

RARE BEAUTY



AN EVALUATION OF THE ORCHIDS OF LATIN AMERICA EXHIBIT

Smithsonian
Institution



Office of Policy and Analysis
Smithsonian Institution
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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 *Orchids of Latin America* exhibition was part of a multi-stage project that included a formative evaluation of certain exhibit elements prior to opening and an evaluation of a one-time related family day event, ¡*Fiesta de las Or-KID-eas!*. This report represents the last piece of work related to the overall evaluation plan for *Orchids of Latin America* performed by the Office of Policy and Analysis (OP&A) for Smithsonian Gardens.

The orchid exhibition evaluation was led OP&A staff member Maria Raviele, who also performed the data analysis and wrote this report. Along with Maria, surveying was performed by interns Bridget Sandison and Mike Anderson; OP&A staff Kathy Ernst, Claire Eckert, and Sarah Block; and OP&A contractors Eliza Kleintop and Hannah Pheasant. Mike and Bridget 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 by the OP&A's staff and interns.

Whitney Watriss
Acting Director
Smithsonian Office of Policy and Analysis

INTRODUCTION

Orchids are considered by many to be one of the most beautiful, enigmatic, and rare plant species. Between January 26 and April 21, 2013, visitors to the Smithsonian National Museum of Natural History (NMNH) were treated to a tropical flower display in the exhibition *Orchids of Latin America*. This exhibition was the result of a collaborative effort between Smithsonian Gardens (SI Gardens), NMNH, and the United States Botanic Garden (USBG). This effort is an annual collaboration, with the exhibition location alternating between the Smithsonian and USBG.

Major themes explored in the 2013 orchid exhibition include the role of orchids in Latin American cultures, conservation of endangered orchid species, and the intersection of culture and conservation. The Smithsonian Office of Policy and Analysis (OP&A) conducted an evaluation of the exhibit with the goals of understanding visitors' interest in these themes and which experiences in the exhibition visitors found most satisfying.

METHODOLOGY

To best understand the questions SI Garden wished to have answered through evaluation of *Orchids of Latin America*, OP&A designed a mixed-methodology study relying on an exit-survey and open-ended interviews with visitors.

The survey was designed with input from SI Garden staff¹ and administered in late February to early March. Visitors were intercepted by OP&A staff and interns as they were leaving the exhibition² and invited to share their feedback through the survey. Surveys were administered in 90 minute sessions. A total of 624 visitors were intercepted, with 323 agreeing to complete the survey for a response rate of 52%³.

Open-ended interviews⁴ with visitors took place during the entire run of the exhibition. Fifteen interviews with 18 people were conducted; the interviews lasted anywhere from 2-5 minutes.

¹ See Appendix A for a copy of the survey instrument.

² The exhibition had two entry/exit points; only one was covered per survey administration session.

³ For a sample size of 323, the 95% confidence interval is ± 3.79 .

⁴ See Appendix B for a copy of the interview guide.

QUANTITATIVE FINDINGS

VISITOR CHARACTERISTICS

VISIT HISTORY

The majority of visitors to *Orchids of Latin America* were first time visitors to NMNH (69%). The rest, 31%, were repeat visitors.

EXHIBITION SPECIFIC VISITORS

Approximately one-quarter of visitors (24%) came specifically to see *Orchids of Latin America*, while 76% were general visitors to the Museum.

RESIDENCE

Most visitors to *Orchids of Latin America* were from the United States (88%), while the rest (12%) were from another country. Of domestic visitors, equal percentages were from the DC Metro area (24%) or the Southeast (24%), followed by the Mid-Atlantic (Table 1)⁵. Overall, 24% of visitors were local to the DC metro area, while 76% of visitors were non-local to the DC metro area.

TABLE 1: VISITORS TO ORCHIDS OF LATIN AMERICA

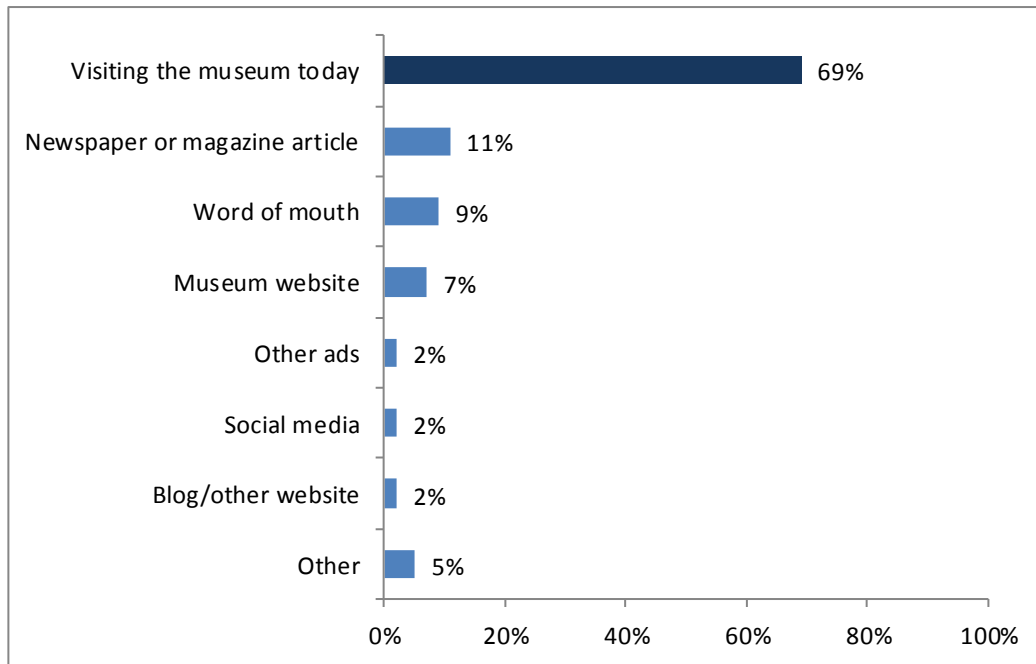
AAM Region	Percent
Metro Washington	24
Southeast	24
Mid-Atlantic	12
Midwest	5
New England	7
Mountain Plains	4
West	9
Country other than U.S.	12
Unspecified US	3

HOW DID YOU HEAR ABOUT THE EXHIBIT?

The majority of visitors to *Orchids of Latin America* (69%) heard about the exhibit while visiting NMNH (Figure 1, next page). The next most common ways of learning about the exhibit were through a *newspaper or magazine article* (11%) or through *word of mouth* (9%).

⁵ The regions used are the same as those defined by the American Alliance of Museums (AAM).

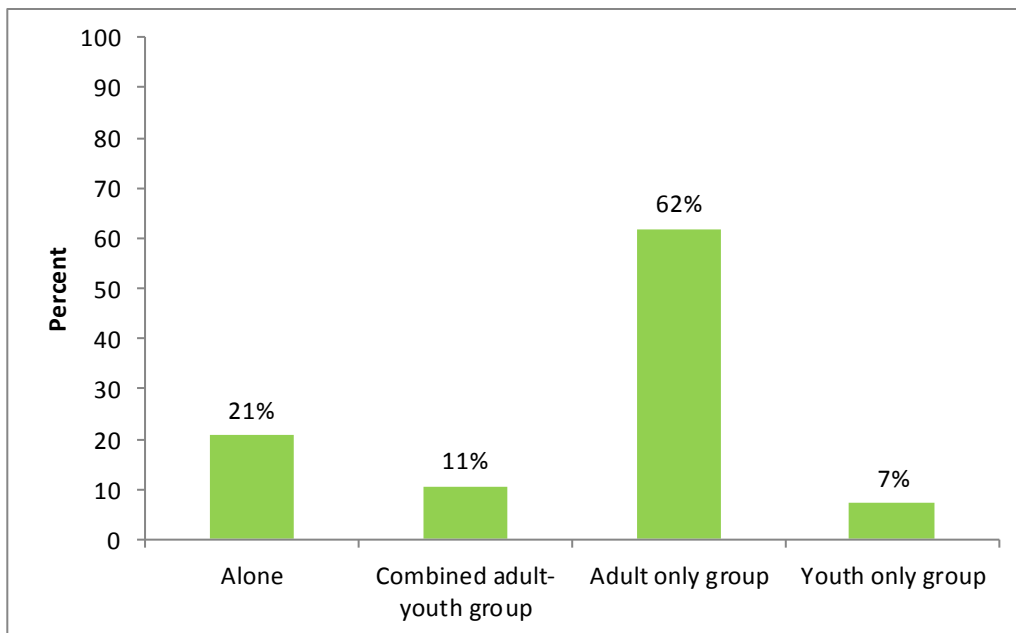
FIGURE 1: HOW DID YOU HEAR ABOUT *ORCHIDS OF LATIN AMERICA*?⁶



VISIT GROUPS

Approximately one-fifth of visitors (21%) visited the exhibition alone, while the rest visited in groups (Figure 2). The majority of visiting groups (62%) were comprised of adults only, followed by groups of adults with youth (11%).

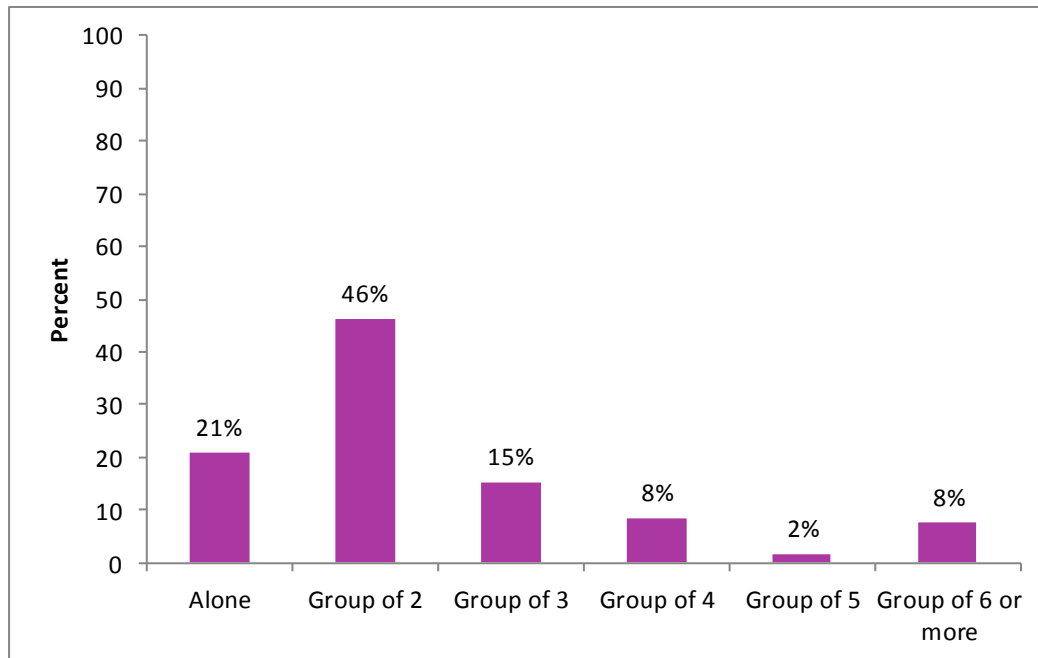
FIGURE 2: COMPOSITION OF VISITOR GROUPS TO *ORCHIDS OF LATIN AMERICA*



⁶ Totals are more than 100% since visitors were able to select more than one option

The average number of people in a group visiting the exhibition was 2. Groups of 2 and groups of 3 (46% and 15%; Figure 3) were the most prevalent groups to visit *Orchids of Latin America*.

FIGURE 3: SIZE OF VISITOR GROUPS TO *ORCHIDS OF LATIN AMERICA*



SEX

More women than men visited the exhibition (67% vs. 33%).

AGE

The average age of visitors to the exhibition was 40, while the median age was 36.

ETHNICITY

The exhibition team was interested in understanding if *Orchids of Latin America* particularly attracted visitors of Hispanic/Latino descent or visitors whose primary language is Spanish. The team was particularly interested in these visitors since text panels within the exhibition were written in both English and Spanish. Nine percent of survey respondents identified themselves as being of Hispanic or Latino origin⁷.

⁷ This number likely underrepresents the number of Hispanic or Latino visitors to the exhibition. In a number of instances, the study team would approach a group of visitors, often families, where one person would respond to the survey. In the course of talking with other members of the group, it would be revealed that a group member, in the case of families a parent, was of Hispanic or Latino descent. Due to the small number of respondents who identified themselves as Hispanic or Latino, the study team was unable to run any analyses which may indicate statistically significant differences in experiences between Hispanic/Latino visitors and non-Hispanic/Latino visitors.

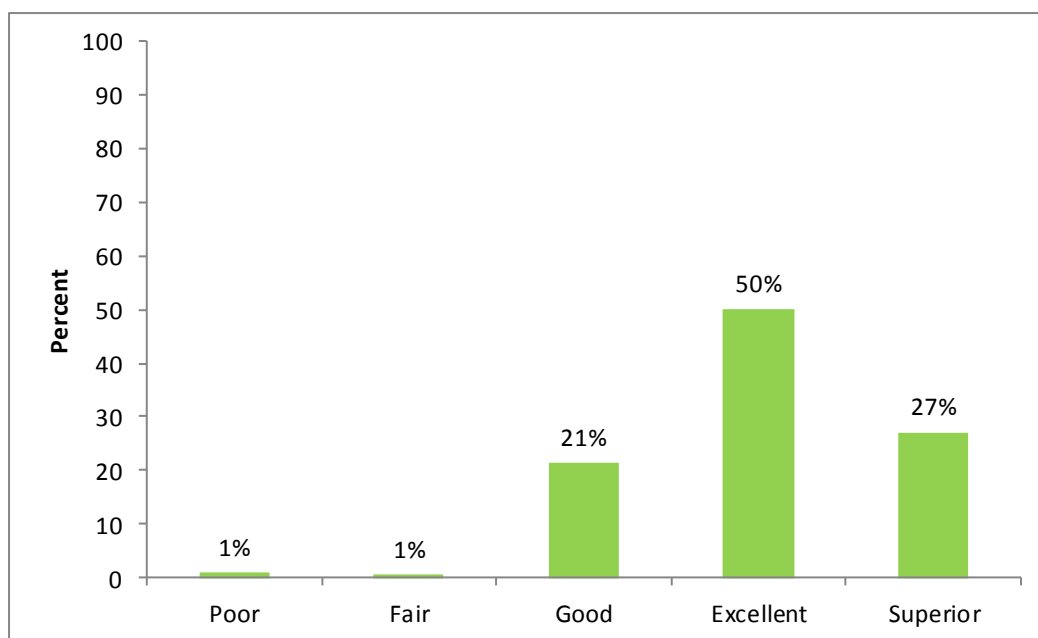
RATINGS

OVERALL EXPERIENCE RATING

Visitors exiting *Orchids of Latin America* were asked to rate their overall experience in the exhibition using a five-point scale that OP&A has applied to exhibitions across the Smithsonian: *poor, fair, good, excellent, superior*. OP&A has found that visitors who enjoyed their experience tend to select *excellent*, while those who felt they had an experience beyond their expectations mark *superior*. Visitors who were critical of an exhibition in some manner will select either *poor, fair, or good*.

For *Orchids of Latin America*, half of all respondents rated their experience *excellent*, while slightly more than a quarter of respondents selected *superior* (Figure 4)⁸. Only 2% of visitors rated their overall experience *poor* or *fair*.

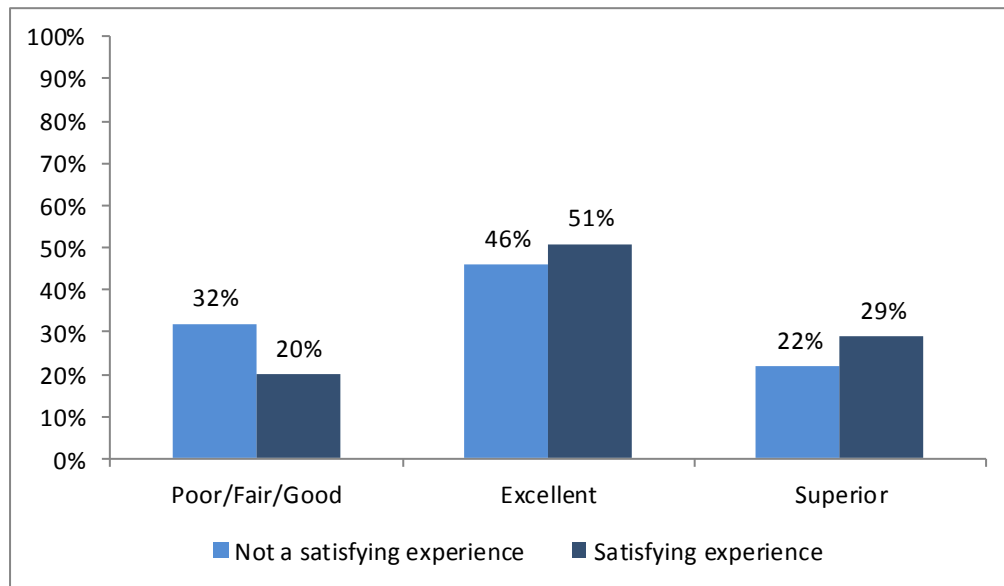
FIGURE 4: VISITOR OVERALL EXPERIENCE RATINGS OF *ORCHIDS OF LATIN AMERICA*



Respondents who indicated *seeing rare or beautiful orchid specimens* as a particularly satisfying experience during their visit were significantly more likely to rate their overall experience as *excellent* or *superior* than visitors who did not indicate *seeing rare or beautiful orchid specimens* as a satisfying experience (Figure 5, next page).

⁸ *Superior* ratings are slightly higher than the Smithsonian average of 21%.

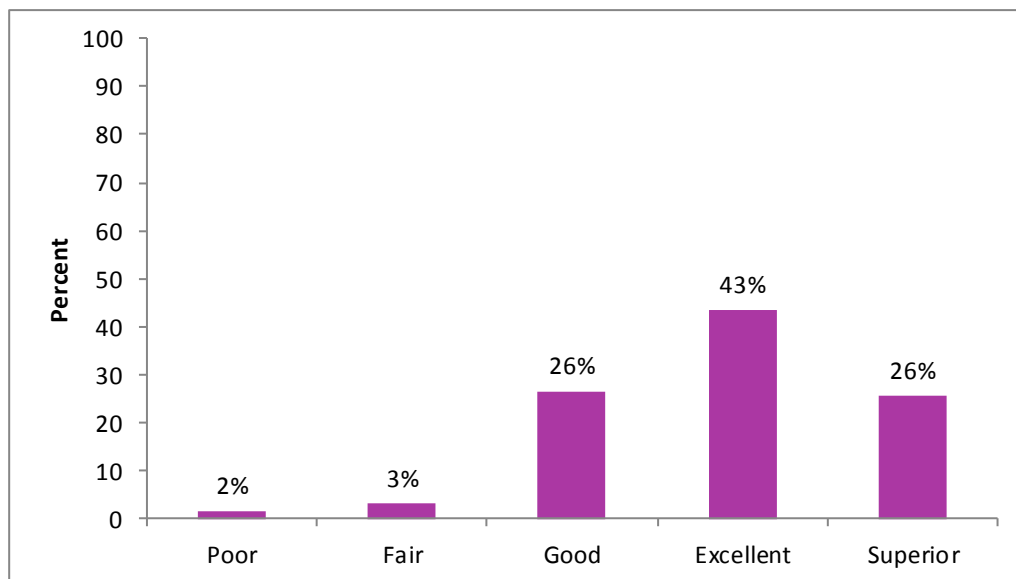
**FIGURE 5: SEEING RARE OR BEAUTIFUL ORCHID SPECIMENS AS A SATISFYING EXPERIENCE
VS OVERALL EXPERIENCE RATING**



VOLUNTEER RATINGS

Volunteers were an integral part of *Orchids of Latin America*, and at least one volunteer was stationed in the exhibit while NMNH was open. A little less than a quarter of respondents (23%, *not applicable*)⁹ indicated they did not interact with a volunteer during their visit. After removing the responses of *not applicable*, the majority of respondents rated their experience with volunteers as *excellent* (43%, Figure 6, next page), while equal percentages of respondents rated their experience as either *good* or *superior*.

FIGURE 6: RATINGS OF VOLUNTEERS



⁹ See Appendix C, Frequencies.

VISITOR EXPERIENCES AND INTERESTS

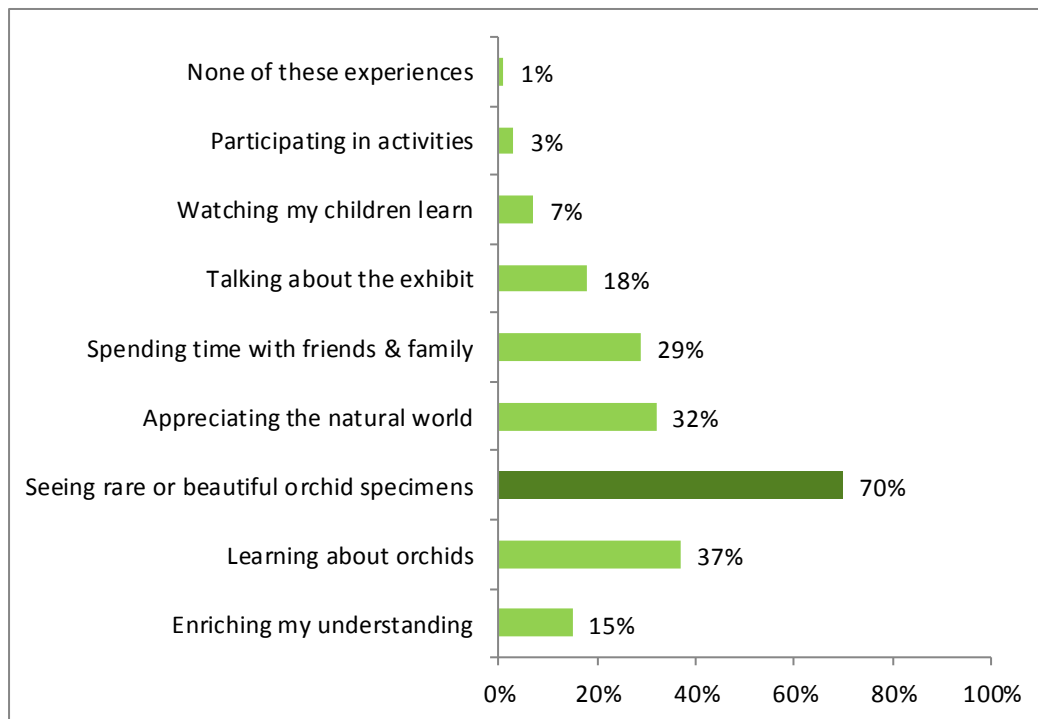
GENERAL EXPERIENCES

Respondents were asked to choose from a list of nine experiences those that they found especially satisfying in the exhibition. The experiences listed were the following:

- ❖ *Enriching my understanding of Latin American cultures*
- ❖ *Learning about orchids and their uses*
- ❖ *Seeing rare or beautiful orchid specimens*
- ❖ *Appreciating the natural world and our place in it*
- ❖ *Spending time with friends and family*
- ❖ *Talking about the exhibit with others*
- ❖ *Watching my children learn*
- ❖ *Participating in activities*
- ❖ *None of these*

By far the most selected experience by respondents was *seeing rare or beautiful orchid specimens* (70%; Figure 7, next page). While this was the most selected experience, it was not found to have a significant relationship with other visit experiences. Experiences that were found to be significant were *talking about the exhibit with others* and *spending time with family and friends*.

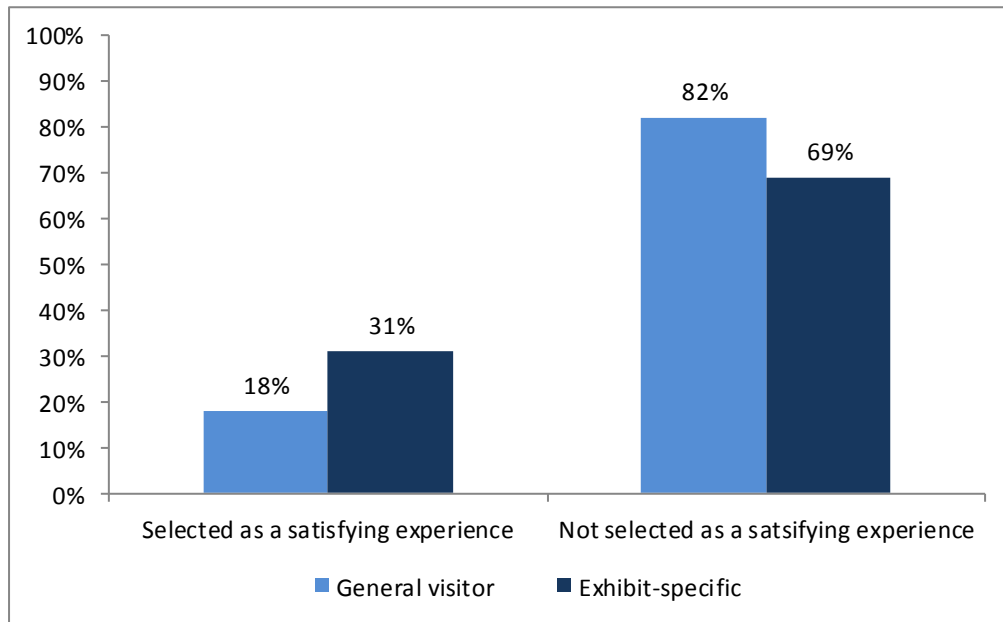
FIGURE 7: SATISFYING EXPERIENCES¹⁰



¹⁰ Totals are more than 100% since visitors were able to select more than one option.

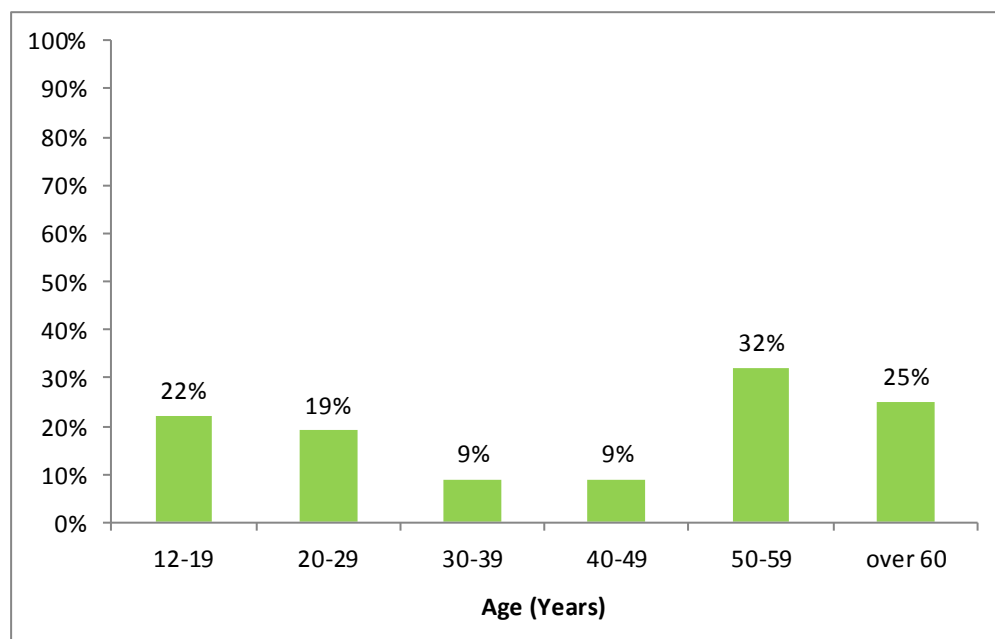
Exhibit specific visitors were significantly more likely to select *talking about the exhibit with others* as a satisfying experience than general visitors (31% vs. 18%; Figure 8).

FIGURE 8: SATISFYING EXPERIENCE *TALKING ABOUT THE EXHIBIT*, EXHIBIT-SPECIFIC VS GENERAL VISITOR



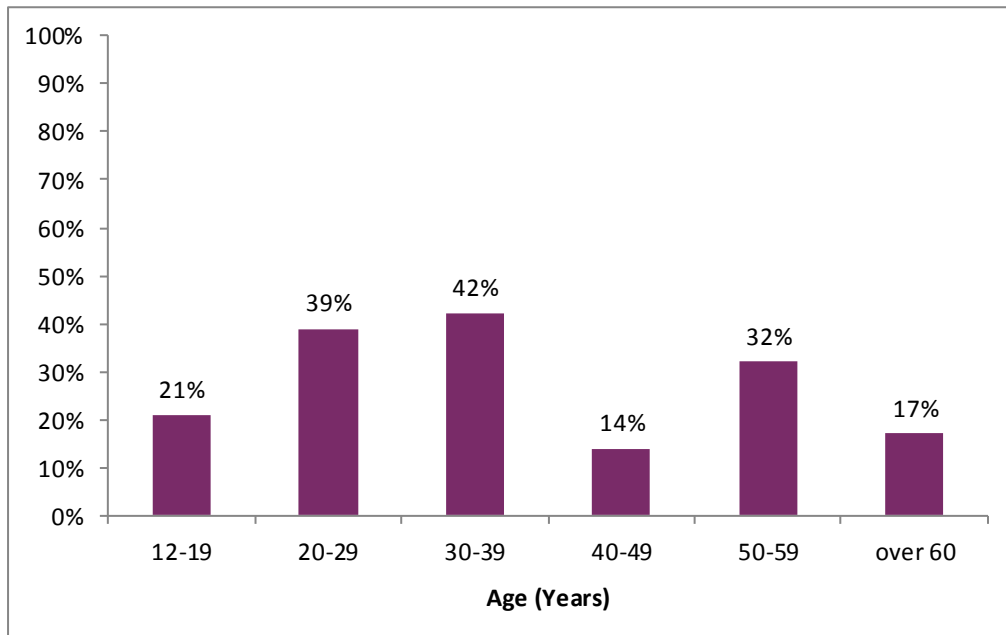
Age was also found to be a significant variable in the selection of *talking about the exhibit with others* as a satisfying experience. Visitors between 30-39 and 40-49 years of age were significantly less likely than visitors in other age groupings to select this as a satisfying experience (Figure 9).

FIGURE 9: SATISFYING EXPERIENCE, *TALKING ABOUT THE EXHIBIT* BY AGE (YEARS)



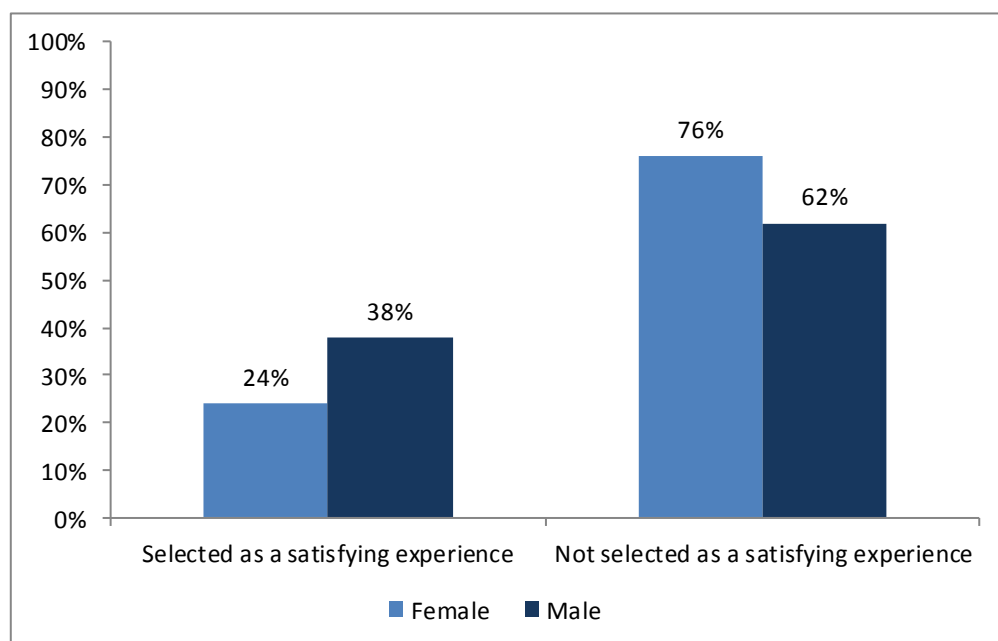
For visitors between the ages of 20-29 and 30-39, *spending time with friends and family* was an especially satisfying experience compared to other age groupings (Figure 10).

FIGURE 10: SATISFYING EXPERIENCE, *SPENDING TIME WITH FRIENDS AND FAMILY*, BY AGE (YEARS)



In addition to age, the sex of the respondent was found to be significant with the selection of *spending time with friends and family*. More men than women indicated this as a satisfying experience (Figure 11).

FIGURE 11: SATISFYING EXPERIENCE, *SPENDING TIME WITH FRIENDS & FAMILY*, BY SEX

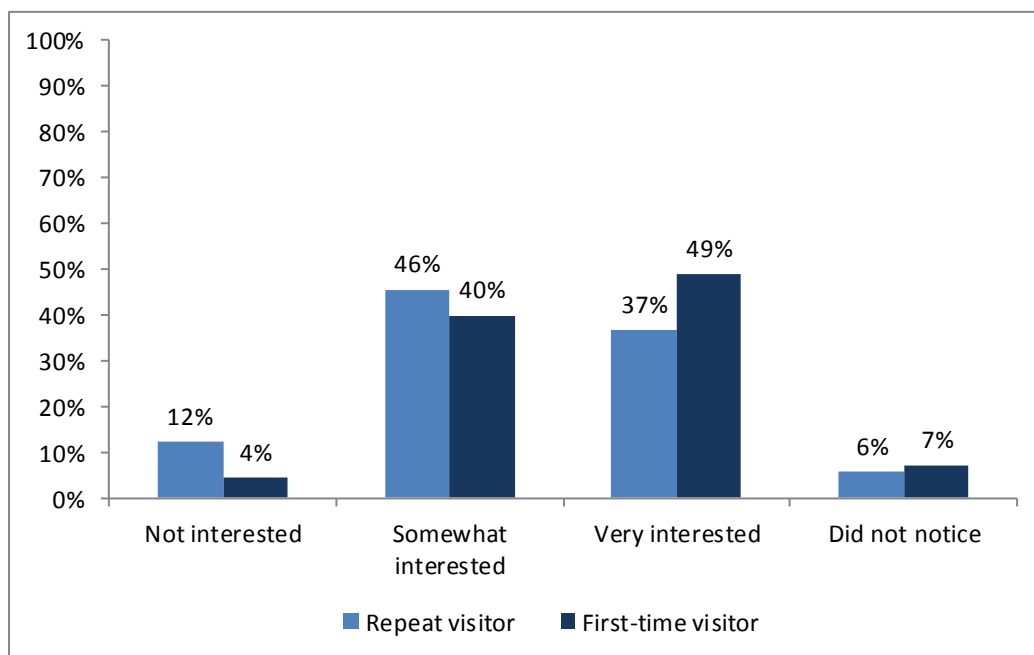


INTERESTS WITHIN THE EXHIBITION

The exhibition team wanted to particularly know if visitors had an interest in learning about the three major themes within the exhibition: orchid conservation, cultural uses of orchids, and the intersection between conservation and culture. Visitors were asked to indicate their level of interest in learning about these themes¹¹ as *not interested*, *somewhat interested*, or *very interested*. The majority of visitors, over 80% for each case, indicated they were *somewhat* or *very interested* in learning about all three themes¹².

Repeat visitors to NMNH were more likely to indicate they were *not interested* in learning about *cultural uses of orchids* than first time visitors, while first time visitors were also more likely to indicate they were *very interested* in learning about this theme (Figure 12, next page).

FIGURE 12: INTEREST IN LEARNING ABOUT THE CULTURAL USES OF ORCHIDS, REPEAT VS FIRST TIME VISITORS



Additionally, exhibition specific visitors (58%) were more likely than general visitors (31%) to indicate they were *very interested* in *orchid conservation* (Figure 13, next page).

While exhibition specific visitors were also more likely than general visitors to indicate they were *very interested* in cultural uses of orchids, more exhibition specific visitors also indicated they *did not notice* the material related to this theme (Figure 14, next page).

¹¹ Themes were identified on the survey as *Orchid conservation*, *Cultural uses of orchids*, and *Cultural practices can help conserve orchids*.

¹² See Appendix C, Frequencies.

FIGURE 13: INTEREST IN LEARNING ABOUT ORCHID CONSERVATION, GENERAL VS EXHIBIT SPECIFIC VISITORS

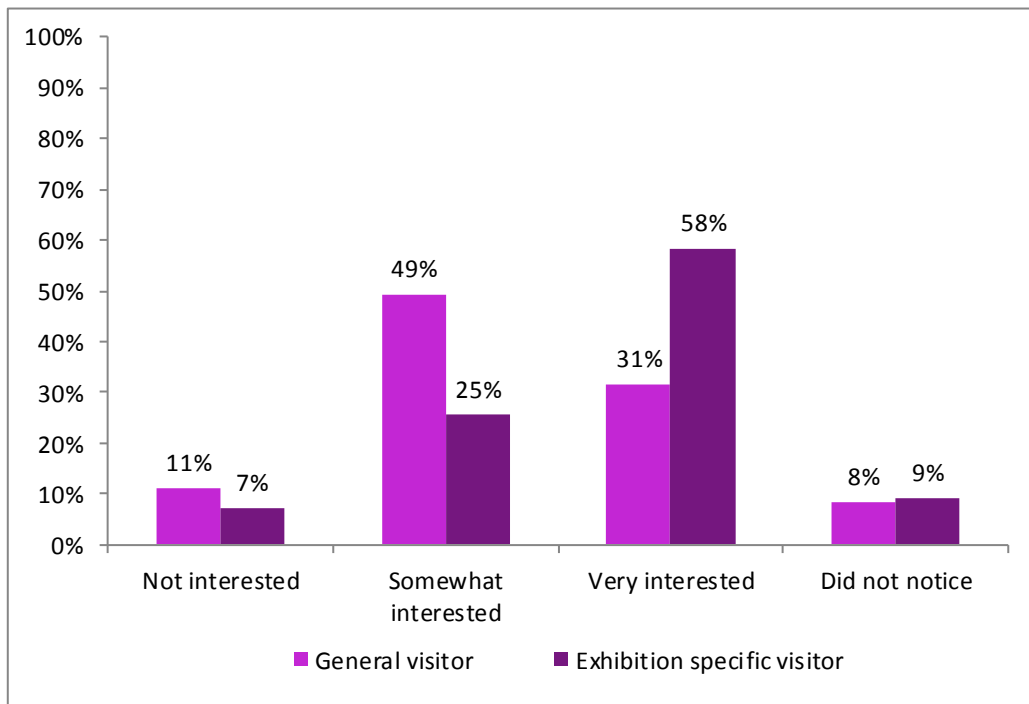
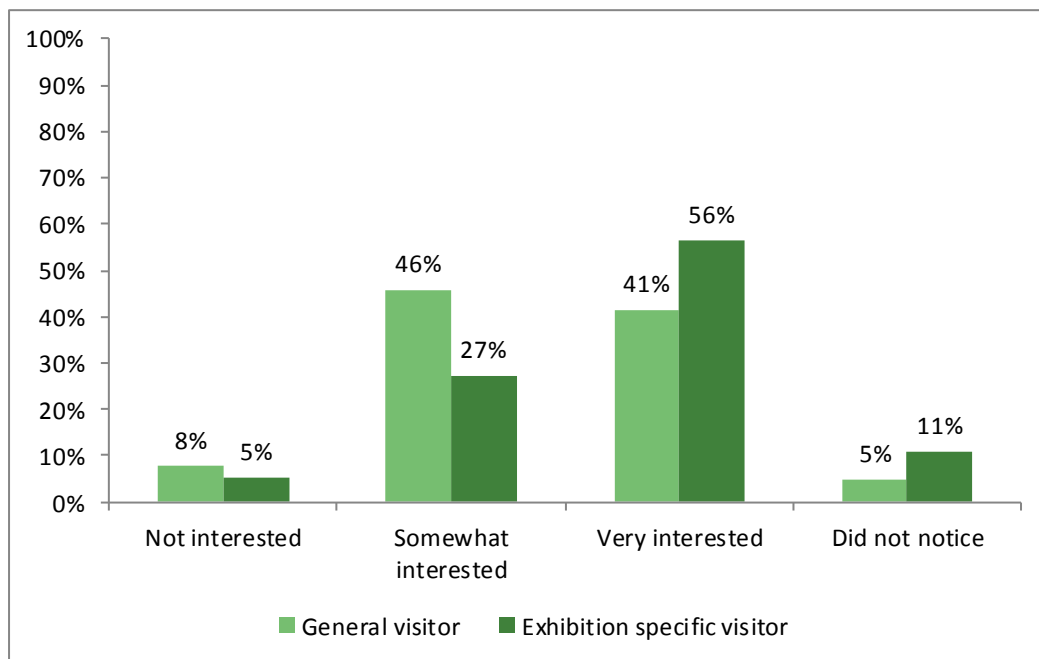
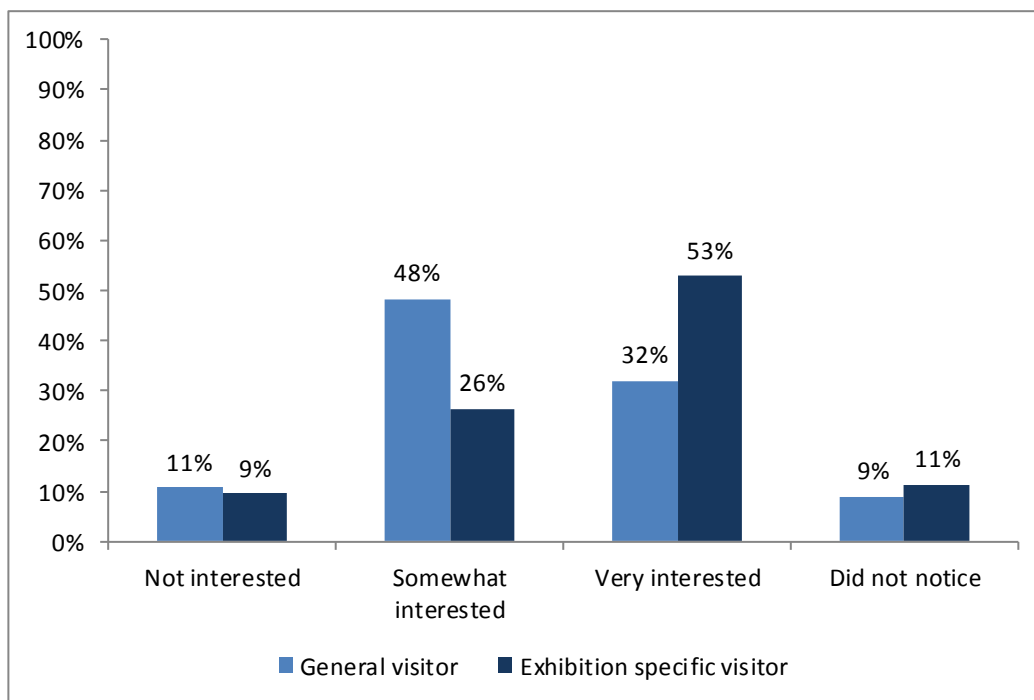


FIGURE 14: INTEREST IN THE CULTURAL USES OF ORCHIDS, GENERAL VS EXHIBIT SPECIFIC VISITORS



Finally, exhibition specific visitors (53%) were also far more likely than general visitors (32%) to indicate they were *very interested* in the intersection between conservation and culture (Figure 15).

FIGURE 15: INTEREST IN CULTURAL PRACTICES THAT HELP CONSERVE ORCHIDS, GENERAL VS EXHIBIT SPECIFIC VISITORS



FUTURE INTERESTS

Visitors were asked to rate their interest in *growing orchids*, *conservation of endangered species*, *Latin American cultures*, and *plants and flowers in general* using the following three-point scale: *no interest*, *some interest*, *a lot of interest*. For all four items, the majority of respondents (nearly 50% or more) indicated *some interest*¹³ (Figure 16, next page).

They were also asked if the level of interest they indicated represented an increase from their prior level of interest. In the cases of *growing orchids*, *conservation of endangered species*, and *Latin American cultures* a significant increase in interest in these topics occurred for visitors after seeing the exhibition (Figures 17, next page, and Figures 18 and 19, page 15).

¹³ See Appendix C, Frequencies.

FIGURE 16: AFTER SEEING THIS EXHIBITION, WHAT IS YOUR INTEREST IN THE FOLLOWING?

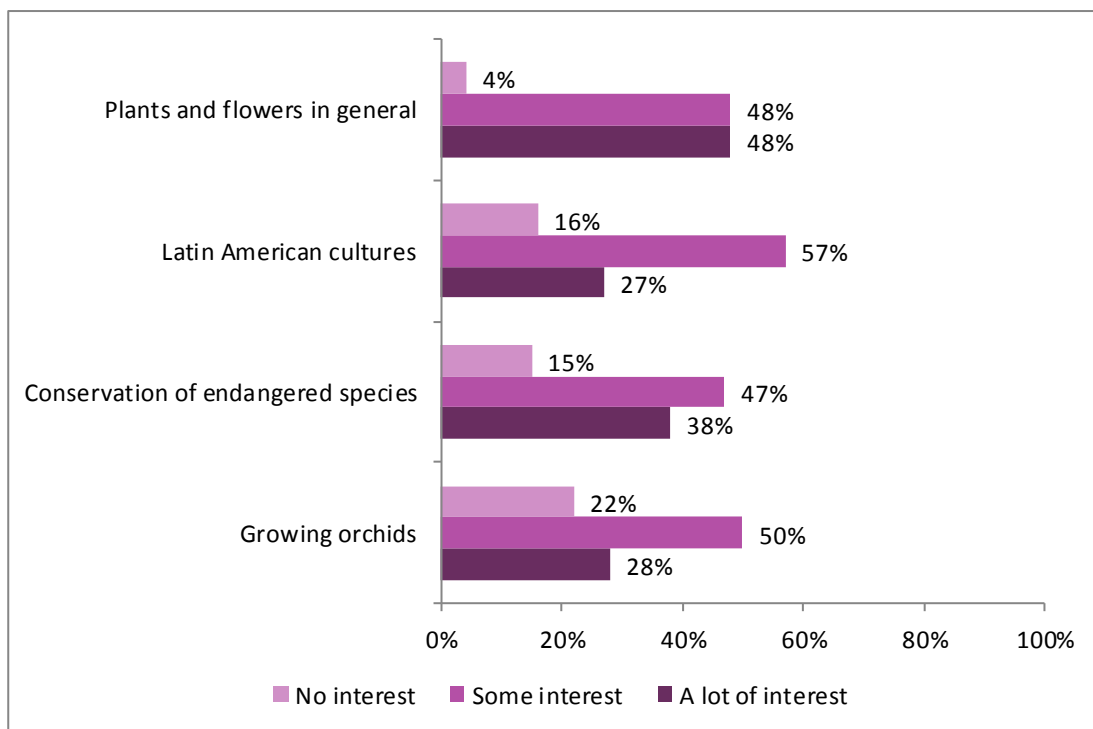


FIGURE 17: INTEREST IN GROWING ORCHIDS

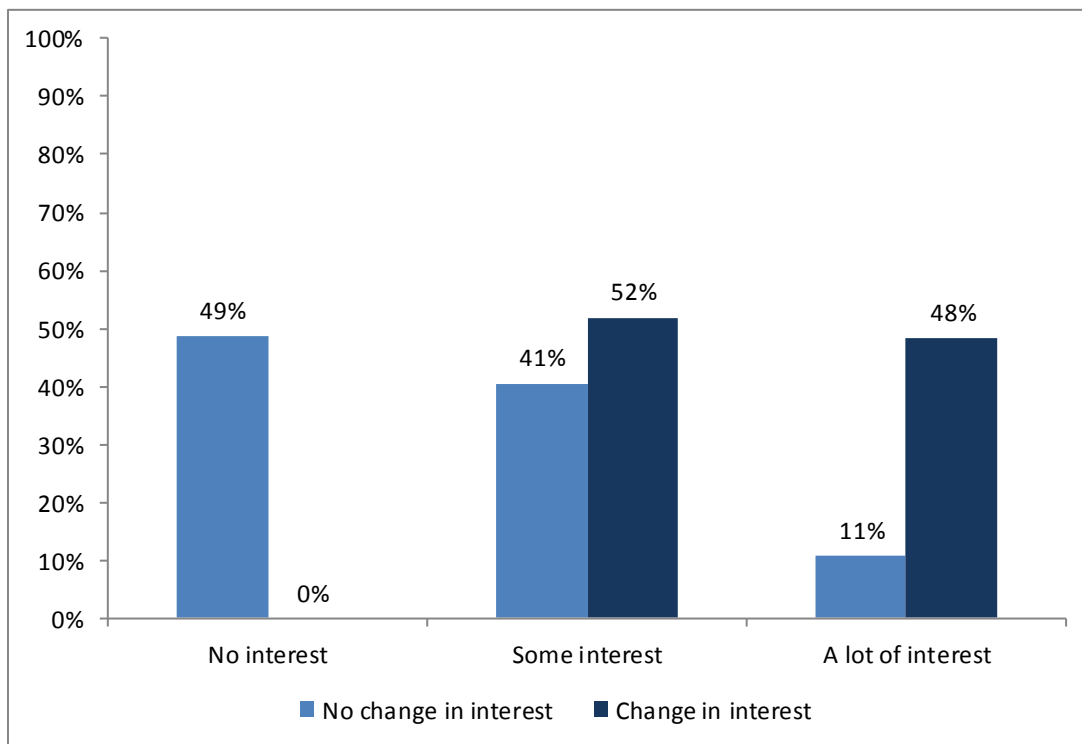


FIGURE 18: INTEREST IN CONSERVATION OF ENDANGERED SPECIES

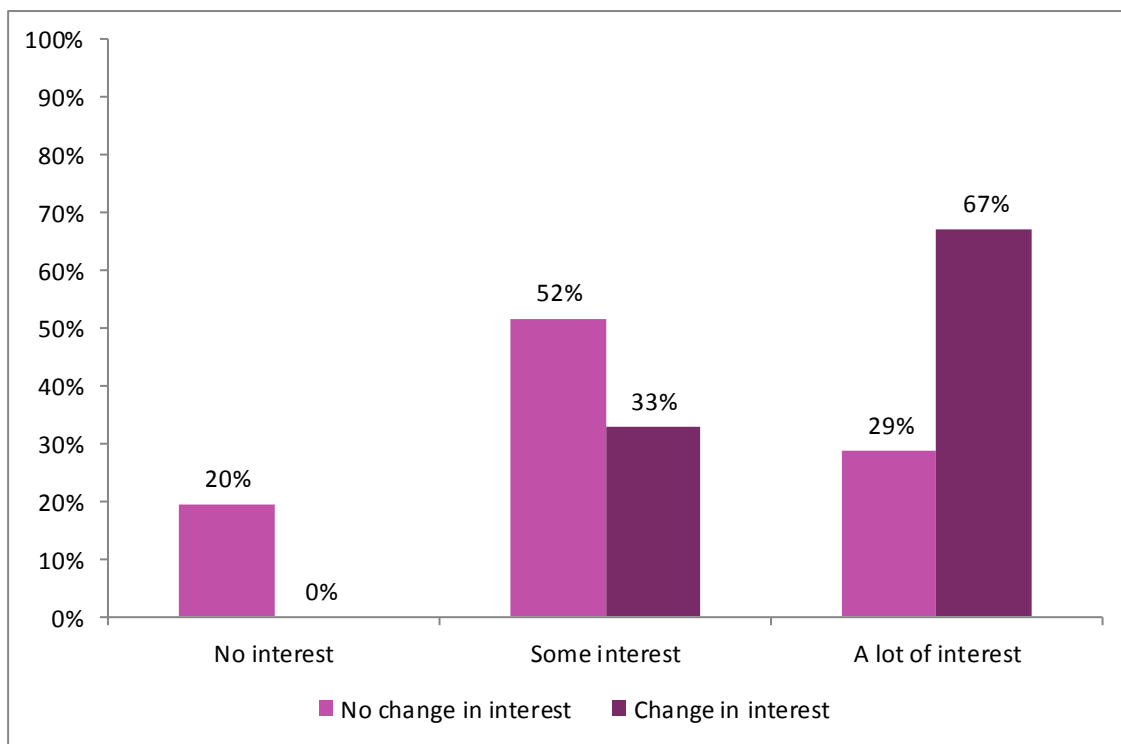
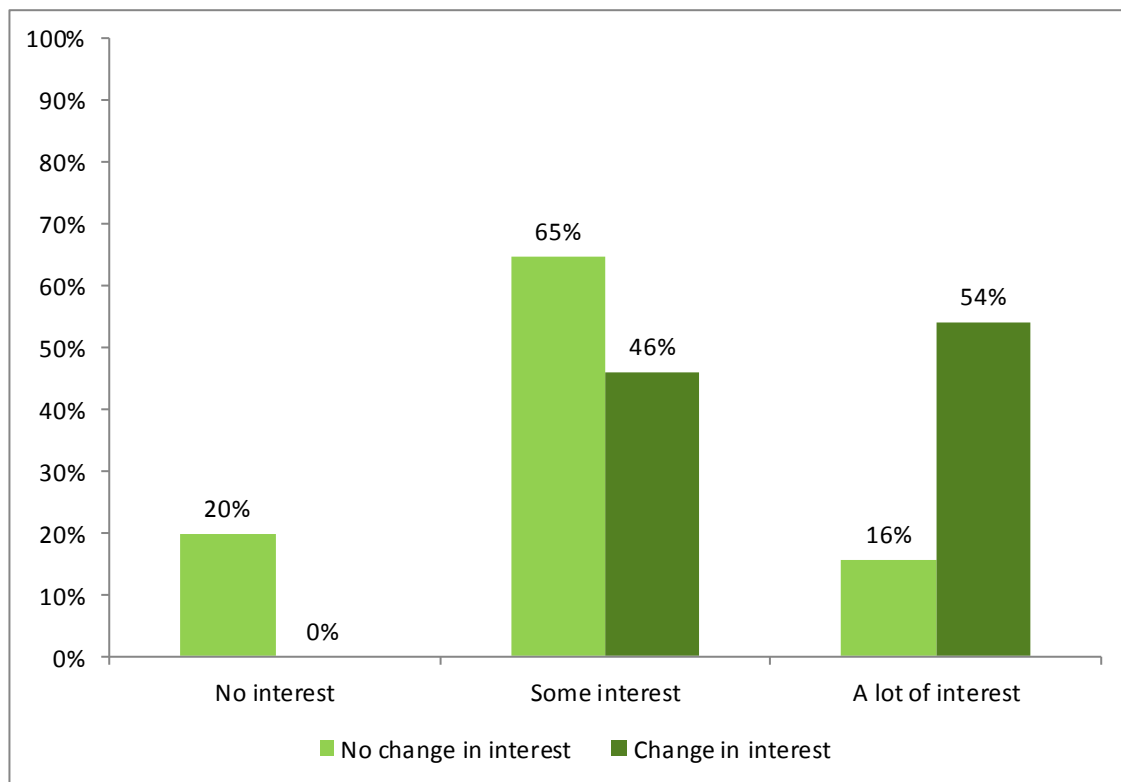


FIGURE 19: INTEREST IN LATIN AMERICAN CULTURES



VISITOR BEHAVIORS

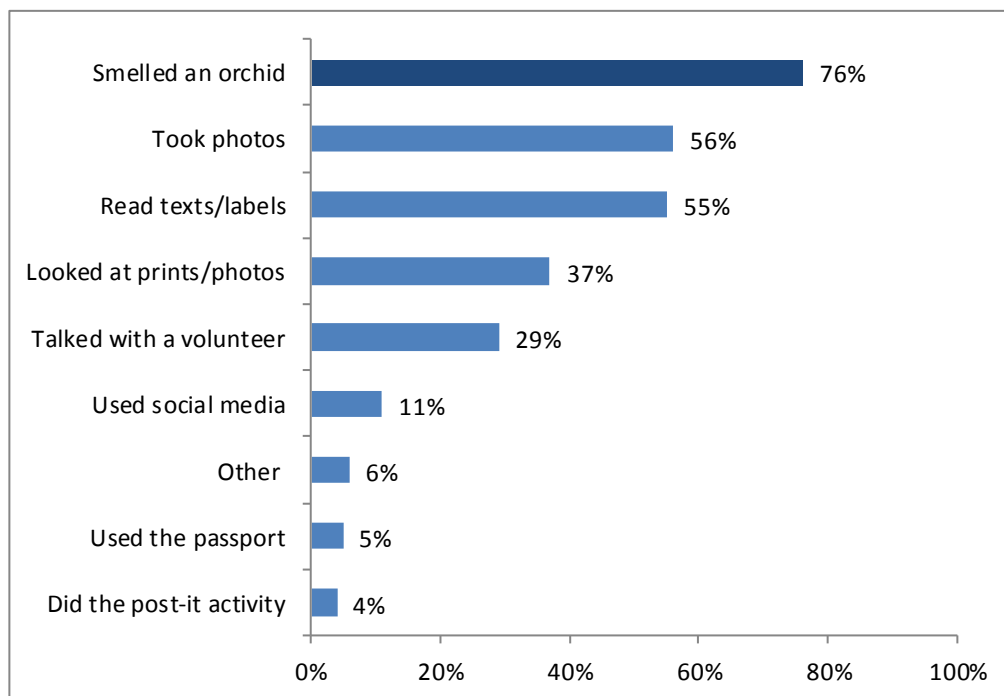
WHAT DID YOU DO IN THIS EXHIBITION TODAY?

Visitors were asked to indicate which of the following they did while in the exhibition:

- ❖ *Posted about this exhibit to social media*
- ❖ *Took photos*
- ❖ *Used the orchid passport card*
- ❖ *Responded to the post-it board question*
- ❖ *Talked to a volunteer/staff member*
- ❖ *Smelled an orchid*
- ❖ *Looked at the prints and photos*
- ❖ *Read text/labels*

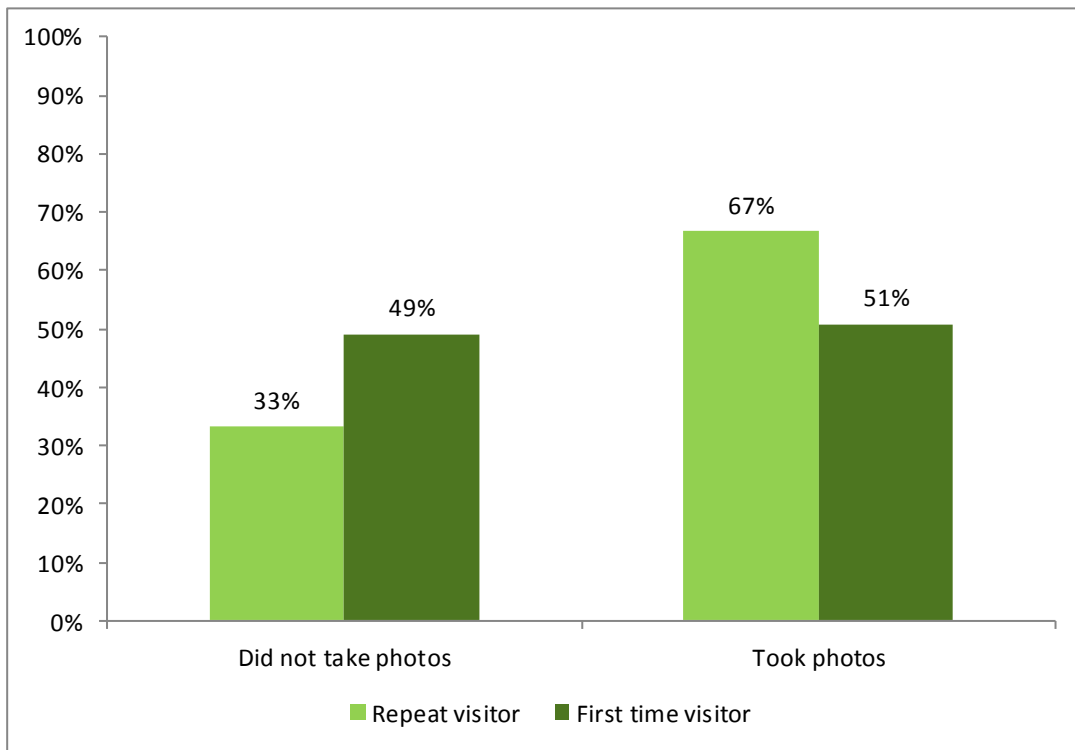
By far the behavior most performed by visitors was *smelled an orchid* (76%), followed by *took photos* (56%) and *read text/labels* (55%; Figure 20).

FIGURE 20: WHAT DID YOU DO IN THIS EXHIBITION TODAY?



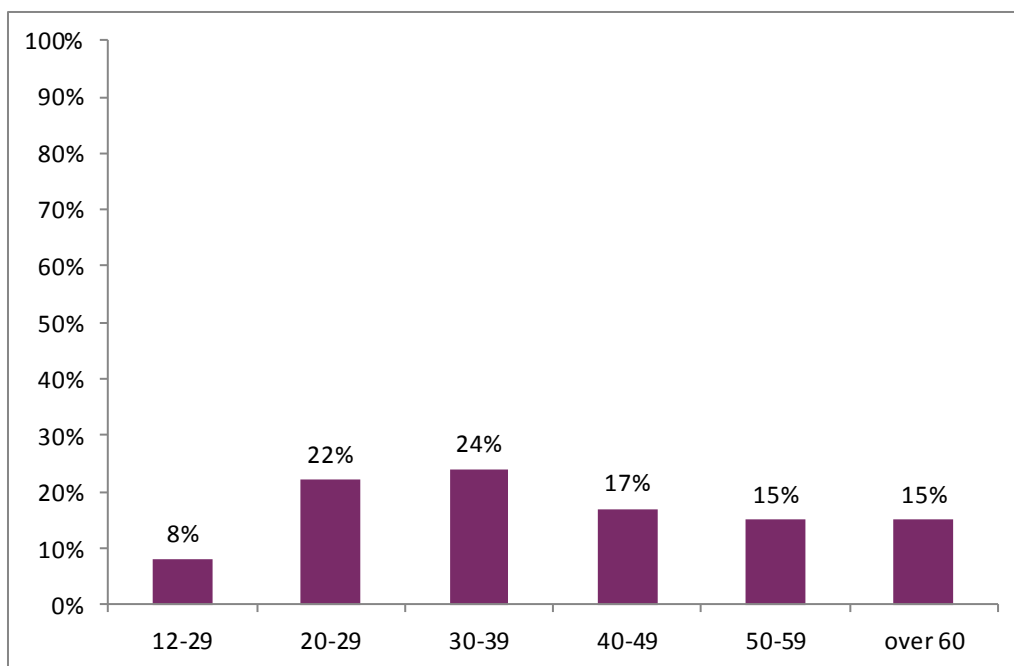
While a high proportion of both first time and repeat visitors took photos within the exhibition, repeat visitors were significantly more likely to do this (Figure 21, next page).

FIGURE 21: TOOK PHOTOS, REPEAT VS FIRST TIME VISITORS



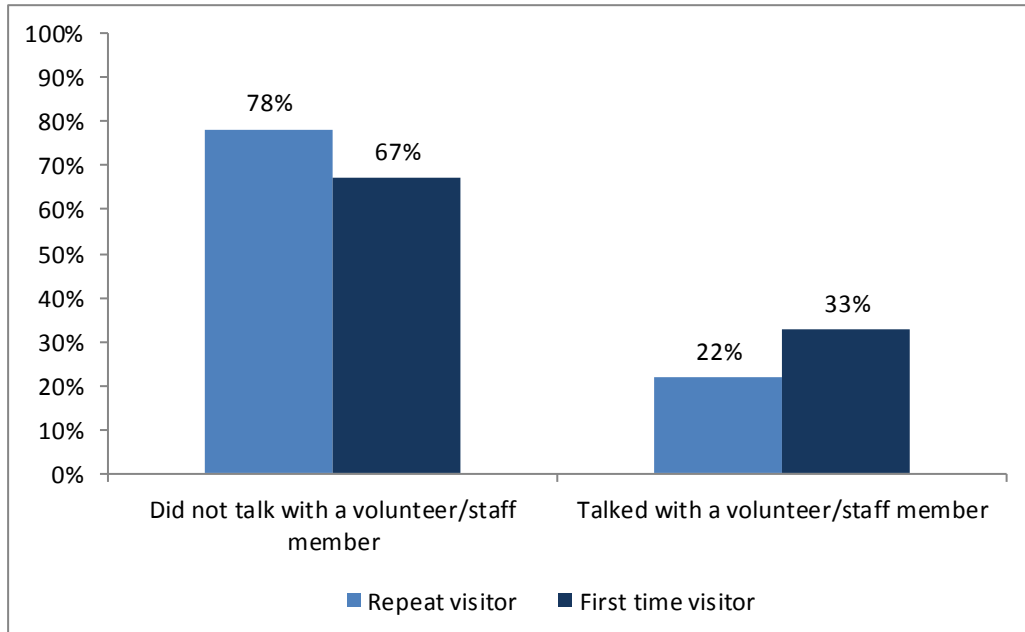
Visitors between the ages of 20-29 and 30-39 were also significantly more likely to take photos than visitors in other age brackets (Figure 22).

FIGURE 22: TOOK PHOTOS, BY AGE



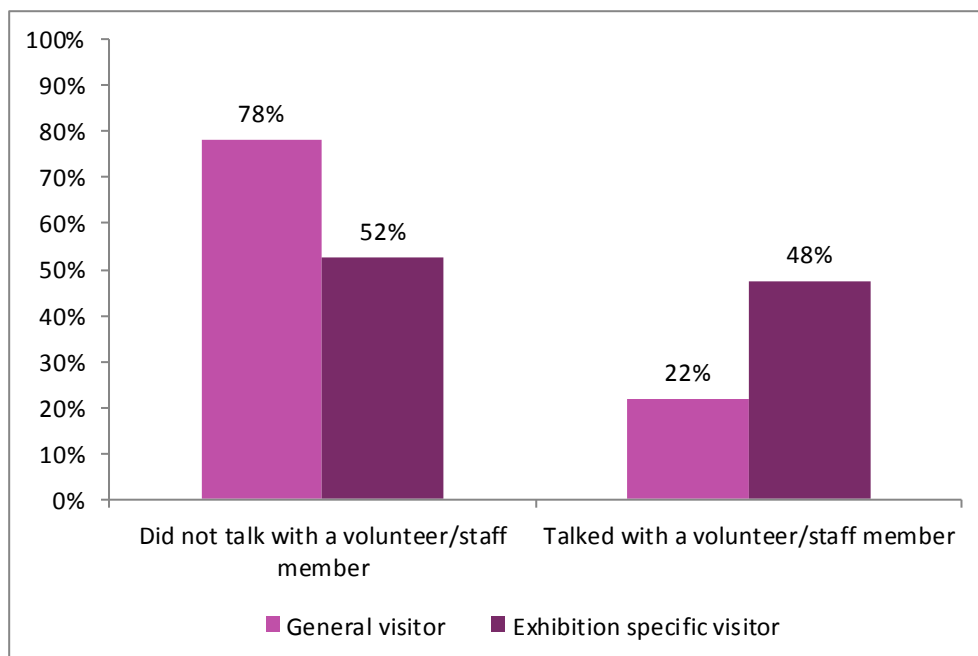
Talked to a volunteer/staff member also emerged as a behavior that had a significant association with certain visitor types. More first time than repeat visitors indicated they had talked with a volunteer or staff member (Figure 23).

FIGURE 23: TALKED WITH A VOLUNTEER/STAFF MEMBER, REPEAT VS FIRST TIME VISITORS



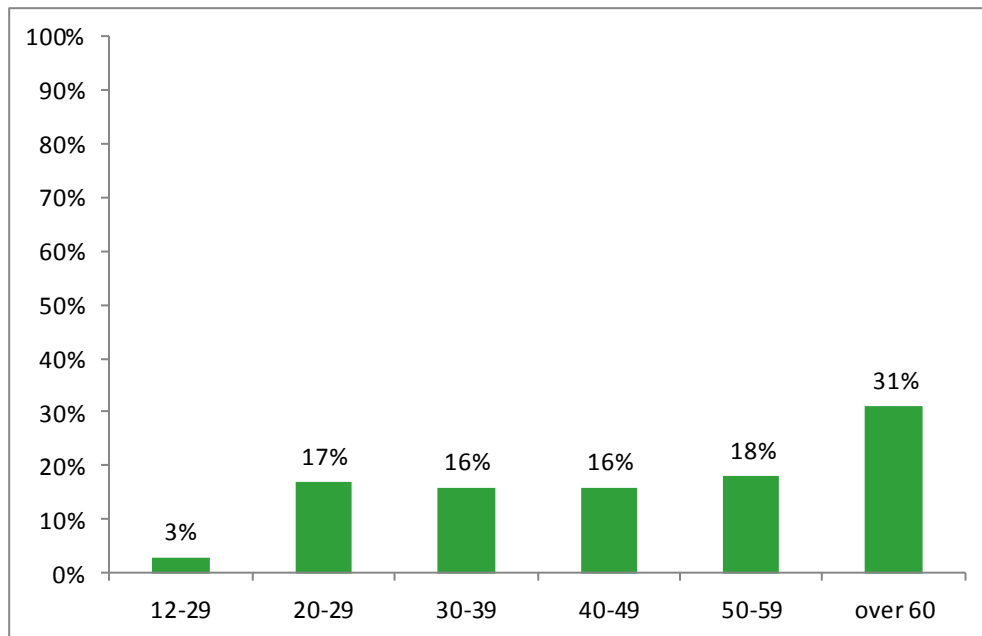
Exhibition specific visitors were also more likely than general visitors to talk with a volunteer or staff member in the exhibit (Figure 24).

FIGURE 24: TALKED WITH A VOLUNTEER/STAFF MEMBER, GENERAL VS EXHIBITION SPECIFIC VISITORS



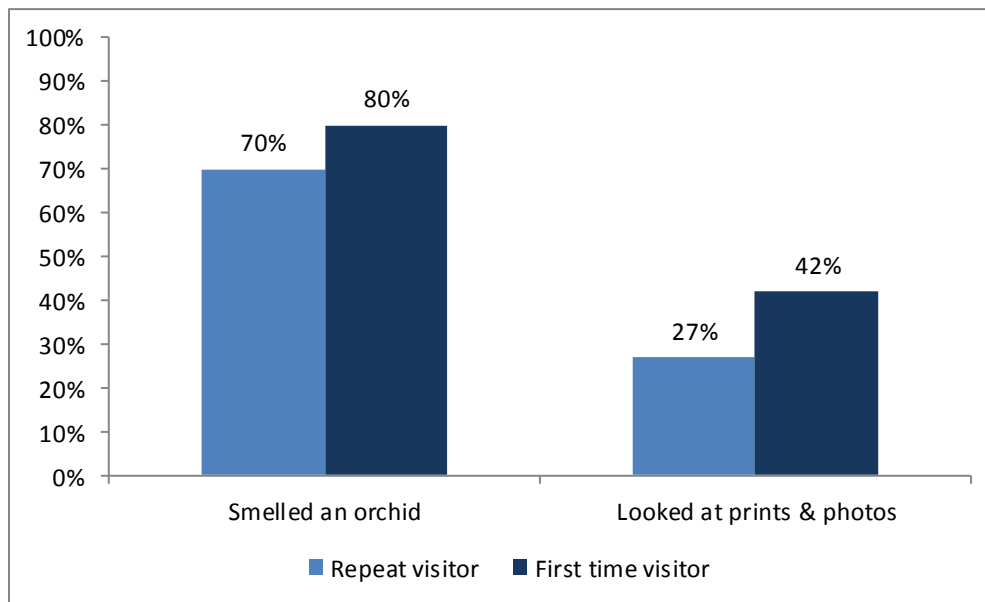
Visitors over 60 years of age were nearly twice as likely as visitors in most other age brackets, but 10 times more likely than visitors 12-29 years of age, to talk with a volunteer or staff member in the exhibition (Figure 25).

FIGURE 25: TALKED WITH A VOLUNTEER/STAFF MEMBER, BY AGE



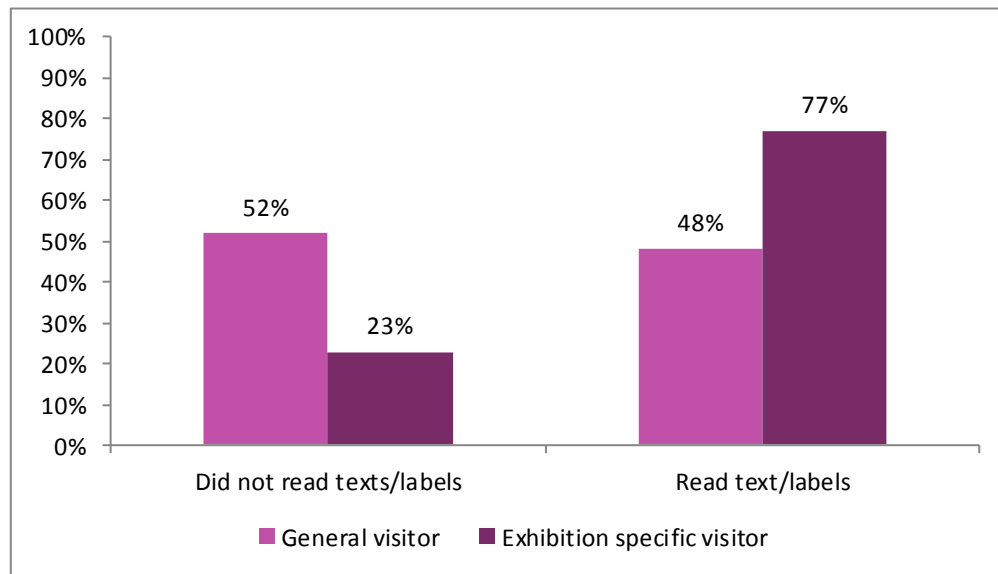
As indicated earlier in this section, one of the most popular actions performed by visitors in this exhibition was *smelled an orchid*. While a high proportion of both first time and repeat visitors did this, first time visitors were significantly more likely to say they *smelled an orchid* than repeat visitors. First time visitors were also more likely than repeat visitors to have *looked at the prints and photos* associated with the exhibition (Figure 27).

FIGURE 26: WHAT DID YOU DO IN THIS EXHIBITION TODAY?, REPEAT VS FIRST TIME VISITORS



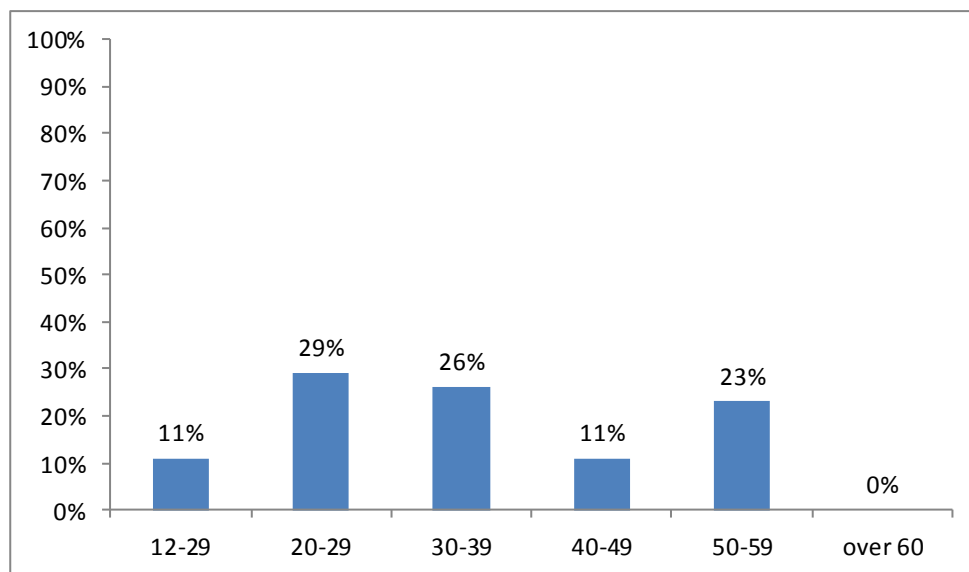
While a little over half of all respondents indicated they had *read texts/labels*, far more exhibition specific visitors than general visitors read these materials (Figure 28).

FIGURE 27: READ TEXTS/LABELS, GENERAL VS EXHIBITION SPECIFIC VISITORS



The *Orchids of Latin America* exhibition encouraged visitors to use social media through the post-it board activity¹⁴ and use of a hash tag¹⁵. The hash tag allowed visitors to tag their photos or posts on multiple social media platforms, including Facebook, Twitter, Instagram, and Flickr. Every age bracket, except visitors over 60, indicated use of social media within the exhibition (Figure 29). Visitors under 40 years of age (66% total) were the majority of those who did use social media.

FIGURE 28: POSTED ABOUT THE EXHIBIT TO SOCIAL MEDIA, BY AGE



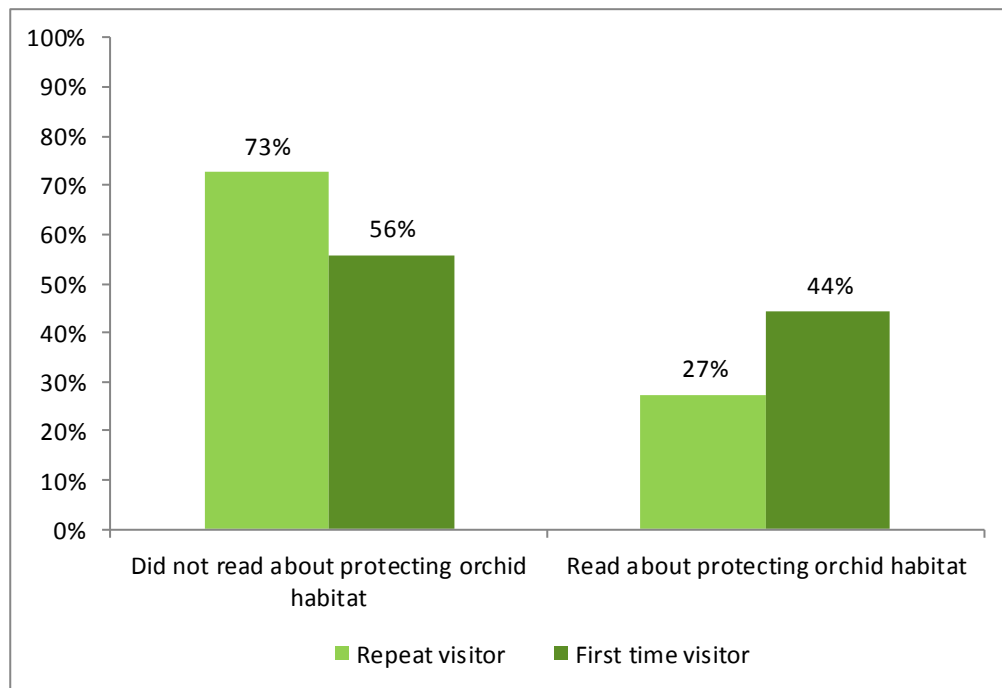
¹⁴ Visitors were encouraged to also share their responses on Facebook.

¹⁵ Hash tag: #orchids2103.

EXHIBITION TEXT

Smithsonian Gardens was also interested in knowing if visitors read about the various conservation methods discussed within the exhibition text. The conservation method that visitors indicated they read about most was *protecting orchid habitats* (40%)¹⁶. A significant number of first time visitors as compared with repeat visitors were also more likely to have read about this method (Figure 30).

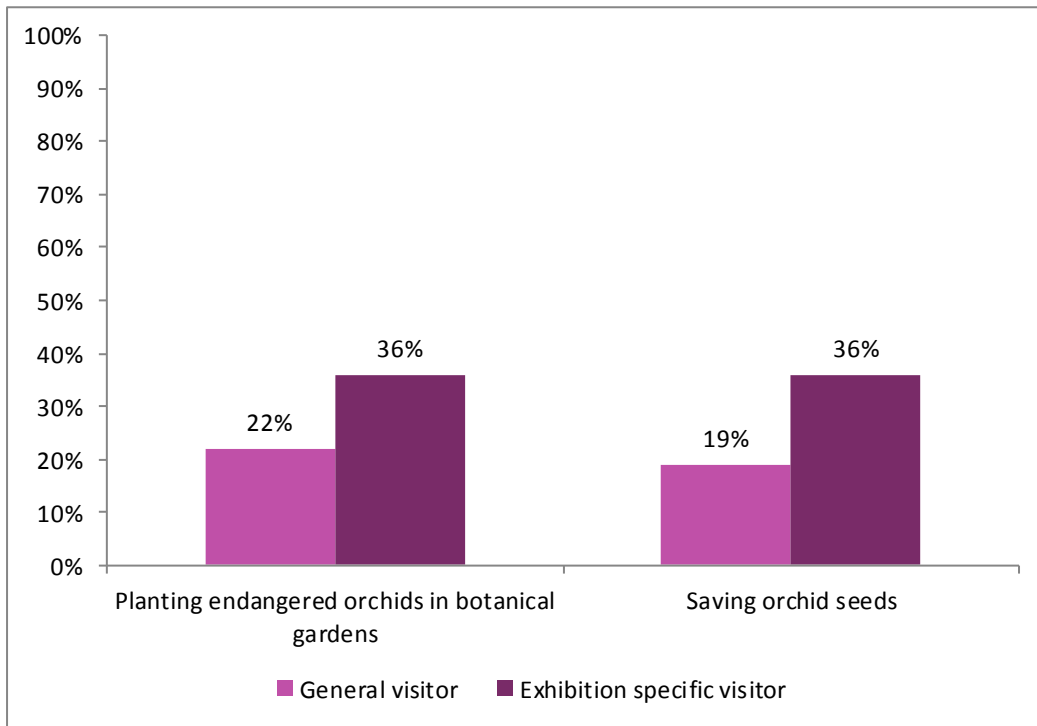
FIGURE 29: READ ABOUT *PROTECTING ORCHID HABITATS*, REPEAT VS FIRST TIME VISITORS



Exhibition specific visitors, however, were significantly more likely to indicate they read about *planting endangered orchids in botanical gardens* and *saving orchid seeds* than general visitors were (Figure 31, next page).

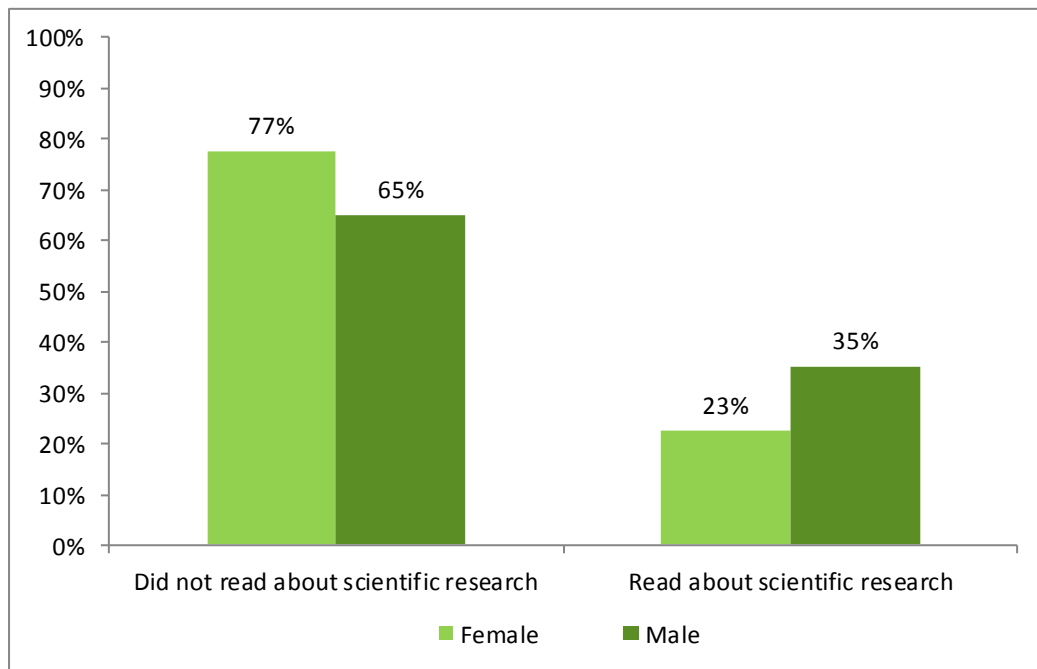
¹⁶ See Appendix C, Frequencies.

FIGURE 30: CONSERVATION METHODS READ ABOUT, GENERAL VS EXHIBITION SPECIFIC VISITORS



Finally, men were more likely than women to indicate they had read about *scientific research* related to orchid conservation (Figure 33).

FIGURE 31: READ ABOUT *SCIENTIFIC RESEARCH*, MALE VS FEMALE



QUALITATIVE FINDINGS

OP&A also conducted open-ended interviews with visitors to better understand their reactions to the exhibition. All visitors OP&A interviewed were positive about the exhibition.

MOTIVATION FOR VISITING

Most visitors indicated they happened upon the exhibition while in the Museum. All visitors OP&A spoke with, however, were excited about the exhibit, regardless of whether or not they planned their visit.

I'm here for a conference and just came to visit the museum, and was very happy to see this exhibit was here.

We happened to be walking through the museum, saw the orchids, and had to stop because I love orchids.

We just happened to be here in Natural History...we just lucked out finding this here.

I primarily came to just look at them and enjoy how pretty they are.

I love orchids and saw the banner outside Natural History. It was beautiful; I'm only familiar with one variety that I have at home, so it was great to see others on display.

I did come specifically for the exhibit. I come to town twice a year for an NIH conference and always look to see what special exhibits are up. The topic [of orchids] really interests me even though I don't grow them or know that much about them. I thought it would be cool to come see some living examples.

*[Male] We've been to other orchid exhibits in different parts of the country. We knew the Smithsonian had more resources available so we wanted to see what they had.
[Female] Yeah we went on the Smithsonian website to see what exhibits were up and we saw this one and were very excited.*

WHAT DID YOU ENJOY MOST ABOUT YOUR VISIT?

The majority of interviewees simply enjoyed seeing such beautiful flowers. For most, the variety of colors and types of orchids were enough to be an enjoyable experience. The perfume of the orchids was also mentioned, often in conjunction with talking about how much they enjoyed seeing the flowers. However, visitors also enjoyed learning about orchids and their uses.

Every single flower is a new experience. Every single one is so unique. I love that about orchids.

I really enjoyed it. I like orchids and great photographic moments—orchids make for great pictures. Orchids are more special than other flowers—they're so different, and you don't get to see them that often.

The smell of the orchids was definitely the most memorable experience for me in this exhibit.

We haven't seen this many varieties of orchids in one exhibit before.

I really just liked seeing all the flowers. It's nice because it's spring and there are lots of really unique ones [in the exhibit].

[Learning about] the diversity and how they evolved, adapted to various ways of pollinating. That's pretty cool. And the forms are just so different.

INTEREST IN LEARNING

For most visitors, the information they learned through the exhibit was seen as an added bonus to simply being able to see such a diverse array of orchid species.

You always learn things too. For instance, to know that the Spanish, after being in South America, they introduced vanilla to Europe. I didn't know that. I think it's good to have it in Spanish and English too.

It's nice to have it in the context of culture and conservation. I think that's important.

I was surprised [to learn] about the seeds, being able to do them in vitro. I didn't know about that.

The conservation information definitely enhanced the exhibit for me. The Natural History museum is the perfect setting to help people understand how much biodiversity can be lost. I would want it to be here.

There's more conservation information than I thought would be here. It was a surprising addition, but I thought it fit.

I liked the signage. It was nice to have the continuing information and I liked the educational material [in the signage].

EXHIBIT ELEMENTS

From a certain perspective, the claim could be made that the orchids themselves took away from the information placed with them in the exhibit. Some visitors mentioned not particularly paying attention to the signage, being content to enjoy the beauty in front of them.

I didn't really read the information. I was too busy taking pictures. But normally I read every placard. I was too busy enjoying the pretty flowers.

I didn't really read any of the placards—I was too dazzled by the flowers.

Visitors appreciated the invitation to smell the flowers. It provided a multi-sensory experience they enjoyed.

I liked the little "smell me" signs. I definitely went in and smelled them.

I love the "smell me" portion. The vanilla and the cinnamon—it was unbelievable how strong that was! I think that was the biggest thing. I didn't realize they had scent.

Most visitors mentioned taking photos, and OP&A informally observed many visitors entering the exhibit and taking out their cameras and phones to take pictures. However, when asked if they were going to share them through social media, most indicated they might but limited only to their friends and family. Some visitors also appreciated how the lighting of the exhibit allowed for good photographs to be taken.

We do plan to post our photos online, probably on Instagram. But we generally don't use hash tags. It's really more for the benefit of our friends [instead of public use].

We'll probably share our photos with friends and family, maybe on Facebook, but it depends.

I think the lighting has been done really well. A lot of the time the focus is on maintaining the right conditions which can make it difficult to take photographs...it's nice that they've put up spotlights to allow for some good photographs.

Other elements of the exhibition visitors mentioned appreciating were the plaza at the entry point and the vanilla demonstration.

I also enjoyed the Central American plaza at the exhibit entrance. It was very bright and inviting.

I really enjoyed the vanilla demonstration. It was something that wasn't just visual but also used your other senses.

OTHER COMMENTS

Visitors to the exhibition also commented on how they enjoyed seeing a living exhibit within a museum largely dedicated to past life.

It was nice to have something alive in the museum as well.

Visitors who interacted with volunteers were very positive about their interactions. It was clear to visitors that the volunteers were knowledgeable and enthusiastic about being there.

We talked with a volunteer—she was awesome.

The volunteer knows about orchids too; that was nice, to have someone knowledgeable in the exhibit.

Finally, for some visitors from Latin American countries the exhibit brought up memories of home, as well as portraying a positive aspect of Latin American countries.

[Woman from Colombia] It's nice to share and show good things from Colombia because you always hear about bad things from Colombia. I remembered seeing orchids from my childhood, and it just made me feel like I was at home.

DISCUSSION AND RECOMMENDATIONS

Both the quantitative and qualitative results demonstrate that the *Orchids of Latin America* exhibit was well-received by visitors and should be seen as a success. While most visitors focused on looking at and/or smelling the orchids, and appreciating them for their beauty (see Figures 7 and 20, pages 8 and 16), visitors did enjoy learning about orchids and their uses generally. As illustrated by the open-ended interviews, visitors found the inclusion of contextual information related to conservation and cultural uses of orchids surprising, and an added bonus.

The exhibit was also successful in increasing visitor's interest in orchids, conservation issues, and the cultures of Latin America. Most of the visitors who indicated their level of interest had increased indicated they had *a lot of interest* in these issues after seeing the exhibition.

The quantitative results provide a clear indication that social media was used within the exhibition. Less clear, however, is the extent to which the hash tag associated with the exhibition may have been included in these postings. The OP&A team noticed the hash tag posted in only one location within the exhibit. If a hash tag is included with future exhibitions, Smithsonian Gardens may wish to consider placing it in multiple locations throughout the exhibit, as well as including it in any associated informational material.

APPENDIX A: SURVEY INSTRUMENT

National Museum of Natural History <i>Survey of Visitors to Orchids of Latin America</i>		9033637304																																				
<p>Have you been to this museum, the National Museum of Natural History, before today?</p> <p><input type="radio"/> Yes <input type="radio"/> No</p> <p>Please rate your overall experience at this exhibition, <i>Orchids of Latin America</i>.</p> <p><input type="radio"/> Poor <input type="radio"/> Fair <input type="radio"/> Good <input type="radio"/> Excellent <input type="radio"/> Superior</p> <p>How did you hear about <i>Orchids of Latin America</i>? (Mark all that apply)</p> <p><input type="checkbox"/> Visiting the museum today <input type="checkbox"/> Museum website <input type="checkbox"/> Blog/other website <input type="checkbox"/> Social media (Facebook, Twitter, etc.) <input type="checkbox"/> Other advertisements <input type="checkbox"/> Newspaper or magazine article <input type="checkbox"/> Word of mouth <input type="checkbox"/> Other _____</p>	<p>Which experiences did you find especially satisfying in the exhibition? (Mark all that apply)</p> <p><input type="checkbox"/> Enriching my understanding of Latin American cultures <input type="checkbox"/> Learning about orchids and their uses <input type="checkbox"/> Seeing rare or beautiful orchid specimens <input type="checkbox"/> Appreciating the natural world and our place in it <input type="checkbox"/> Spending time with family and friends <input type="checkbox"/> Talking about the exhibit with others <input type="checkbox"/> Watching my children learn <input type="checkbox"/> Participating in activities <input type="checkbox"/> None of these</p> <p>Did you come today specifically for this exhibition, <i>Orchids of Latin America</i>?</p> <p><input type="radio"/> Yes <input type="radio"/> No</p>																																					
<p>Within this exhibition, how interested were you in learning about...</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Not interested</th> <th style="text-align: center;">Somewhat interested</th> <th style="text-align: center;">Very interested</th> <th style="text-align: center;">Did not notice</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Orchid conservation</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;">Cultural uses of orchids</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;">Cultural practices can help conserve orchids</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table>			Not interested	Somewhat interested	Very interested	Did not notice	Orchid conservation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cultural uses of orchids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cultural practices can help conserve orchids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																
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<p>What is your age? <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/></p>	<p>Are you male or female? <input type="radio"/> Male <input type="radio"/> Female</p>																																					
<p>With whom are you visiting the museum today? (Mark all that apply)</p> <p><input type="checkbox"/> I am alone</p> <p><input type="checkbox"/> I am with <input style="width: 20px;" type="text"/> adults age 18 and over</p> <p><input type="checkbox"/> I am with <input style="width: 20px;" type="text"/> youth age 17 and under</p>	<p>Are you of Hispanic or Latino origin? <input type="radio"/> Yes <input type="radio"/> No</p> <p>Where do you live?</p> <p><input type="radio"/> United States. Zip Code: <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/></p> <p><input type="radio"/> Other country. Please specify: _____</p>																																					
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APPENDIX B: INTERVIEW GUIDE

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

Tell me about your experience in this exhibit today. [Follow up: positive response, what specifically has made your experience enjoyable? Follow up: negative response, what specifically has detracted from your experience?]

Did you use the passport card or social media information at all?

[If a volunteer is present] What activities did you participate in with the volunteer? Did you enjoy the activity? Did you enjoy your experience with the volunteer? [Follow up: if yes, why? If no, why not?]

What do you think of the orchid conservation information in the exhibit? Was anything new or surprising to you? [Follow up: if yes, what?]

What do you think of the cultural information in the exhibit? Was anything new or surprising to you? [Follow up: if yes, what?]

What exhibit element or information struck you in particular? [Follow up: why? Did it remind them of something/was it surprising information/was it a new experience/etc.]

APPENDIX C: FREQUENCIES

Is this your first visit to this museum?

No (Repeat visitor)	31%
Yes (First time visitor)	69%

Did you come today specifically for this exhibition, *Orchids of Latin America*?

No	76%
Yes	24%

Please rate your overall experience at this exhibition, *Orchids of Latin America*.

Poor	1%
Fair	1%
Good	21%
Excellent	50%
Superior	27%

Please rate your interaction with volunteers or staff members in this exhibition.

Poor	1%
Fair	2%
Good	20%
Excellent	33%
Superior	20%
Not applicable	23%

How did you hear about *Orchids of Latin America*? [Mark all that apply]

Visiting the museum today	69%
Museum website	7%
Blog/other website	2%
Social media	2%
Other advertisements	2%
Newspaper or magazine article	11%
Word of mouth	9%
Other	5%

Which experiences did you find especially satisfying in the exhibition? [Mark all that apply]

Enriching my understanding of Latin American cultures	15%
Learning about orchids and their uses	37%
Seeing rare or beautiful orchid specimens	70%
Appreciating the natural world and our place in it	32%
Spending time with family and friends	29%
Talking about the exhibit with others	18%
Watching my children learn	7%
Participating in activities	3%
None of these	1%

What did you do in this exhibition today? [Mark all that apply]

Posted about this exhibit to social media	11%
Took photos	56%
Used the orchid passport card	5%
Responded to the post-it board question	4%
Talked to a volunteer/staff member	29%
Smelled an orchid	76%
Looed at the prints and photos	37%
Read texts/labels	55%
Other	6%

Within this exhibition, how interested were you in learning about...

Orchid conservation	Not interested	9%
	Somewhat interested	45%
	Very interested	39%
	Did not notice	7%
Cultural uses of orchids	Not interested	6%
	Somewhat interested	42%
	Very interested	45%
	Did not notice	7%
Cultural practices can help conserve orchids	Not interested	8%
	Somewhat interested	43%
	Very interested	41%
	Did not notice	9%

Which of these did you read about? [Mark all that apply]

Scientific research	27%
Protecting orchid habitats	40%
Planting endangered orchids in botanical gardens	23%
Saving orchid seeds	22%
None of these	29%

After seeing this exhibition, what is your interest in the following?

Growing orchids	No interest	22%
	Some interest	50%
	A lot of interest	28%

Did this increase?

Yes	63%
No	37%

Conservation of endangered species	No interest	15%
	Some interest	47%
	A lot of interest	38%

Did this increase?

Yes	51%
No	49%

Latin American cultures	No interest	16%
	Some interest	57%
	A lot of interest	27%

Did this increase?

Yes	46%
No	54%

Plants and flowers in general	No interest	5%
	Some interest	48%
	A lot of interest	48%

Did this increase?

Yes	56%
No	44%

Where do you live?		
	United States	88%
	Another country	12%
	Local	24%
	Non local	76%
Are you male or female?		
	Male	33%
	Female	67%
Are you of Hispanic or Latino origin?		
	Yes	9%
	No	91%
What is your age?		
	12-19	6%
	20-29	26%
	30-39	21%
	40-49	14%
	50-59	14%
	over 60	19%
	Mean	40
	Median	36
Who is visiting the museum with you today? [Mark all that apply]		
	I am alone	21%
	Adult and youth combined group	11%
	Adult only group	62%
	Youth only group	7%
	Group of 2	46%
	Group of 3	15%
	Group of 4	9%
	Group of 5	2%
	Group of 6 or more	8%