitors is critical to understanding how to encourage repeat visitation.

RESIDENCE OF GROUP

n=3,612 / n=7,432



MOTIVATIONS

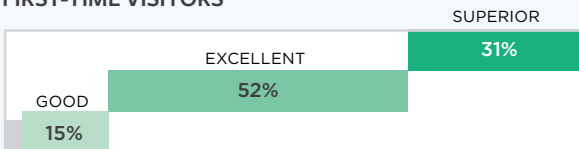
n=3,853 / n=7,932



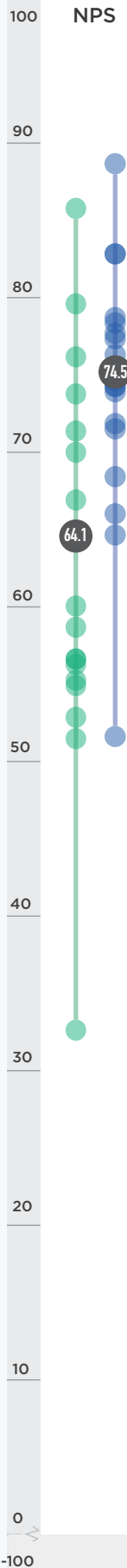
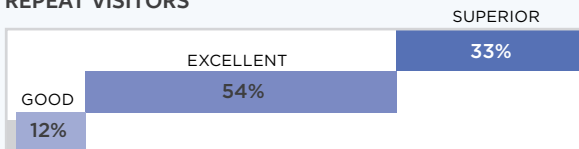
OVERALL EXPERIENCE RATING

n=2,309 / n=3,154

FIRST-TIME VISITORS



REPEAT VISITORS



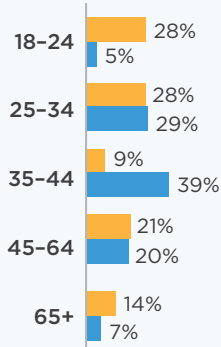
ADULT-ONLY GROUPS (21%) VS. GROUPS WITH KIDS (79%)

Approximately one-fifth of visiting groups are composed solely of adults, and though the phrase “adult-only museum visitor groups” might make some think of older adults, more than one-quarter of them are under the age of 25. Roughly half of these groups are first-time visitors, and almost one-tenth identify as LGBT+.

WHY IT MATTERS: For institutions that don’t consider themselves children’s museums, recognizing adult audiences is important as they bring a younger adult age group with less disposable income (24% households under \$50K/year compared with 15% for groups with kids) who come largely for personal entertainment reasons (28%, compared with 5% for groups with kids). These groups, however, rate their experiences lower than visitors with children.

ADULT AGE

n=3,660 / n=12,242



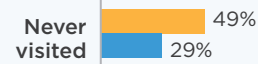
LGBT+

n=2,455 / n=9,015



DATE OF LAST VISIT

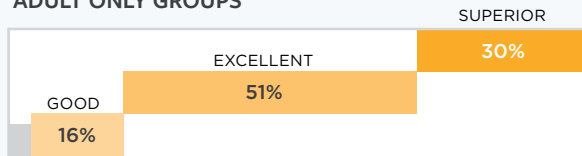
n=2,480 / n=9,061



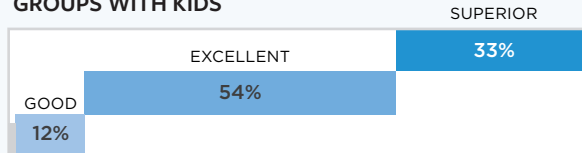
OVERALL EXPERIENCE RATING

n=1,582 / n=5505

ADULT ONLY GROUPS

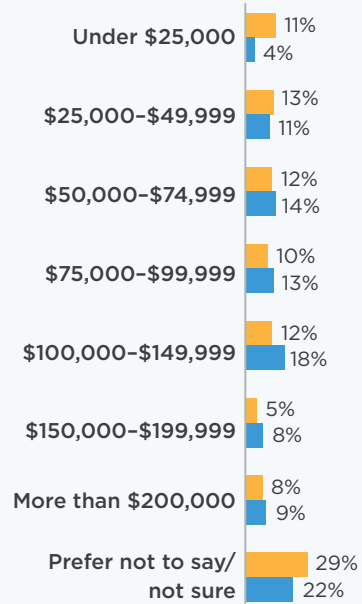


GROUPS WITH KIDS



INCOME

n=2,434 / n=8,997



LOCAL NON-MEMBERS (44%)

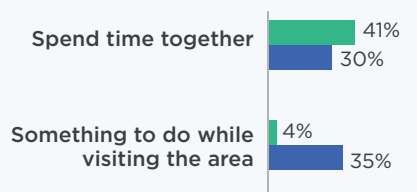
VS. OUT-OF-TOWN NON-MEMBERS (36%)

Since members are much more likely to be local, members are excluded from analyses on this page to highlight differences that are unique to non-member locals and out-of-towners. Almost half of all non-member visitors report coming in locals-only groups (i.e., not bringing out-of-town guests with them), and consistent with the overall aggregate data, tend to come to spend time with their group. While out-of-town-only non-member groups come instead as something to do while visiting the area, these out-of-towners also rate their experiences slightly higher than the locals.

WHY IT MATTERS: Removing members (and their higher ratings) from the analyses shows that out-of-town-only groups rate their experience more highly than local-only groups. Together with the analysis of first-time and repeat visitors, this suggests that there is the most room to improve in serving local first-time visitors.

MOTIVATIONS

n=3,352 / n=2,737



DATE OF LAST VISIT

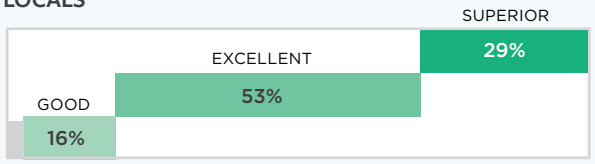
n=3,309 / n=2,692



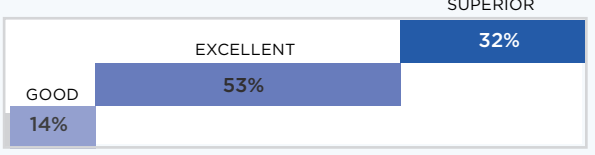
OVERALL EXPERIENCE RATING

n=2,055 / n=1,601

LOCALS

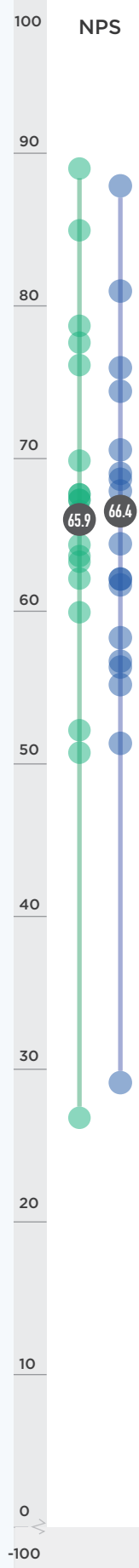
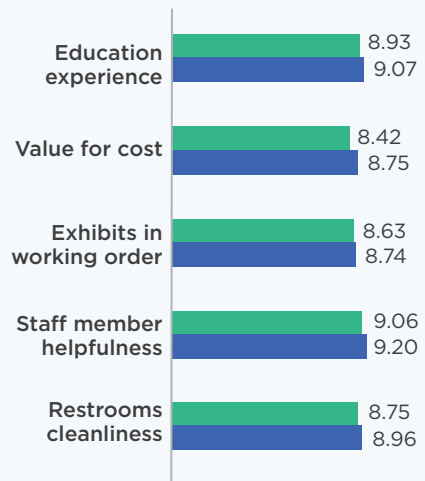


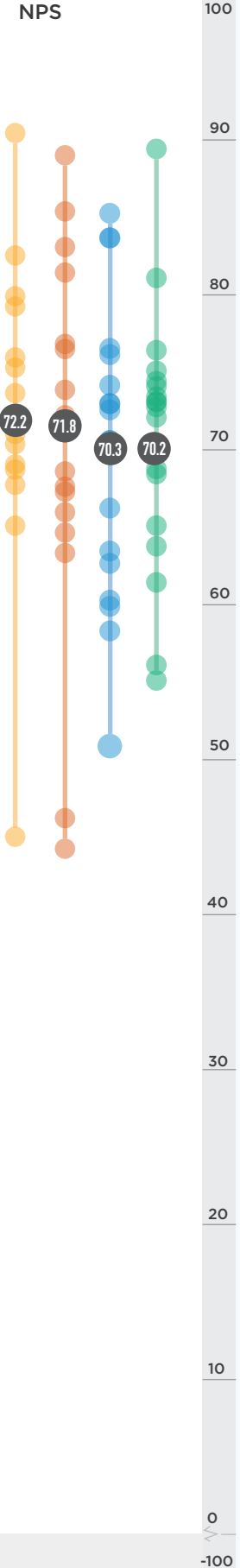
OUT-OF-TOWNERS



EXPERIENCE RATINGS

Average rating, scale from 0 to 10 where 10 is highest n varies





SUMMER* (JUL-SEP), FALL (OCT-DEC), WINTER (JAN-MAR), AND SPRING (APR-JUN)

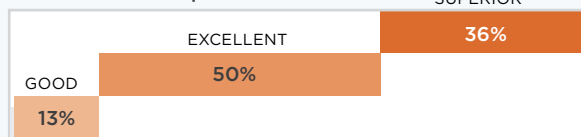
One advantage of the ongoing nature of COVES is the ability to compare ratings over time. In this year's COVES data, experience ratings appear to be highest in the Fall quarter (from Oct. to Dec. 2017).

WHY IT MATTERS: Museum visitation varies by season, with many museums busier in the summer months than the fall as school goes back into session. Some museums also bring temporary exhibitions throughout the year. These and other factors can influence experience ratings at any given time in the year.

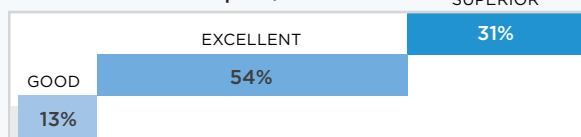
OVERALL EXPERIENCE RATING

*Summer data not included because the question was not added until Oct. 2017.

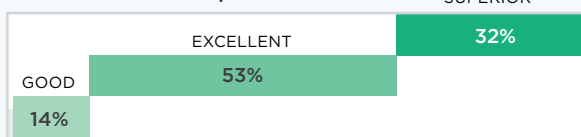
FALL AUDIENCES | n=898



WINTER AUDIENCES | n=3,306

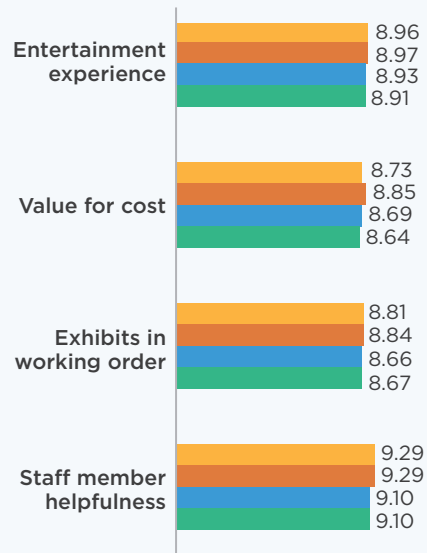


SPRING AUDIENCES | n=2,883



EXPERIENCE RATINGS

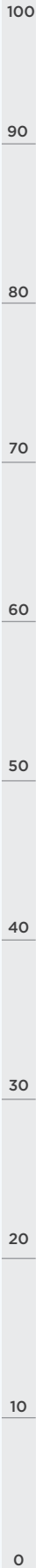
Average rating, scale from 0 to 10 where 10 is highest
n varies



LARGE, MEDIUM, AND SMALL INSTITUTIONS

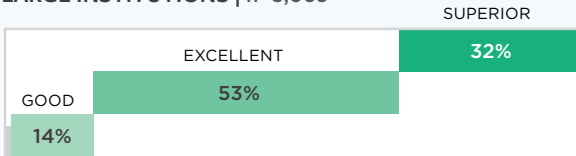
The 2017-18 COVES cohort contained institutions of vastly different sizes, with yearly visitation ranging from under 10,000 visitors to over 1 million visitors. Visitors to the smallest museums tend to give higher experience ratings. The trend is especially clear in ratings for staff helpfulness and the value of the experience relative to the cost.

WHY IT MATTERS: Small and very small museums represent a higher proportion of the Association of Science-Technology Centers (ASTC) membership than medium and large museums. Though large museums are often working with more resources, small museums provide high quality visitor experiences.

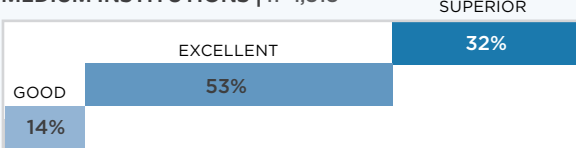


OVERALL EXPERIENCE RATING

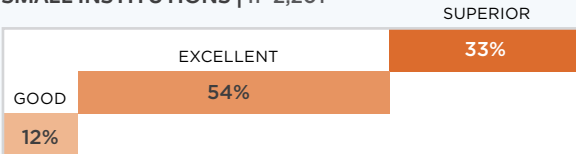
LARGE INSTITUTIONS | n=3,069



MEDIUM INSTITUTIONS | n=1,818

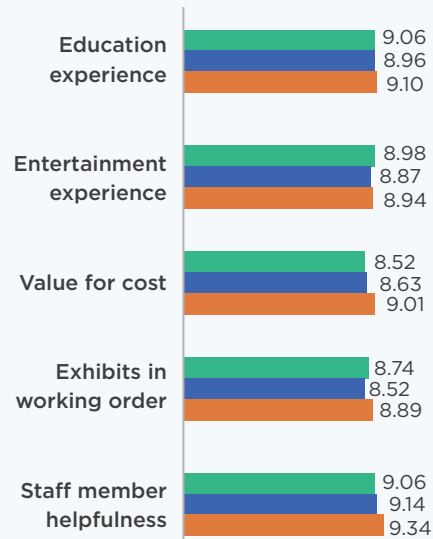


SMALL INSTITUTIONS | n=2,201



EXPERIENCE RATINGS

Average rating, scale from 0 to 10 where 10 is highest
n varies



GET INVOLVED IN COVES

Do you want to see data from your institution represented in COVES? We are always looking for new participants. As more institutions join, our field-wide dataset becomes more representative. As of October 2018, we have 22 science centers participating in COVES.

If you are interested in joining our collaboration or just want to learn more, please contact us at info@understandingvisitors.org, or visit our website at www.understandingvisitors.org. Currently, any Association of Science-Technology Centers (ASTC) member in good standing is eligible to join, but we encourage people from all types of museums to contact us.

SCIENCE CENTERS PARTICIPATING IN COVES

AS OF OCTOBER 2018

Bradbury Science Museum

Center of Science and Industry (COSI)

Discovery Center Museum

Discovery Place Science

EcoTarium

Exploratorium

Great Lakes Science Center

Imagination Station

Museum of Discovery and Science

Museum of Science, Boston

Natural History Museum of Utah

New York Hall of Science

Oregon Museum of Science and Industry

Orlando Science Center

Roseville Utility Exploration Center

Saint Louis Science Center

Science Center of Iowa

Science Museum of Minnesota

Science World British Columbia

Terry Lee Wells Nevada Museum of Discovery

The DoSeum

The Franklin Institute







COVES
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