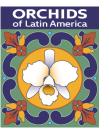
Orchids of Latin America Family Day Evaluation Report Fiesta de las Or-KID-eas!



Smithsonian Institution

Smithsonian Institution







Office of Policy & Analysis Smithsonian Institution May 2013

Table of Contents

Table of Figures	iii
Preface	iv
Abstract	V
Summary	vi
Introduction	1
Methodology	2
Quantitative Data Collection	2
Qualitative Data Collection	3
Findings	4
Visitor Awareness	4
Visitor Demographics	4
Visit History	4
Gender	5
Hispanic/Non-Hispanic	5
Age	6
Location	7
Group Type & Size	15
Ratings	16
Overall Experience Rating	16
Overall Experience Rating and Event Activities	16
Rating for Volunteers	16
Visiting Behavior	
Visit Type and Event-Specific Visiting	
Plans to Visit Other Activity Locations	19
Family Day Activities	19
Group Composition and Visitor Activities	20
Satisfying Experiences	23
Interest in Family Day Content	24
Degree of Interest	24

Change in Interest	25
Qualitative Findings	27
Motivations to Visit	27
Why Did You Choose to Come to the Museum Today?	27
How Did You Hear About the Event?	28
Visitor Experiences	
New or Surprising Knowledge	29
Mention of the Orchids of Latin America Exhibit	
Interaction with Volunteers	
Reactions to Family Day	
Visitor Suggestions for Improvement	
Discussion	
Appendix A: Family Day Locations at NMNH	34
Evans Hall Location (Ground Floor)—	34
Orchids Exhibit Location (First Floor—)	34
Appendix B: Exit Survey Questionnaires	35
Appendix B: Exit Survey Questionnaires	
Appendix C: Interview Guide	
Appendix D: NMNH Website Event Advertisement	
Appendix E: Orchids Family Day Activities Plan	
Appendix F: Frequencies	40

Table of Figures

FIGURE 1: HOW DID YOU HEAR ABOUT THE ORCHIDS OF LATIN AMERICA FAMILY DAY? (TOTAL	4
SURVEYED)	
FIGURE 2. HAVE YOU BEEN TO THIS MUSEUM, THE NATIONAL MUSEUM OF NATURAL HISTORY, BEFO	
TODAY?	5
FIGURE 3. DID YOU COME SPECIFICALLY FOR ORCHIDS OF LATIN AMERICA FAMILY DAY? (TOTAL	
SURVEYED)	5
FIGURE 4. AGE RANGES (TOTAL SURVEYED)	6
FIGURE 5. AGE RANGES (BY SURVEY LOCATION)	6
FIGURE 6. LOCATION—RADIUS FROM NATIONAL MALL (TOTAL SURVEYED)	7
FIGURE 7. "WITH YOUTH" RESPONSE BY SURVEY LOCATION	
FIGURE 8. OVERALL EXPERIENCE RATING (TOTAL AND BY SURVEY LOCATION)	16
FIGURE 9. RATING OF VOLUNTEERS (TOTAL AND BY SURVEY LOCATION)	17
FIGURE 10. EVENT-SPECIFIC VISITORS BROKEN OUT BY VISIT TYPE (ORCHIDS EXHIBIT LOCATION ON	
FIGURE 11. HAVE YOU BEEN TO ORCHID EVENT ACTIVITIES AT THE?	
FIGURE 12. WHAT DID YOU DO AT TODAY'S EVENT? (MARK ALL THAT APPLY)— (TOTAL AND BY SUR'	
LOCATION)	
FIGURE 13. PARTICIPATION IN FACE PAINTING/TATTOO ACTIVITIES	
FIGURE 14. VANILLA ORCHID LEARNING COMPARED ACROSS GROUP TYPES (TOTAL SURVEYED)	
FIGURE 15. PARTICIPATION IN MOSAIC ACTIVITY COMPARED ACROSS GROUP TYPES (TOTAL SURVEY	
	-
FIGURE 16. GARLAND MAKING COMPARED ACROSS GROUP TYPES (TOTAL SURVEYED)	
FIGURE 17. WHICH EXPERIENCES DID YOU FIND ESPECIALLY SATISFYING AT TODAY'S EVENT?	
FIGURE 18. DEGREE OF INTEREST IN FAMILY DAY CONTENT (TOTAL SURVEYED)	
FIGURE 19. INTEREST IN GROWING ORCHIDS (TOTAL AND BY SURVEY LOCATION)	
FIGURE 20. INTEREST INCREASE IN CONSERVATION OF ENDANGERED SPECIES (TOTAL SURVEYED)	
FIGURE 21: INTEREST INCREASE IN LATIN AMERICAN CULTURES (TOTAL SURVEYED)	
	-

Preface

Smithsonian Gardens and the United States Botanic Garden collaborate annually on an exhibit of orchids. This exhibit draws visitors from far and wide and is always a display of beautiful and rare species.

The evaluation of the Family Day event, held in conjunction with the orchid exhibit, was part of a multi-stage project that included a formative evaluation of certain exhibit elements prior to opening and an overall evaluation of the orchid exhibit itself. This larger project was led by Office of Policy and Analysis (OP&A) staff member Maria Raviele. Intern Bridget Sandison acted as project manager for the Family Day evaluation and conducted all data analysis and wrote this report. Along with Maria and Bridget, surveying and interviews on Family Day were performed by OP&A staff James Smith, Ioana Munteanu, Sarah Block, and Samantha Grauberger, and by OP&A interns Mike Anderson, Yifei Chen, and Donghoon Kim. Mike Anderson also aided with data editing and cleaning.

I want to thank Cindy Brown from Smithsonian Gardens for providing OP&A the opportunity to undertake this evaluation. A more pleasant environment cannot be imagined. As always, I very much appreciate the excellent work carried out the OP&A's staff and interns.

Whitney Watriss Acting Director Smithsonian Office of Policy and Analysis

Abstract

On Saturday, February 23, 2013 the Smithsonian's National Museum of Natural History hosted a family day event in conjunction with the exhibition "Orchids of Latin America," a collaboration between Smithsonian Gardens, the National Museum of Natural History, and the U.S. Botanic Garden. To understand visitors' experiences of the event, the Office of Policy and Analysis conducted a two-part data collection that included an exit survey and a series of qualitative interviews with visitors. The results of this report reveal the success of the event, and uncover the most popular and satisfying experiences for visitors. The findings also illustrate who attended the event, how they found out about it, and how or if the experience changed their interest in, or knowledge of, orchids.

Summary

On Saturday, February 23, 2013 the Smithsonian's National Museum of Natural History (NMNH) hosted a Family Day event, in conjunction with the exhibition "Orchids of Latin America, a collaboration of Smithsonian Gardens, National Museum of Natural History, and the US Botanic Garden. The Office of Policy and Analysis conducted a two-part data collection that included an exit survey and a series of qualitative interviews with visitors. The results of this report reveal the success of the Family Day, and uncover the most popular and most satisfying activities done by visitors. The findings also illustrate who came to the event, how they found out about it, and how or if the experience changed their interest in or knowledge of orchids.

- Of the total 305 visitors intercepted, 226 completed the survey for a 74% response rate.¹
- ✤ More women (62%) than men (39%) attended the Family Day.
- ◆ 40% of visitors surveyed were DC locals, while 60% were non-local.
- While many Family Day visitors were in combined adult-youth groups (39%), there were also quite a few adult-only groups (37%). Group composition significantly influenced which activities respondents chose to do.
- There were more repeat visitors in the Evans Hall space, whereas the Orchids Exhibit space attracted more first-time visitors. Overall, first-time visitors were less likely to have come specifically for Family Day.
- In the Orchids Exhibit, 3 out of every 4 respondents (75%) indicated that "Seeing rare or beautiful orchid specimens" was especially satisfying to them.
- The Pot-an-Orchid activity was one of the most popular activities at Family Day, with 40% of visitors potting their own orchid. Visitors who were interviewed cited that this experience was especially good because they got "a free gift" they could take home and continue to take care of.
- Overall, visitors responded extremely positively to the Family Day. Visitors called it "fun", "awesome", "great", "nice", and "a treat." Visitors raved about how "hands-on" the activities were, and some commented on how they liked to learn something new. Some visitors interviewed were disappointed they missed the face painting activity.

 $^{^1}$ For the sample size of 226, the 95% confidence interval is ± 6.52

² See Appendix E for a full list of the programs and activities available to visitors at the Orchids of Latin a ge

Introduction

On Saturday, February 23, 2013 the Smithsonian's National Museum of Natural History (NMNH) hosted a Family Day event in conjunction with the exhibition "Orchids of Latin America (hereafter referred to as the Orchids Exhibit), a collaboration of Smithsonian Gardens, NMNH, and the US Botanic Garden. The event was entitled the Orchids of Latin America Exhibit Family Festival, or *!Fiesta de las Or-KID-eas!*. Throughout the rest of this report, the event will be referred to as Family Day.

The family-friendly event included a host of hands-on and craft activities, as well as conservation and cultural learning experiences. Visitors had the opportunity to discover the diversity of orchids and cultures of Latin America through hands-on activities such as creating a large orchid mosaic, making a garland of orchids, and stamping an orchid onto fabric. Visitors could also pot their own orchid to take home with them. Experts from Smithsonian Gardens, the US Botanic Garden, and the North American Orchid Conservation Center were also available to answer questions and tell visitors about unique plants from their collections on display in the Orchids of Latin America exhibition.²

All Family Day activities were free and available from 10:00am until 2:00pm. They took place at both the *Orchids of Latin America* exhibition, located on the 1st floor of NMNH, and the main event activity area in Evans Hall, located on the ground floor of NMNH near the Atrium Cafe³.

The Smithsonian Office of Policy and Analysis (OP&A) conducted an evaluation of the event to better understand visitors' overall experiences, their use of and response to specific family day activities, how and where they learned about the exhibit before visiting, and their interest in the event's major themes.

² See Appendix E for a full list of the programs and activities available to visitors at the Orchids of Latin America Family Day event.

³ See Appendix A for a floor plan of NMNH illustrating both locations where Family Day activities were available.

Methodology

OP&A performed a two-part data collection that included an exit survey and a series of qualitative interviews with visitors at both Evans Hall and the Orchids of Latin America Exhibition.

Quantitative Data Collection

Data were collected on Saturday, February 23 between 10:30am and 2:30pm⁴. Visitors exiting both Evans Hall and the Orchids Exhibit were intercepted and asked to provide their feedback on Family Day through a 1-page survey⁵. The survey was developed by OP&A with input from Smithsonian Gardens' education staff. Visitors aged 12 and older exiting each event space were asked to fill out the survey. Questionnaires were available in both English and Spanish.⁶

- A total of **305 exiting visitors** were intercepted and asked to fill out the survey.
- Of the total intercepted, 226 visitors completed the survey for a 74% response rate.⁷
- ✤ 86 visitors refused to participate.⁸

Due to the fact that some visitors may have come to the museum that day only to see the Orchids of Latin America exhibition, and not specifically for Family Day, the data were carefully analyzed in its entirety as well as by location: Evans Hall and the Orchids Exhibit. When the data show notable differences in demographics, interest, or experiences between respondents from the two locations, the findings are displayed as "Total," "Evans Hall," and "Orchids Exhibit."

For all inferential statistical tests, a standard 0.05 level of significance was used.⁹

⁴ The study team surveyed 30 minutes after the event started and ended to ensure visitors had gone through the event and to capture data from those who lingered after the event officially ended.

⁵ Note that nearly identical surveys were distributed in the Evans Hall and Orchids Exhibit spaces. The only differentiating question concerned if visitors had been to event activities in other locations of the museum. ⁶ See Appendix B for a copy of the survey instrument.

^o See Appendix B for a copy of the survey instrument.

⁷ For the sample size of 226, the 95% confidence interval is ±3.32

⁸ Refusals include language refusals from non-English speakers.

 $^{^9}$ When the level of significance is set to p = 0.05, any finding that exists at a probability (p-value) ≤ 0.05 is deemed "significant."

Qualitative Data Collection

In addition to the survey, two OP&A interviewers circulated throughout Family Day locations to speak with visitors about their experiences¹⁰. A Spanish-speaking member of OP&A was available to conduct interviews in Spanish, if needed. OP&A staff and interns recorded, transcribed, and analyzed the interviews; analysis was conducted using NVivo 10 software.

- ✤ OP&A conducted a total of 22 interviews with 56 individuals.
- The length of the interviews ranged from 1 minute to 8 minutes, with most interviews taking approximately 2 to 3 minutes.
- The majority of interviewees were family groups.
- ✤ Of the total groups interviewed:
 - 18 were groups of *adults and children*
 - 2 were groups of *adults only*
 - 2 were part of a *larger school group visiting NMNH*

¹⁰ See Appendix C for the *Orchids of Latin America Family Day* interview guide.

Findings

Visitor Awareness

- Over half of visitors (55%) learned about the Family Day events while "Visiting the museum" that day (Figure 1). This finding is in line with the fact that many visitors (65%) indicated that they did not come to the museum specifically for the event.
- ✤ The "Museum website" (15%) was the next most common method of hearing about Family Day, followed next by "Newspaper or magazine article" (10%; Figure 1).

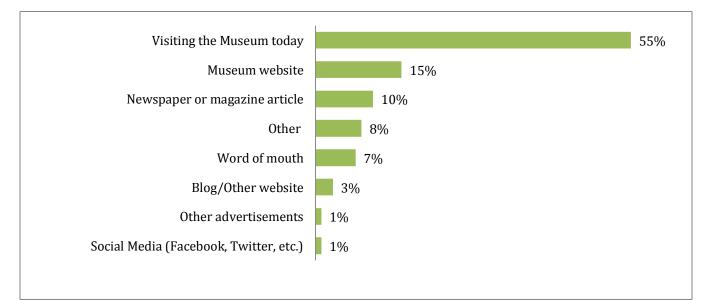


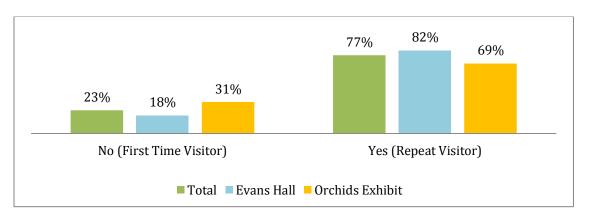
Figure 1: How did you hear about the Orchids of Latin America Family Day? (Total Surveyed)

Visitor Demographics

Visit History

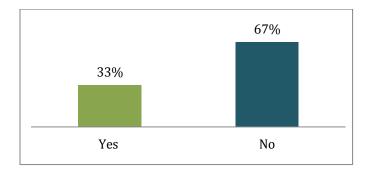
- Overall, the majority of visitors to Family Day indicated they had been to NMNH before (repeat visitors, 77%; Figure 2, next page).
- First-time visitors, those who had not been to the museum before, comprised almost a quarter of respondents (23%; Figure 2, next page).
- Evans Hall respondents were more likely to be repeat visitors (82%) than Orchids Exhibit respondents (69%; Figure 2).

Figure 2. Have you been to this museum, the National Museum of Natural History, before today? (Total and by Survey Location)



 Of the total visitors surveyed, 33% indicated that they came to the museum specifically for the Family Day event, while 67% were general visitors to the museum (Figure 3).

Figure 3. Did you come specifically for Orchids of Latin America Family Day? (Total Surveyed)



Gender

✤ More women (62%) than men (39%) attended the Family Day.

Hispanic/Non-Hispanic

- Visitors of Hispanic or Latino origin made up 9% of the total survey respondents.
- Due to this relatively low number of Hispanic or Latino visitors, to compare or analyze differences between Hispanic and non-Hispanic audiences from the dataset would not be statistically sound.

Age

Thirty-eight percent of respondents were between the ages of 30 and 39 (Figure 4), while the fewest number of respondents were between 12 and 19 (3%; Figure 4). The median age was 37, and the mean age was 39.

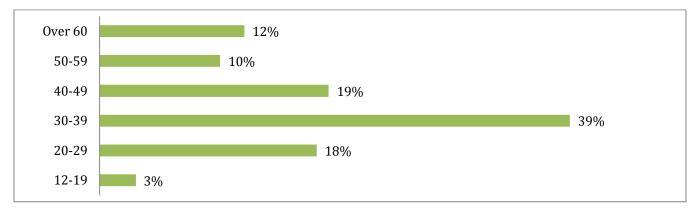


Figure 4. Age Ranges (Total Surveyed)

When analyzed by survey location, the age ranges of visitors differ markedly. While the majority of respondents in both locations were under 40 years of age, a greater proportion of Evans Hall respondents were under 40 (63% compared to 55% of Orchids Exhibit respondents; Figure 5).

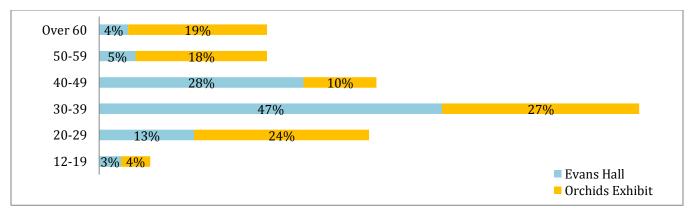


Figure 5. Age Ranges (by Survey Location)

Location

Based on Zip Code data provided by respondents, OP&A discovered that:

- The majority of visitors surveyed were from the United States (97%), while 3% indicated they were visiting from another country.
- ✤ 40% of visitors surveyed were DC local, while 60% were non-local.
- Using regions defined by the American Alliance of Museums, 40% of visitors were from "Metro Washington," 21% were from the "Southeast," and 19% were from the "Mid Atlantic." Visitors from "New England" and the "Midwest" each accounted for 4%, while the "Mountain Plains" (2%) and the "West" (1%) were the least prevalent. The remainder of visitors came from "unspecified US" (7%) or "outside of the country" (3%).
- Figure 6 breaks out visitors' locations according to their distance from the National Mall, demonstrating that almost half of the Family Day visitors came from 40 miles away or less, and about a third of visitors came from other parts of the United States.

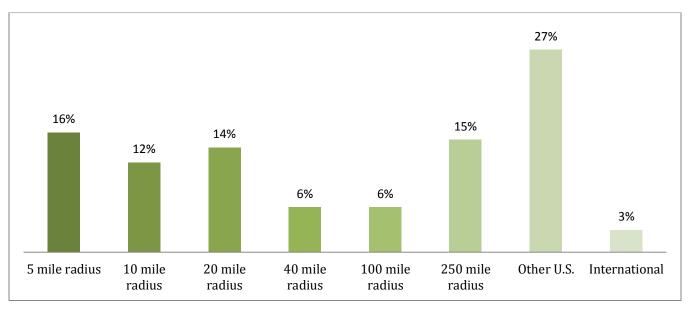


Figure 6. Location—Radius from the National Mall (Total Surveyed)

Group Type & Size

- The Family Day was popular with both family groups and groups of adults only. Thirty-nine percent of the groups surveyed at the Family Day were comprised of Adults and youth, while 37% were Adult-only (ages 18 and older).¹¹
- There was a significant relationship between survey location (Evans Hall versus Orchids Exhibit) and the visitors who came to the Family Day with youth age 17 and under (Figure 7).
- Of the visitors who marked they were attending the Family Day with children, 83% responded Evans Hall, while 17% marked Orchids Exhibit.

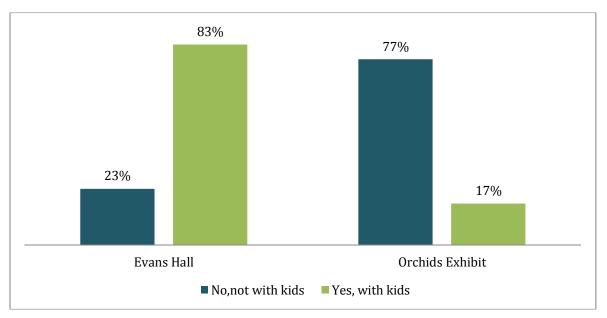


Figure 7. "With Youth" Response By Survey Location

Ratings

Overall Experience Rating

Visitors were asked to rate the event on a 5-point scale of **Poor, Fair, Good, Excellent, or Superior**.

- Overall, Family Day was generally well-received by visitors. Eighty-nine percent of all respondents rated their experience Excellent or Superior (Figure 8).
- No respondents rated the event **Poor**, and less than one percent marked the event **Fair**.

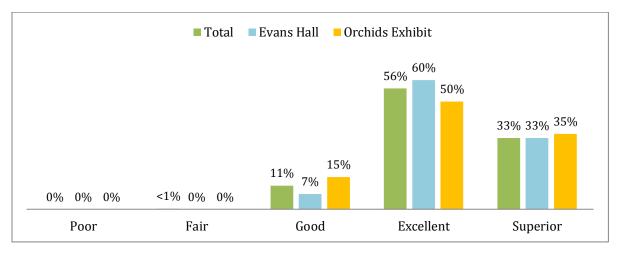


Figure 8. Overall Experience Rating (Total and by Survey Location)

Overall Experience Rating and Event Activities

 Generally, visitors who indicated they might attend other Family Day event activities or that they would not attend other Family Day event activities were more likely to rate the event Poor/Fair/Good than those who responded that they had attended other event activities or were planning to do so.¹²

Rating for Volunteers

In addition to rating their overall experience, visitors were also asked to rate their interaction with volunteers and interpreters on a scale of **Not applicable, Poor, Fair, Good, Excellent, or Superior.**

- Generally, the volunteers at Family Day received high ratings, with 42% of all respondents marking Excellent and 35% Superior.
- No one rated their experience with volunteers as **Poor**.

¹² See Appendix B for survey question phrasing, and Appendix F for frequencies.

- Within those respondents intercepted at Evans Hall, ratings of Excellent or Superior are higher (47% and 39%, respectively).
- While no respondents marked Not Applicable in Evans Hall, approximately 1 in 5 respondents in the Orchids Exhibit did not interact with volunteers or interpreters and marked Not Applicable.

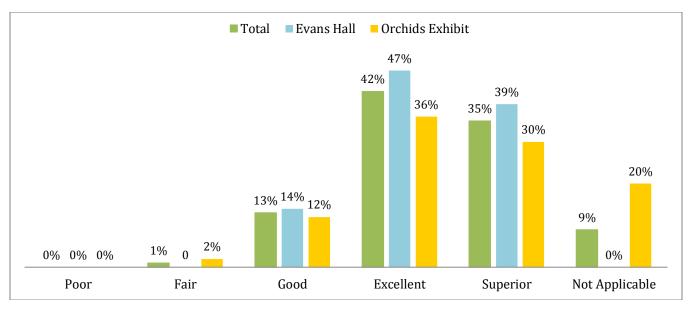


Figure 9. Rating of Volunteers (Total and by Survey Location)

Visiting Behavior

Visit Type and Event-Specific Visiting

- No significant relationship between first-time/repeat visitors and event-specific visitation was identified through analysis of the *total survey responses* from both locations.
- When the data are broken out by location, a significant relationship exists between first-time/repeat visitors and event-specific visitation for the Orchids Exhibit location:
 - Orchids Exhibit respondents who identified as **repeat visitors** were more likely to have *come specifically* for the Family Day (43%; Figure 10) than **first-time visitors** (14%).
 - Correspondingly, of the **first-time visitors** surveyed in the Orchids Exhibit location, 86% *did not come specifically* for the Family Day (Figure 10).

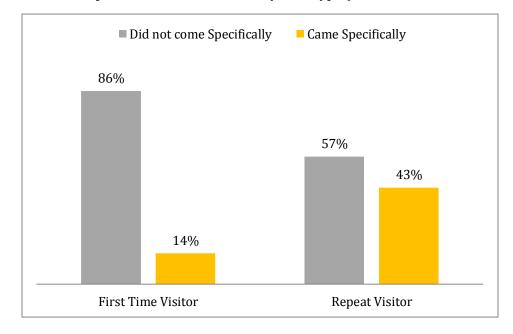
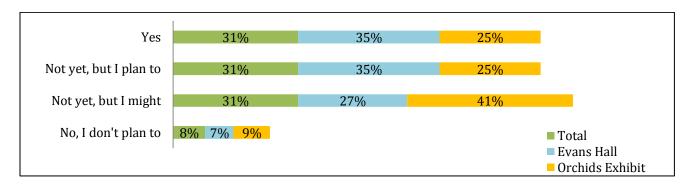


Figure 10. Event-Specific Visitors Broken Out by Visit Type (Orchids Exhibit Location Only)

Plans to Visit Other Activity Locations

- In both survey locations, visitors were asked if they had been to other Family Day activities at the museum that day, phrased in the survey as "near the Atrium Café on the ground floor" (for respondents in the Orchids Exhibit), and as "at the orchid exhibit (by the elephant)" (for respondents in Evans Hall).
- This question revealed that visitors in the main event space in Evans Hall were more likely to reply positively with Yes or Not yet, but I plan to, while visitors at the Orchids Exhibit most often replied Not yet, but I might (Figure 11).

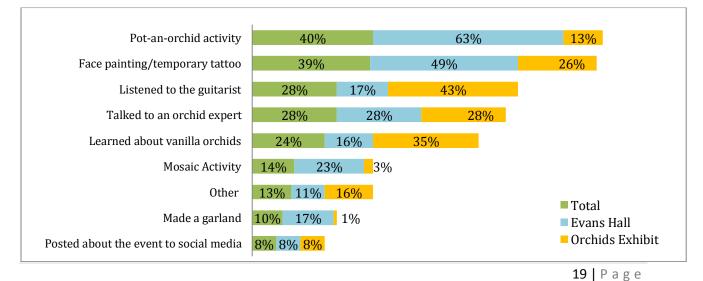
Figure 11. Have you been to Orchid event activities at the...? [Orchid exhibit] or [near the Atrium café-Ground Floor] (Total and by Survey Location)



Family Day Activities

✤ 63% of Evans Hall respondents potted their own orchid at the Family Fay event. Overall, a total of 40% of all visitors surveyed marked that they had done the potan-orchid activity, making it the most popular event activity, followed closely by the face painting/temporary tattoo activities (Figure 12).

Figure 12. What did you do at today's event? (Mark all that apply)— (Total and by Survey Location)



Group Composition and Visitor Activities

- Many of the Family Day activities were aimed at youth and family audiences. Therefore, it is no surprise that Combined Adult-Youth Groups and Youth-Only Groups tended to participate in activities more than Adult-Only Groups and those visiting Alone.
- Combined Adult-Youth Groups (50%) and Youth-Only Groups (29%) were more likely to have participated in the face painting or tattoo activities than Adult-Only Groups (21%) or visitors who were at the event Alone (0%) (Figure 13).

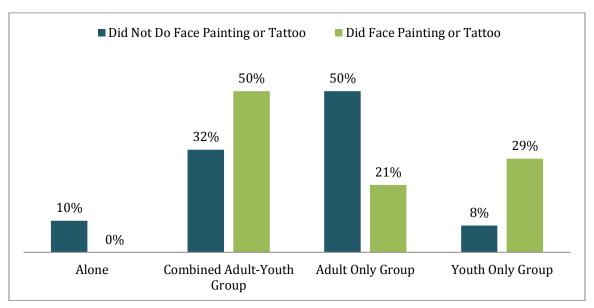


Figure 13. Participation in Face Painting/Tattoo Activities Compared Across Group Types (Total Surveyed)

- In contrast, Adult-Only groups were more likely than Adult-Youth Groups or Youth-Only groups to have marked that they learned about vanilla orchids.
- 52% of those who learned about vanilla orchids were part of Adult-Only groups, while only 32% and 6% were Adults with Children, and Youth Only groups, respectively (Figure 14, next page). People visiting the museum Alone were also more likely to have learned about vanilla orchids.

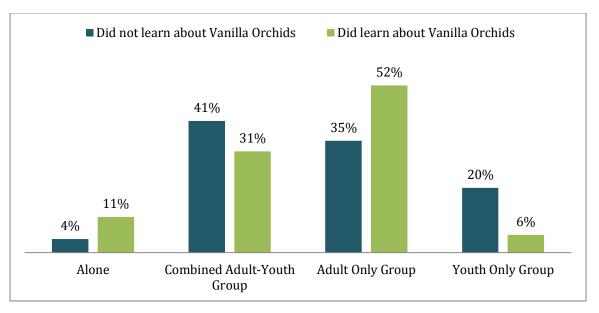


Figure 14. Vanilla Orchid Learning Compared Across Group Types (Total Surveyed)

Combined Adult-Youth Groups (53%) and Youth Only Groups (41%) were much more likely than visitors attending the exhibit Alone (0%) or in Adult Only Groups (6%) to participate in the Orchids of Latin American Mosaic craft activity (Figure 15).

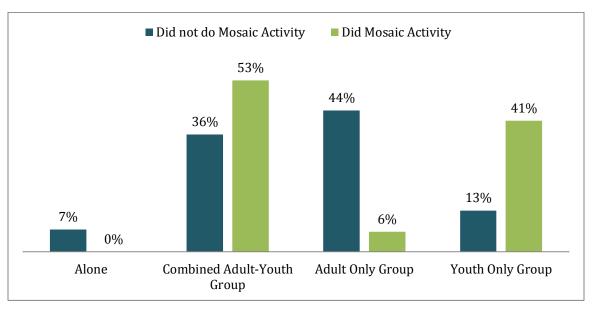


Figure 15. Participation in Mosaic Activity Compared Across Group Types (Total Surveyed)

 Similarly, the garland-making activity was particularly popular for Youth-Only Groups (55%) and Adult-Youth Groups (46%):

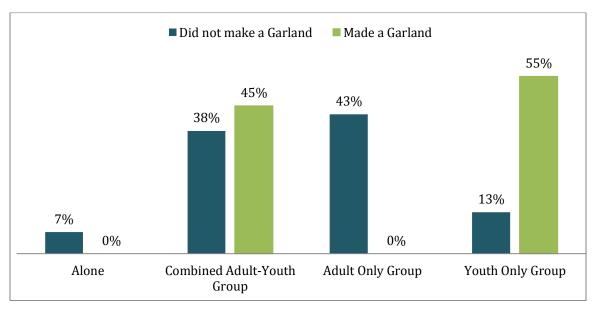


Figure 16. Garland Making Compared Across Group Types (Total Surveyed)

- While only 8% of visitors marked that they had posted about the event to social media, those visitors who did post were much more likely to have rated the Family Day event Superior (71%).¹³
- No significant relationship was found between group composition and the Pot-an-Orchid, Listen to the Guitarist, and Talked to an Orchid Expert activities.

¹³ 24% rated it Excellent, and only 6% rated it PFG (Poor/ Fair/Good).

Satisfying Experiences

- Overall, the most satisfying experiences for visitors were Seeing rare or beautiful orchid specimens (56%) and Learning about orchids and their uses (51%).
- In the Orchids Exhibit, three out of every four respondents (75%) indicated that Seeing rare or beautiful orchid specimens was especially satisfying.
- In Evans Hall, more than half (61%) of visitors marked Watching my children learn as especially satisfying, compared to only 15% in the Orchids Exhibit.
- Similarly, almost half of the Evans Hall respondents marked Participating in activities, compared to 12% of respondents from the Orchids Exhibit.

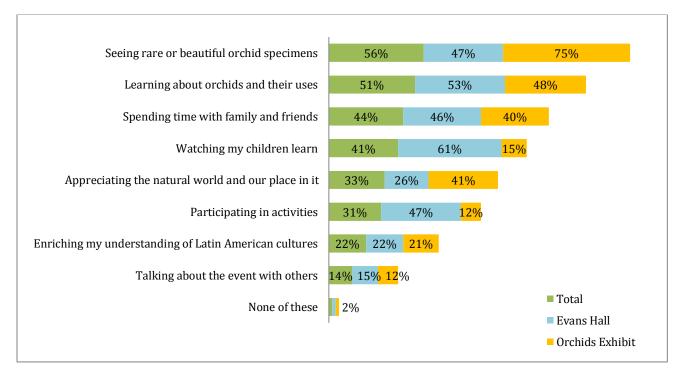


Figure 17. Satisfying Experiences (Total and by Survey Location)

Interest in Family Day Content

To gauge visitor interest in the specific themes and topics associated with Family Day, and if the event had caused any change in visitors' interest, OP&A asked respondents to rate their interest in this content on a scale of **No interest, Some interest, and A lot of interest.** OP&A also asked respondents to indicate if their level of interest in the above topics had increased.¹⁴ The specific themes and topics included:

- ✤ Growing orchids
- Conservation of endangered species
- ✤ Latin American cultures
- Plants and flowers in general

Degree of Interest

- The majority of respondents indicated they had Some interest or A lot of interest in growing orchids after attending the event (Figure 18).
- More than half of visitors indicated A lot of interest in the conservation of endangered species.
- While the topic of Latin American Cultures did not get as many visitors marking A lot of interest, 53% (Figure 18) did indicate Some interest.
- Only 4% of visitors had **No interest** in plants and flowers in general.

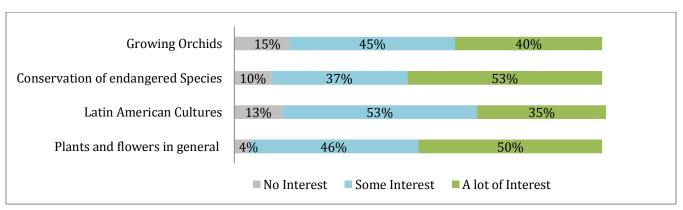
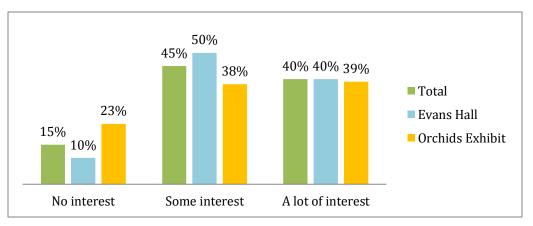
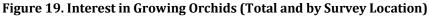


Figure 18. Degree of Interest in Family Day Content (Total Surveyed)

¹⁴ See Appendix B for specific wording on the questionnaire.

 When compared across survey location, Growing Orchids was the topic that showed the most variance between Family Day locations, especially in the No interest category. Almost 1 in 4 Orchids Exhibit respondents (23%; Figure 19) indicated No interest in Growing Orchids, compared to 10% of respondents from Evans Hall (Figure 19).





Change in Interest

Visitors who marked they had A lot of interest in Conservation of Endangered Species after attending the event were much more likely (66%) than visitors who marked No or some interest(46%) to report that their interest increased (Figure 20, next page). A similar pattern was observed for interest in Latin American Cultures, where 62% of those who expressed increased interest also marked they had A lot of interest in Latin American Cultures (Figure 21, next page).

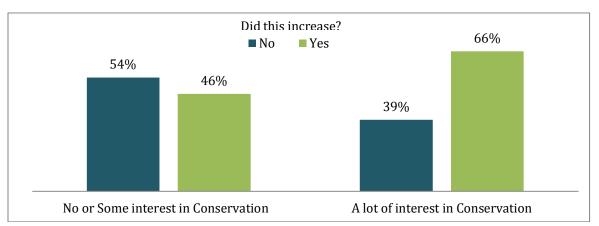
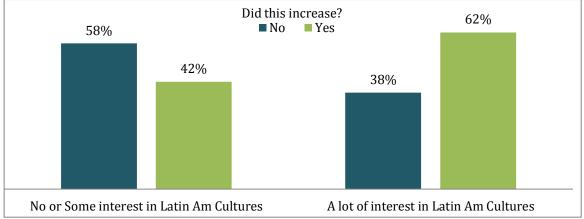


Figure 20. Increased Interest in Conservation of Endangered Species (Total Surveyed)





Visitors who marked their overall experience as Superior were more likely than other visitors to mark that their interest in **Plants and Flowers in General** had *increased.* Specifically, 76% of those who rated their experience Superior indicated their interest had increased compared to 56% of visitors who provided a rating other than Superior.

Qualitative Findings

Motivations to Visit

Why Did You Choose to Come to the Museum Today?

The family-oriented activities offered and the orchids themselves were the two largest draws for visitors to the Family Day. Many interviewees mentioned that they enjoy Smithsonian Family Day events, and that any time there are activities for kids they like to come. Some visitors mentioned how it was a nice indoor activity on a bad weather day. Quite a few visitors said that they came to see the orchids specifically or wanted to learn more about orchids. One visitor came because it was a Latin American-themed event.

....I wanted to get him out of the house ...and he loves this place...and then today was a special occasion so we wanted to come. We don't know a whole lot about orchids, so it gave us an opportunity to come and learn something different....

*

It sounded like something the kids would enjoy. It's especially nice when the weather is not so nice to have an indoor activity.

*

Because it was a festival that would have crafts for kids, and face painting and.... Also, we were coming to visit the Smithsonian...we had friends in town. We would have come to the Smithsonian anyway, but then I saw in the paper it was happening so...

*

I have orchids in my house, so I wanted to learn more.

*

Yes, we are Latino and we have no museum, so we come to every Latino event here and at the Native American museum. We try to make it to those events.

Other visitors came to the museum without knowing there was a Family Day. These visitors were at the museum as a part of a larger group, or came to the area to take advantage of a particular NMNH offering (i.e., Dinosaurs, IMAX Butterflies).

...Actually we didn't know about it. So when we got here it was a really big surprise. Sorta like, yay!

How Did You Hear About the Event?

The three primary ways that interviewees heard about the Family Day were via the newspaper, Smithsonian websites, and family-audience web and print outlets. Of the interviewees who heard about the event through the newspaper, many specifically mentioned *The Washington Post*'s Going-Out-Guide. The family-audience outlets included ourkids.com, Our Kids Newsletter, *Family Magazine*, and Mocha Moms.

Website—ourkids.com. We wanted to visit the Orchids Exhibition, but we found out it was a Family Day too.

*

Well my wife belongs to a group of women called Mocha Moms, so they are mostly stay-at-home mothers. So when one gets information about something, they spread it.

Visitor Experiences

One of the most popular activities discussed by visitors was Potting an Orchid. The children interviewed by OP&A, with the permission of their parents, were especially excited about being able to pot an orchid *by themselves*. The interviews revealed that many of the children could recall an impressive amount about the plant care that they learned from the Family Day volunteers. Many of those interviewed communicated what they would do with the orchid once it was at home, how much they would water it, and how much light they would give it. A few even mentioned that it was their favorite activity because they got to learn how to take care of it and watch it grow.

Yes. I'm going to put it in the shelf on my easel because the lady who helped me know how to take care of it said it needed shade, and just a little sun, and to water it every 5-7 days. So every week. So every Saturday, or every Friday.

*

Water it every week. And then after a year, it is supposed to sprout out the top and bottom. Then I'm going to put it in my front yard.

*

I learned that you can't put them in soil because they will suffocate so you have to put them in bark so they can breathe. AND there are different colors of orchids. AND you also can't put them exactly by a window because they'll burn. You have to put them a little farther away from the window. Others discussed how they enjoyed the Pot an Orchid activity the most because it was "free" or "a gift." In addition to being excited about the special gift, many visitors were also happy that the event was interactive and an experience that *continued past the event itself*.

[Respondent 1]: I liked to be able to pot it myself, that was nice...fun... rather than having it just handed it to you. [Respondent 2]: And it's a nice little gift.

*

The orchid.... Because I can take care of it and it won't just lay around.

A second highly discussed activity was the temporary tattoos. Visitors talked about getting all of the different types of tattoos, often displaying the ones they already had to the interviewers. Some visitors mentioned the stamping on fabric, coloring an orchid, and the making an orchid garland activity. A few visitors told us they had learned about orchids, or wanted to see orchids under a microscope.

...planted an orchid, got me an orchid tattoo, started coloring an orchid, did a stamp orchid (the lily something, lady slipper).

**

I got a tattoo, it was a butterfly. R1: In espanol... R2: Mariposa...R1: What do you have on your.... R2: An orchid ...

*

My daughter got all four of the tattoo types, and he (my son) got two.

New or Surprising Knowledge

Visitors shared with interviewers new or surprising information that they learned about orchids at the Family Day. Common comments included learning about vanilla orchids and how and where orchid plants grow. A few visitors also alluded to the conservation messages related to orchids.

So the gentleman in the corner with the microscope taught us that. Totally fascinating! He was talking about one orchid that only one type of fungus will work. And no matter where the plant lives, it needs that fungus, or else it won't grow.

*

I really liked the gal that told us about the Vanilla plant and the different make-up of the orchid itself and how they vary from other flowers. ...That orchids are native to North America. I thought you just got them at the flower store in NA. So that was an interesting fact.

*

...he talked about attempts to get orchids reintroduced in some areas of Maryland, which is interesting too.

Mention of the Orchids of Latin America Exhibit

Some visitors had already been to the Orchids Exhibit or were planning to go to the exhibition. Of course, some interviews were completed in the exhibit itself. Similar to the results from the quantitative data, some visitors planned to only see the exhibit, some only came for the activities and didn't plan to see the exhibit, and others didn't know about the exhibit but were interested in going. Those who had already been to the Orchids Exhibit commented on how good it smelled, and how colorful and pretty it was. One bilingual interviewee mentioned how it was nice that the whole exhibit was in English and Spanish, and it was a useful language teaching tool for her children:

I was reading to them, which is a whole lot easier than translating in my head, so that was nice.

Interaction with Volunteers

Many interviewees noted that the volunteers and interpreters were "helpful," "good," or "great." Others noted that they were "engaged" and "knowledgeable." A visitor also pointed out that the volunteers worked well with kids. There were only positive comments from interviewees about their interaction with a volunteer.

Everyone was really helpful. I wouldn't have known they were all volunteers. We were all really engaged.

*

Wonderful! Very helpful, we learned something, and they got to look in the microscope. That was great!

Reactions to Family Day

Visitors reacted extremely positively to the Family Day. Visitors called it "fun," "awesome," "great," "nice," and "a treat." Visitors raved about how "hands-on" the activities were, and some commented on how they liked to learn something new. When asked about a favorite part, one respondent said potting an orchid, and another respondent said the tattoo.

We love it! We came last year for the orchid activities/events, so second time, and we love it!

*

This is awesome! I love family days like this. It is a good opportunity for families to get out to the museums, and make it a bit more applicable.

*

It's always good to have outreach programs because that creates more interest in the audience, and it keeps nurturing new audience b/c parents come with their kids. Especially if it is something that is interactive, it's a win-win for everybody.

*

We're really enjoying the event. There's a lot to do. It's really nice when there are lots of hands-on things for kids to do and we can move from table to table. It's kind of exciting. We're looking forward to going to see the Orchids (exhibit) soon.

Amidst the very positive responses overall, the only criticisms interviewees had were regarding the face painting. Some parents were frustrated that the face painter left before the advertised time of the event and their children were unable to participate.

...We were disappointed that we missed the face painting.

*

No, I think it's pretty good. Well, she wasn't able to get the face paint done because I think they should have more people for that because that's really popular, the face paints. And she [face painter] can't do anymore, had to leave early. I think it disappointed her [daughter], so that is where it disappoints.

*

Oh, It was great! I mean, they wanted to get their faces painted, and there was a shorter time period I guess for it.

*

We had a good time. The kids really wanted the face paints, and the lady left kind of early.... It would be great if people committed to the time that was told.

Visitor Suggestions for Improvement

Visitors generally did not have many suggestions to improve Family Day. Some gave examples of how engagement with the kids could be made even better. A few visitors discussed the space constraints, and suggested a bigger space for the event. Others pointed out some messy aspects of the activities, saying it would be nice to have plastic bags to collect activities or hold the orchid. Another said the mosaic glue was too sticky. Examples of the ideas or suggested related to the activities include:

You could afterwards make your own bucket, or decorate your own bucket (pot for the orchid)

*

The only suggestions that I have is that kids like visuals. The more pictures that you have, the better. A lot of things are down at kids' level, which is really nice.

*

For him it's a little harder because he's small, so to reach all the things, but yeah, no, there's enough for them to do.

Discussion

The results of this study indicate that overall Family Day was a success. Visitors rated both their overall experience and their experience with the volunteers extremely highly. The interviews demonstrate the overwhelming positive reactions to Family Day. The Family Day attracted more women than men, as well as more DC locals than non-locals. The majority of Family Day visitors tended to be in their thirties; however, respondents from the Orchids Exhibit tended to be slightly older and first-time visitors.

It is interesting that the Family Day also attracted a substantial number of adult-only groups, in addition to the expected family groups. Moreover, there was a notable difference between which activities groups did based on their group type (i.e., adult-only versus adult-youth groups), as well as which activities visitors found satisfying. However, where there was not a significant relationship between group types and activities, like in the case of Listening to the Guitarist, Potting an Orchid, and Talking to an Orchid Expert, this may suggest that these were activities all group types participated in. The qualitative interviews certainly agree with this finding with respect to Potting an orchid and Talking to an orchid expert, as they were discussed and enjoyed by children and adults alike.

An additional activity was added to the Family Day activity program after the survey questionnaire had been designed thata the study team did not learn of until the day of the event. This activity consisted of stamping orchids onto a piece of fabric. Although the reaction towards the stamp activity could not be gleaned from the survey data, the qualitative interviews revealed positive responses. Finally, the findings revealed that visitors, who indicated they had Posted About the Event on Social media, also rated the event as Superior. This indicates that visitors were very likely using social media to post photos or make comments to share their positive experiences at Family Day. Thus, the Social Media use related to Family Day was essentially a free marketing tool for the institution.

Future events associated with an orchids-related exhibit may want to incorporate more activities and experiences that are friendly for Adult-only groups, as they attended the exhibit and events in similar numbers to family groups. A second take-away is that visitors do notice if certain activities are not made available as long as others, as was the case with the face painting in Evans Hall, which led to some disappointed visitors. To avoid this negative response to an otherwise overwhelmingly successful event, it is recommended that all activities end at the same time.

Appendix A: Family Day Locations at NMNH¹⁵

Evans Hall Location (Ground Floor)—



Orchids Exhibit Location (First Floor—)

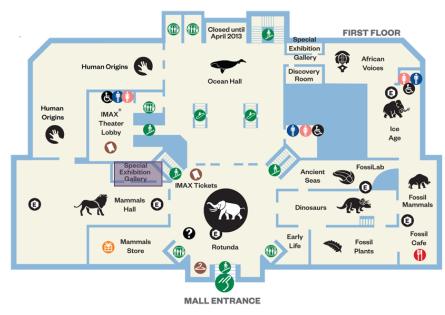


Image Credit: Smithsonian Institution

¹⁵ The specific locations where Family Day activities took place are highlighted with a purple box on each floor plan.

Appendix B: Exit Survey Questionnaires¹⁶

ſ	National Museum of Natural History 2532531214 Survey of Visitors to Orchids of Latin America Family Day			31214		
	Have you been to this museum, the National Museum of Natural History, before today? O Yes O No			ıt apply)		
	Please rate your overall experience at this event, Orchids of Latin America Family Day. O Poor O Fair O Good O Excellent O Superior					
	Did you come today specifically for this event, Orchids of Latin America Family Day? O Yes O No					
	How did you hear about the Orchids of Latin America Family Day? (Mark all that apply) Visiting the museum today Museum website		ers at this eve	ction with volu nt. Jood OExcell		rior
	□ Blog/otherwebsite □ Social media (Facebook, Twitter, etc.)		•	you find espec all that apply)	ially satisfy	ing at
	 □ Social media (Facebook, Twitter, etc.) □ Otheradvertisements □ Newspaper or magazine article □ Word of mouth □ Other □ Appreciating the natural world and out 		ses simens			
;	Have you been to <i>Orchid</i> event activities at the orchid exhibit (by the elephant)?	id Spending time with family and friends Talking about the event with others				
	□ Yes □ Not yet, but I plan to □ Not yet, but I might □ No, I don't plan to	☐ Watching my children learn ☐ Participating in activities ☐ None of these				
	After attending this event, what is your interest in	No	Some	A lot of		increase?
	the following? Growing orchids	interest	interest	interest		No
	Conservation of endangered species					
	Latin American cultures					
	Plants and flowers in general					
	What is your age?	Are you	male or femal	e? O Male	O Femal	e
	With whom are you visiting the museum today? (Mark all that apply)		Are you of Hispanic or Latino origin? O Yes O No Where do you live?			
	□ I am alone □ I am with adults age 18 and over □ I am with youth age 17 and under	adults age 18 and over]	
	THANK YOU	/				
l	Session Segment Status O1O2O3O4 CCRL	Loca □I OG	tion FOFF	D		

¹⁶ Note that the Pink Survey was administered at the Evans Hall location, while the Blue Survey was administered at the Orchids Exhibit location. The surveys are identical apart from the "Have you been to other activities" question, as noted with the red arrow.

Appendix B: Exit Survey Questionnaires¹⁷

Γ	1168588300 National Museu Survey of Visitors to Orch			nily Day	Г	
	Have you been to this museum, the National Museum of Natural History, before today? O Yes O No Please rate your overall experience at this event, Orchids of Latin America Family Day. O Poor O Fair O Good O Excellent O Superior Did you come today specifically for this event,					
	Orchids of Latin America Family Day? O Yes O No	□ Learı □ Otheı	ied about vani	lla orchids		
	How did you hear about the Orchids of Latin America Family Day? (Mark all that apply) Visiting the museum today Museum website	Please rate your interaction with volunteers or interpreters at this event. O Poor O Fair O Good O Excellent O Super O Not Applicable				
	☐ Museum website ☐ Blog/otherwebsite ☐ Social media (Facebook, Twitter, etc.) ☐ Other advertisements ☐ Newspaper or magazine article ☐ Word of mouth ☐ Other		Which experiences did you find especially satisfying at today's event? (Mark all that apply) Enriching my understanding of Latin American cultur Learning about orchids and their uses Seeing rare or beautiful orchid specimens Appreciating the natural world and our place in it			
1	Have you been to Orchid event activities near the Atrium Cafe (ground floor)? Yes Not yet, but I plan to Not yet, but I might No, I don't plan to	 Appreciating the lattical work and out place in it Spending time with family and friends Talking about the event with others Watching my children learn Participating in activities None of these 				
	After attending this event, what is your interest in the following?	No interest	Some interest	A lot of interest	Did this increase? Yes No	
	Growing orchids Conservation of endangered species Latin American cultures Plants and flowers in general					
	What is your age?	Are you	male or femal	le? O Male	O Female	
	With whom are you visiting the museum today? (Mark all that apply) I am alone I am with adults age 18 and over I am with youth age 17 and under	Where do you live? O United States. Zip Code:				
	THANK YOU	/				
L	Session Segment Status OlO2O3O4 CCRL	Loca □I OGI	tion FOFF	ID		

¹⁷ Note that the Pink Survey was administered at the Evans Hall location, while the Blue Survey was administered at the Orchids Exhibit location. The surveys are identical apart from the "Have you been to other activities" question, as noted with the red arrow.

Appendix C: Interview Guide

Orchid Family Day Interview Guide

What brought you to the museum today? Did you come specifically for the orchid family day event? [Follow up: if yes, why? How did they hear about the event?]

Tell me about your experiences in the event today. Have you enjoyed the event so far? [Follow up: positive response, what specifically has made your experience enjoyable? Follow up: negative response, what specifically has detracted from your experience?]

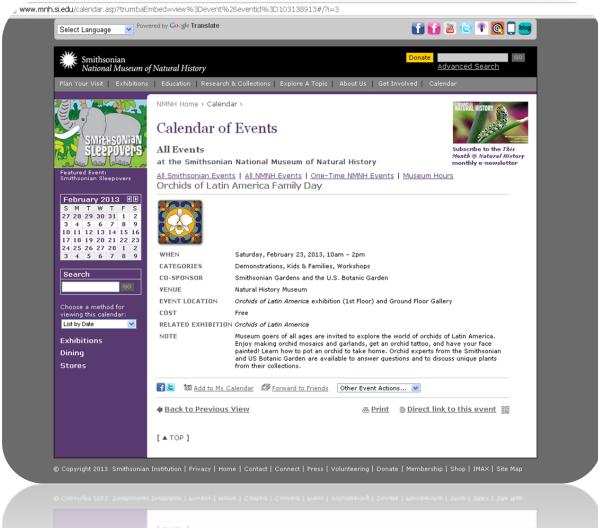
What activities did you participate in? Did you enjoy the activity? Tell me about your experience with the volunteer running the activity. [Follow up: probe for more info about volunteer interaction: good, bad, knowledgeable, etc.]

If talked with an orchid expert: What do you think of information you learned? Was anything new or surprising to you? [Follow up: if yes, what?]

Are you planning to or have you gone through the orchid exhibit today? [Follow up if went through exhibit: What do you think of the cultural and conservation information in the exhibit? Was anything new or surprising to you? If yes, what?] [Follow up if planning to go to exhibit: What kind of information are you expecting in the exhibit? Is there anything in particular you hope to see?]

Do you have any other comments or observations related to today's event?

Appendix D: NMNH Website Event Advertisement



A Back to Previous Yiew A Drived link to this event

Appendix E: Orchids Family Day Activities Plan

ACTIVITY	LOCATION	DESCRIPTION
Pot-An-Orchid Activity	Evans Hall (Ground Floor)	Activity involving potting a seedling orchid plant into pot using orchid mix, and learning
Mosaic of Orchids of Latin America	Evans Hall (Ground Floor)	Two large collective mosaics. Glue colored pieces of felt to an orchid design to create a large mosaic.
Garland Activity	Evans Hall (Ground Floor)	Garland making activity reinforces idea of culture and community.
Ask the Expert: Orchid Doctor	Evans Hall (Ground Floor)	Orchid Specialists will be on hand to answer any orchid related questions and repot orchids.
Ask the Expert: NAOCC	Evans Hall (Ground Floor)	North American Orchid Conservation Center specialists will answer questions about native orchids
Face Painting	Evans Hall (Ground Floor)	Professional face painter will paint faces in animals and nature themes.
Stamp an Orchid	Evans Hall (Ground Floor)	Stamp activity in which individual stamps an orchid design onto fabric.
Temporary Tattoos	Evans Hall (Ground Floor) & Orchids Exhibit (1st Floor)	Discovery cart activity in which individual gets an orchid themed tattoo transfer from a volunteer. One cart set-up in exhibition hall and the other in the activity area.
Discovery cart: Explore Orchids	Orchids Exhibit (1st Floor)	Interactive discovery cart activity highlighting vanilla orchid, what makes an orchid an orchid and where is my home.
Interpretive Guitarist	Orchids Exhibit (1st Floor)	Guitarist playing in the courtyard, linking orchid glue used for assembling musical instruments.

Appendix F: Frequencies¹⁸

	Total	Evans Hall	Orchids Exhibit	
Have you been to this museum, the National Museum of Natural History, before today?				
No (First Time Visitor)	23%	18%	31%	
Yes (Repeat Visitor)	77%	82%	69%	
Please rate your overall experience at this event, <i>Orchids of Latin America</i> Family Day.				
Poor	0%	0%	0%	
Fair	<1%	0%	<1%	
Good	11%	7%	15%	
Excellent	56%	60%	50%	
Superior	33%	33%	35%	
Did you come today specifically for this event, Orchids of Latin America Family Day?				
Yes	33%	32%	34%	
No	67%	68%	66%	
How did you hear about the <i>Orchids of Latin</i> <i>America</i> Family Day? (Mark all that apply)*				
	59%	54%	56%	
Visiting the Museum today				
Visiting the Museum today Museum website	15%	16%	14%	
с	15% 3%	16% 2%	14% 5%	
Museum website				
Museum website Blog/Other website	3%	2%	5%	
Museum website Blog/Other website Social Media (Facebook, Twitter, etc.)	3% 1%	2% 2%	5% <1%	
Museum website Blog/Other website Social Media (Facebook, Twitter, etc.) Other advertisements	3% 1% 1%	2% 2% 2%	5% <1% 0%	

^{*} Percentages total more than 100 since visitors were able to select more than one response.

Have you been to other <i>Orchid</i> event activities?	n)			
(See Appendix B for alternate wording at each location		250/	250/	
Yes	31%	35%	25% 25%	
Not yet, but I plan to	31%	35%	25%	
Not yet, but I might	31%	27%	41%	
No, I don't plan to	8%	7%	9%	
What did you do at today's event? (Mark all that apply) <mark>*</mark>				
Posted about the event to social media	9%	8%	8%	
Pot-an-orchid activity	38%	63%	13%	
Face painting/temporary tattoo	42%	49%	26%	
Talked to an orchid expert	34%	28%	28%	
Mosaic Activity	13%	23%	3%	
Listened to the guitarist	37%	17%	43%	
Made a garland	8%	17%	1%	
Learned about vanilla orchids	33%	16%	35%	
Other	17%	11%	16%	
Please rate your interaction with volunteers or interpreters at this event.	0.04	0.04	224	
Poor	0%	0%	0%	
Fair	1%	<1%	2%	
Good	13%	14%	12%	
Excellent	42%	47%	36%	
Superior	35%	39%	30%	
Not Applicable	9%	0%	20%	
Which experiences did you find especially satisfying at today's event? (Mark all that apply)*				
Enriching my understanding of Latin American cultures	22%	22%	21%	
Learning about orchids and their uses	55%	53%	48%	
Seeing rare or beautiful orchid specimens	73%	47%	75%	
Appreciating the natural world and our place in it	39%	26%	41%	
Spending time with family and friends	49%	46%	40%	
Talking about the event with others	15%	15%	12%	
Watching my children learn	36%	61%	15%	
Participating in activities	29%	47%	12%	
None of these	3%	2%	2%	

After attending this event what is your interest in the following?				
Growing Orchids				
No interest	15%	10%	23%	
Some interest	45%	50%	38%	
A lot of interest	40%	40%	39%	
Did this increase?				
Yes	78%	83%	71%	
No	22%	17%	29%	
Conservation of endangered Species				
No interest	10%	12%	8%	
Some interest	37%	35%	40%	
A lot of interest	53%	53%	52%	
Did this increase?				
Yes	58%	58%	57%	
No	42%	42%	43%	
Latin American Cultures				
No interest	13%	13%	13%	
Some interest	53%	50%	57%	
A lot of interest	35%	38%	30%	
Did this increase?				
Yes	47%	45%	50%	
No	53%	55%	50%	
Plants and flowers in general				
No interest	4%	5%	2%	
Some interest	46%	52%	39%	
A lot of interest	50%	44%	58%	
Did this increase?				
Yes	63%	67%	58%	
No	37%	33%	42%	
What is your age?	c =			
Median Age	37			
Mean Age	39			

2%			
11%			
10%			
48%			
27%			
1%			
3%	3%	4%	
18%	13%	24%	
39%	47%	27%	
19%	28%	10%	
10%	5%	18%	
12%	4%	19%	
39%	39%	40%	
62%	62%	60%	
9%	9%	8%	
91%	91%	92%	
97%	100%	94%	
3%	0%	4%	
16%			
12%			
14%			
6%			
6%			
15%			
27%			
	11% 10% 48% 27% 1% 3% 18% 39% 19% 10% 12% 39% 62% 9% 91% 39% 62% 	 11% 10% 48% 27% 1% 3% 3% 3% 13% 13% 39% 47% 19% 28% 10% 5% 12% 4% 39% 9% <li< td=""><td>11% 10% 48% 27% 1% 4% 3% 3% 4% 4% 13% 24% 39% 47% 27% 10% 10% 10% 19% 28% 10%</td></li<>	11% 10% 48% 27% 1% 4% 3% 3% 4% 4% 13% 24% 39% 47% 27% 10% 10% 10% 19% 28% 10%

AAM Region	
Metro Washington	40%
Southeast	21%
Mid Atlantic	19%
Midwest	4%
New England	4%
Mountain Plains	2%
West	1%
Country other than U.S.	3%
Unspecified US	7%
DC Local	
Nonlocal	60%
Local	40%
With whom are you visiting the museum today?	
With Adults age 18 and over	
Not with Adults	38%
With Adults	62%
With Youth age 17 and under	
Not with Youth	53%
With Youth	47%
Group Ranges	
Alone	6%
Group of 2	29%
Group of 3	18%
Group of 4	16%
Group of 5	6%
Group of 6 or more	26%
Group Composition	
Alone	7%
Combined Adult-Youth group	39%
Adult only group	37%
Youth only group	18%
Survey Location	
Ground Floor (Evans Hall)	56%
First Floor (Orchids Exhibit)	44%

* Percentages total more than 100 since visitors were able to select more than one response.