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Evaluation Report 2016

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Executive Summary

The sixth annual St. Petersburg Science Festival (SPSF) was held on Saturday, October 22, 2016, from 10:00 am to 4:00 pm, along Bayboro Harbor at the University of South Florida St. Petersburg (USFSP) and Poynter Park. The SPSF attracted an estimated 25,000 visitors from all over the United States. The festival featured approximately 120 exhibits that covered many aspects of **Science, Technology, Engineering, and Mathematics** (aka STEM). Most of these exhibits featured hands-on activities. To measure the success of the event, three questionnaires were used to collect data. The first questionnaire was the attendee (aka visitor) survey which was targeted at adult attendees and asked a variety of questions designed to assess their experience with STEM, overall rating of the science festival, demographics, and money spent on shopping during and after the event. The second and third surveys were the exhibitor and volunteer surveys. All of these data were gathered and analyzed to provide ideas to help improve the Science Festival for 2017.

The attendee survey had 327 completed responses and 97 who provided demographic information only. As in prior years, the majority of the respondents were women (60.7%). Most of the adult visitors affirmed that they had brought children (68.9%). Educational attainment among attendees was fairly diverse. The largest group of respondents had earned a college/4-year degree (39.1%). Overall, minority attendance decreased in comparison to the prior year. That is, the majority of respondents were White or Caucasian (61.6%). The large gain concerning attendance of Black/African Americans reported in 2015 could be held in 2016 (10.4%). Attendance of Asians, however, dropped to 4.7%, and that of Hispanic/Latinos to 8%. The findings from the attendee survey also showed that respondents learned about STEM and that STEM is an integral part of respondents' everyday lives. Overall, the respondents had a very favorable attitude toward the 2016 SPSF.

The Science Festival made use of a wide variety of outlets for advertising; however, flyers are the most effective means for attendees to find out about the science festival (26.6%), followed by word of mouth (25.2%), and non-bookmark school leads (18.4%).

After the festival was over, 44 of the 67 exhibitors answered the exhibitor survey. The majority of exhibitors also participated in the Friday Sneak Peek (63.6%). The exhibitors were asked to rate six aspects regarding their experience with the Friday Sneak Peek. Compared to the 2015 Friday Sneak Peek, 2016's numbers were significantly higher, reversing the downward spiral experienced during the last couple of years. Exhibitors of the Saturday Science Festival were asked to rate their experience with the same six aspects on the actual day of the SPSF. Again, the answer averages on all six questions were significantly higher than in the last two years, reinforcing that the changes that had been made by several of the festival committees have been successful.

Of the 215 volunteers, 165 (76.74%) completed our volunteer survey. The majority of the volunteers were 18 to 24 years of age (63.8%). The volunteer survey showed very positive results, although in some aspects lower than in 2016. Although many of the volunteers were extremely satisfied (40.0%) and very satisfied (44.0) with their volunteer experience, quite a number provided suggestions on how improve both Friday Sneak Peek and SPSF.

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Introduction

The sixth annual St. Petersburg Science Festival (SPSF) was held on Saturday, October 22, 2016, from 10:00 am to 4:00 pm, along Bayboro Harbor at the University of South Florida St. Petersburg (USFSP) and Poynter Park. The 67 exhibitors—united by their focus on Science, Technology, Engineering, and Mathematics (STEM) topics—came from the non-profit, educational, governmental, and commercial sectors. The festival was free and open to the public and featured approximately 120 exhibits with engaging, mostly hands-on activities ranging from crazy chemistry experiments to fighting robot competitions. The festival itself attracted a record of 25,000 visitors (USFSP Administration).

The Saturday event was preceded by School Day Sneak Peek on Friday, October 21st; an event designed to provide local schools and students with an opportunity to visit and engage with the exhibitors and activities. This event was geared to students in grades 4 and 5, who spent about two and a half hours experiencing hands-on activities focusing on a range of disciplines in STEM. Thirty-six exhibitors offered activities for this event, which drew 20 schools and 980 students.

The St. Petersburg Science Festival was held in conjunction and adjacent to MarineQuest, the annual open house hosted by the FWC's Research Institute, which attracted a record of 16,000 visitors (FWC). Since the overlap among visitors to FWC and SPSF was approximately 6,000, the University of South Florida St. Petersburg provided a sunny welcome to 30,000 unique visitors! The purpose of holding both events at the same time is to take advantage of shared marketing, the synergy provided by both events, as well as being able to provide a bigger event.

During the festival, visitor data were collected to provide information about attendee attitudes and behaviors. In addition, after the completion of the festival, exhibitors and volunteers were asked to complete an online survey. The purpose of this data collection effort was to aid in the planning and implementation of a successful SPSF in 2017.

Attendee Survey

Survey Administration

As in the preceding year, evaluators (aka interviewers) utilized tablet computers (iPads) to collect attendee data through the use of the QuickTapSurvey application. Since the software does not depend on Wi-Fi connectivity to function, the saturated wireless traffic did not affect the recording of data, and enabled our guests to enter their own responses to each item, thus minimizing inaccuracies and entry errors. The attendee inventory consisted of items unique to the SPSF as well as a set of “core” questions which are common to all of the festivals participating in EvalFest¹, an “NSF-funded community of practice designed to meet the evaluation-related needs of the growing science festival sector in the United States”.

¹ www.evalfest.org

As with the previous year, an element of randomization in data collection was achieved by assigning evaluators to specific geographic locations within the festival area as well as by having evaluators approach each fifth person coming toward their location for the purposes of initiating a data collection attempt.

The first question on the survey was a screening question asking respondents how long they had been at the event. The breakdown in Table 1 shows how much time attendees had spent at SPSF before having been approached by our evaluators.

	Number of Responses	Percentage
Less than 30 minutes	97	22.9
31 to 45 minutes	78	18.4
46 to 60 minutes	67	15.8
61 to 90 minutes	85	20.0
More than 90 minutes	97	22.9
	Total 424²	100.0

As the survey was intended to assess the experiences and impressions of attendees at SPSF, collection of responses from the entire question inventory was limited to those who had been at the festival for a period of over 30 minutes, thus having had sufficient time to form an effective opinion about the festival. Those who had been at the festival for 30 minutes or less were asked demographic questions only.

Of those who identified their gender, 229 (60.7%) were female, pretty much reflecting last year's numbers (234; 60.5%). There were also 148 (39.3%) attendees identifying as male, the same number of individuals as the previous year, though a slight proportionate increase (38.2% in 2015).

	Number of Responses	Percentage
male	148	39.3
female	229	60.7
	Total 396	100.0

The age breakdown of the respondents was as follows:

	Number of Responses	Percentage
5 to 9	8	1.9
10 to 14	37	8.7
15 to 17	10	2.4
18 to 24	49	11.6
25 to 34	85	20.0
35 to 44	119	28.1
45 to 54	60	14.2
55 to 64	41	9.7
65 or older	15	3.5
	Total 424	100.0

²Average time respondents spent at SPSF before being approached by evaluators was 46 to 60 minutes.

Children’s Survey

This year, a separate children’s attendee survey was not administered.

Adult Survey

Based on a total attendee count of 25,000 and 424 valid survey responses, the response rate for the 2016 SPSF was 1.70% with a margin of error of ± 4.72 .

Had respondents attended the St. Pete Science Festival in prior years?

The first inventory item asked whether the individual had attended the SPSF in the past (see Table 4). Of the 327 adults were asked this question, 124 (37.9%) indicated that they had been to the SPSF in a prior year. Please note the 97 attendee respondents (22.9%) who had been at the SPSF for less than 30 minutes were not asked to complete this item or any of the other opinion and behavioral questions.

	Number of Responses	Percentage
yes	124	37.9
no	203	62.1
	Total 327	100.0

The 124 respondents answering in the affirmative were then provided with a list of activities and asked to indicate which of these activities they had performed after attending a prior SPSF (see Table 5). The responses from the 2016 survey indicate that prior festival attendance is most successful at generating word-of-mouth, with 86.3% of respondents talking to others about the festival (up from 77.3% in 2015).

	Number of Affirmative Responses	Percentage
Talk about the festival with others	107	86.3
Look for more information about a festival topic	74	59.7
Do an activity related to a festival topic	79	63.7

The 124 respondents were then asked how this year’s SPSF compares to the festival event(s) they had attended in the past (see Table 6). Answers reflect that a majority of respondents (58.1%) considered the current SPSF to be better than prior events (up by 5.0% from 2015).

	Number of Responses	Percentage
Previous events were better	2	1.6
They were about the same	50	40.3
Today’s event was better	72	58.1
	Total 124	100.0

How did festival attendees find out about St. Pete Science Festival?

Next, all of the 327 respondents were asked how they had heard about the SPSF and were directed to select the appropriate choices from a list provided to them (see Table 7). If respondents indicated that

they had heard through other means, they were provided an opportunity to identify the source of information. The results suggest that most of the respondents heard about SPSF through flyers (34.6%), followed by word of mouth (32.7%), and non-bookmark school leads (23.9%).

Table 7
How did you hear about the St. Petersburg Science Festival? (check all that apply)

	Number of Responses	Percentage
Flyer	113	34.6
Poster	41	12.5
Bookmark	30	9.2
Summer Camp	11	3.4
Mall: City Utility	17	5.2
TV Commercial (Bay News 9)	55	16.8
Tampa Bay Times	39	11.9
Billboard	9	2.8
Street Banners	26	8.0
Social Media: Facebook	71	21.7
Social Media: Twitter	11	3.4
Internet (stpetescifair)	40	12.2
School (not bookmark)	78	23.9
After School Program	17	5.2
Exhibitor or Sponsor	27	8.3
Word of Mouth	107	32.7
Other	47	14.4
OTHER, as identified below:		
	Number	Percent
Mail	5	1.5
Social Meetings	1	0.3
Hippy Program	1	0.3
Orientation	1	0.3
Homeschool Group	1	0.3
Local business	1	0.3
Saw from Street	6	1.8
Work	5	1.5
E-mail	4	1.2

Why did festival attendees decide to come to the St. Pete Science Festival?

Drilling down, the 327 respondents were then asked to choose—from a prepared list—to indicate the reasons for their attendance of SPSF 2016. Table 8 shows the primary causes of attendance to be the support of their child (54.4%), followed by a fondness for science (46.5%), and because the event seemed interesting (40.7%).

Table 8
Why did you come to the festival today? (check all that apply)

	Number of Responses	Percentage
Like science	152	46.5
Interest in a specific topic	55	16.8
Support my child	178	54.4
Interact with scientists	62	19.0
Seemed interesting	133	40.7
Do something at the venue	45	13.8
With someone who wanted to come	66	20.2
It is free	106	32.4
Passing by	13	4.0

The impact of SPSF on STEM learning

The next series of questions showed SPSF 2016 to be an overall success in teaching and facilitating learning and awareness of STEM in a fun environment. As shown in Table 9 (numbers worthy of special notice are highlighted in red), a large number of respondents (278; 85.0%) indicated that they had learned something new, a small percentage dip compared to the previous year (245; 86.0%). A majority of respondents reported feeling inspired by something they did in STEM at this year's event (250; 76.9%), a 3% increase over last year. By the same token, an overwhelming majority of attendees also indicated that they had fun with STEM at this year's event (301; 93.2%), a significant increase from 2015's festival (249; 88.9%).

	strongly agree (5)	agree (4)	neither agree nor disagree (3)	disagree (2)	strongly disagree (1)	Total	Mean (Median)
...I learned something new	129 (39.4%)	149 (45.6%)	22 (6.7%)	12 (3.7%)	15 (4.6%)	327	4.12 (4.0)
...I felt inspired by something I did in STEM	99 (30.5%)	151 (46.5%)	58 (17.8%)	11 (3.4%)	6 (1.8%)	325	4.00 (4.0)
...I had fun with STEM	161 (49.8%)	140 (43.3%)	15 (4.6%)	2 (0.6%)	5 (1.5%)	323	4.39 (4.0)

Table 10, below, took a snapshot of attendee knowledge of STEM-related jobs prior to their experiences at SPSF 2016. It is important to note that approximately one third of those surveyed (108; 33.1%) indicated knowing only a little or nothing of STEM-related professions before attending the event.

	a lot (4)	some (3)	a little bit (2)	nothing (1)	Total	Mean (Median)
Before coming to the event today, how much did you know about the many types of jobs related to STEM?	98 (30.1%)	120 (36.8%)	73 (22.4%)	35 (10.7%)	326	2.87 (3.0)

By virtue of the above figures, it is no surprise that an overwhelming majority of attendees (282; 86.2%) indicated that they became more aware of STEM-related jobs at this year's event. Even more exciting is the number of respondents indicating a heightened awareness of STEM in their daily lives (see Table 11). This is an important observation, considering the great emphasis with which STEM subjects (and educational programs) are given in school systems nationwide.

	yes	no	Total
At today's event, did you become more aware of the types of jobs related to STEM?	282 (86.2%)	45 (13.8%)	327
Did today's event make you more aware of how STEM is part of your daily life?	250 (86.8%)	38 (13.2%)	288

Interactions with someone who works in science and engineering

The next two questions examined whether respondents interacted during the past year and at the SPSF with someone who works in science and engineering. Compared to the 2015 response records, interaction with someone who works in science and engineering "in the past year" increased by 29.3%

(see Table 12). This upswing may be reflected in this year’s event by a noted increase of 9.4% in reported respondent interaction with such an individual (see Table 13), or alternatively with a change in the terminology from “STEM professional” in 2015 to “someone who works with science or engineering” in 2016. It may be that many of our attendees might not be that familiar with the term “STEM professional,” and hence using simpler wording to describe such a person might result in cleaner results.

Table 12		
In the past year, I interacted with someone who works with science or engineering		
	Number of Responses	Percentage
yes	259	79.2
no	45	13.8
not sure	23	7.0
	Total 327	100.0

Table 13		
At today’s event, I interacted with someone who works with science or engineering		
	Number of Responses	Percentage
yes	283	87.1
no	26	8.0
not sure	16	4.9
	Total 325	100.0

Overall rating of the St. Pete Science Festival

When asked how respondents would rate the SPSF overall (see Table 14), an overwhelming majority gave very high ratings (296; 90.5%), with the average rating slightly rising from 4.48 in 2015 to 4.52 in the current year.

Table 14						
How would you rate today’s event overall?						
poor (1)	fair (2)	good (3)	very good (4)	excellent(5)	Total	Mean (Median)
0 (0.0%)	2 (0.6%)	29 (8.9%)	94 (28.7%)	202 (61.8%)	327	4.52 (5.0)

It should also be noted that 99.7% of the 327 attendees surveyed indicated that they would recommend SPSF to others (up from 2015’s 99.3%):

Table 15		
Would you recommend the Festival to others?		
	Number of Responses	Percentage
yes	326	99.7
no answer	1	.3
	Total 327	100.0

Shopping before, during, or after attending the Science Festival

Respondents were also asked about whether they were planning to eat out or do any shopping before, during, or after attending SPSF. The results (Table 16) show that a majority of respondents either already had or were planning to eat out or shop. The percentage figures were near-identical to last years, given this year’s affirmative responses (215; 65.7%) compared to 2015’s result of (185; 65.8%).

	Number of Responses	Percentage
yes	215	65.7
no	112	34.3
	Total 327	100.0

A large majority of these respondents (158; 73.8%) indicated that they already had or planned to spend between \$1 to \$50 on food or shopping (Table 17). This is a fall of just over 4% from 2015’s composite figure of the same dollar range (147; 78.2%). More importantly, the number of attendees reporting they had or planned on spending over \$100 *more than doubled* (225.0%) from 2015 to 2016.

These data indicate that there are two chief spending groups attending SPSF: moderate spenders and high spenders, the latter of which have increased in prevalence compared to the former. If this trend continues, it may be advantageous to make premium experiences or packages available for attendees most willing to spend extra on merchandise, food, a particular activity, or for themselves or children.

	Number of Responses	Percent
\$1 to \$25	87	40.7
\$26 to \$50	71	33.2
\$51 to \$75	36	16.8
\$76 to \$100	11	5.1
\$100+	9	4.2
	Total 214	100.0

Respondent Demographics

All of the respondents answered the demographic items, regardless of amount of time spent at SPSF 2016 when approached by evaluators. Of those surveyed, 264 (68.9%) indicated having attended the festival with one or more children age 18 or younger (see Table 18). This is a 3.8% drop from the 2015 SPSF of 288 (72.7%).

	Number of Responses	Percentage
yes	264	68.9
no	119	31.1
	Total 383	100.0

The largest group consisted of children in elementary school (42.7%), followed by children younger than kindergarten (19.8%). Older children were less likely to be among attendees, as was the case the previous year (see Table 19). The most notable change as compared to last year was a significant drop in number of elementary school children in the respondents’ group, 181 (42.7%) in 2016 compared to 198 (49.8%) in 2015.

Age Group of Children	Number of Responses ³	Percent
younger than kindergarten	84	19.8
elementary school	181	42.7
middle school	51	12.0
high school	24	5.7

Table 20 shows a more detailed breakdown of the children’s age groups.

	Number of Responses										Total
	1	2	3	4	5	6	7	8	9	10	
Under 5 years of age	54	17	10	0	1	0	0	0	0	0	83
5-10 year olds	100	53	11	6	1	1	1	1	2	2	181
11-14 year olds	36	14	1	0	1	0	0	0	0	0	54
15-18 year olds	16	4	1	1	0	0	0	0	0	0	24

Attendees this year were also asked to state their highest level of educational attainment. There were two key differences observed from the prior year (see Table 21). The first such point of note was the decrease in the number of attendees reporting an education level of less than high school. Of the 373 surveyed this year, only one reported this level of education as opposed to 35 individuals in 2015 (out of 393). This change may be attributed, in part, to a children’s surveys being included in the previous year’s data (24 respondents).

The second major figure of note was the increased incidence of higher education and advanced degrees attained by those surveyed. This year, 244 attendees (65.4%) indicated achieving a 4-year degree and higher, as opposed to 2015’s 201 (51.1%). The data suggest that the St. Pete Science Festival attracts educated adults, with a year over year trend of attracting those with advanced degrees.

	Number of Responses	Percent
Less than high school	1	0.3
High school or GED	54	14.5
Associate’s/2-year	74	19.8
College/4-year	146	39.1
Masters	72	19.3
Ph.D./Professional	26	7.0
	Total 373	100.0

Lastly, attendees were asked with which racial or ethnic group(s) they identified (see Table 22). Minority group identification fell compared to 2015’s ethnic/racial makeup (108 or 41.4% in 2016 versus 130 or 51.6% in 2015), with a significant decrease in attendance of Asians (from 6.9% in 2015 to 4.7% in 2016) and Hispanic/Latinos (12.3% in 2015 to 8% in 2016), and stable results for African/Black Americans (10.8% in 2015 and 10.4% in 2016). Also of note, Black or African American took over Hispanic/Latino as the second most identified race/ethnic group by attendees surveyed at this year’s event. Overall, these

⁴Since respondents were asked to check all children age groups that applied AND a number of respondents visited SPSF with different age groups, whereas others attended the Festival without children, total numbers were not tallied because they would have been meaningless.

results are worrisome because the gains in minority attendance made in 2015 eroded in 2016 with the exception in attendance of Black/African Americans.

	Number of Responses⁴	Percent
American Indian/Alaska Native	8	1.9
Asian	20	4.7
Black or African American	44	10.4
Hispanic or Latino	34	8.0
Native Hawaiian or other Pacific Islander	2	0.5
White or Caucasian	261	61.6
Prefer not to answer	15	3.5

In conclusion, the responses within the Attendee Survey for the 2016 St. Petersburg Science Festival indicate the event was a resounding success, and an improvement over the previous year. Strategic victories in facilitation of STEM interest, spending, and overall ratings by attendees show that there is a very clear educational, community, and marketing goals being met with each new festival.

Exhibitor Survey

After the conclusion of the Science Festival, exhibitors were asked to fill out an online survey to assess exhibitor interaction with festival attendees and representatives (i.e., staff and volunteers) of SPSF. The exhibitors’ opinions and attitudes about their experiences at the Friday Sneak Peek as well as the SPSF were documented and then compared to prior year’s numbers to determine whether ratings had dropped, increased, or were stable.

Thirty six exhibitors provided activities at the Friday Sneak Peek which was attended by 980 students from 20 Tampa Bay Area schools. Further, a total of 67 exhibitors—including the 36 who participated in the school day event—offered about 120 mostly hands-on activities at Saturday’s SPSF.

Regarding the Exhibitor Survey, 44 of the exhibitors who attended either one or both events answered the survey, providing a response rate of 65.7% and a margin of error of ± 8.72 . Of the 44 respondents, 28 (63.6%) also exhibited during the Friday Sneak Peek, meaning that 72.2% of the 36 exhibitors who worked the Friday Sneak Peek answered our survey.

Exhibitor Experience during Friday Sneak Peek

The exhibitors were asked to rate six aspects regarding their experience with the Friday Sneak Peek (see Table 23). Compared to the 2014 and 2015 Friday Sneak Peek, 2016’s numbers were significantly better. Regarding all six questions concerning their experience, exhibitors who had participated in the 2014 Sneak Peek had reported an average for every question over three. The 2015 Sneak Peek had much smaller means located in the lower to upper threes. The 2016 numbers are considerably higher than the 2015 numbers for all the six questions, which is a sign that the problems experienced by our exhibitors during SPSF 2015 have been successfully addressed.

⁴Since respondents were asked to check all races/ethnic groups that applied AND a number of respondents indicated multiple responses, whereas others only indicated one, total numbers were not tallied because they would have been meaningless.

Table 23
Please rate these six aspects of your experience with Friday Sneak Peek
Comparing 2014, 2015, and 2016

	<u>Year</u>	poor (1)	fair (2)	good (3)	very good (4)	excellent (5)	Total	Mean
Information you received from the festival to help you prepare for Friday Sneak Peek.	<u>2014</u>	1 (4.2%)	5 (20.8%)	8 (33.3%)	6 (25.0%)	4 (16.7%)	24	3.29
	<u>2015</u>	4 (14.8%)	3 (11.1%)	9 (33.3%)	4 (14.8%)	7 (25.9%)	27	3.26
	<u>2016</u>	0 (0.0%)	4 (15.4%)	2 (7.7%)	10 (38.5%)	10 (38.5%)	26	4.00
Your setup experience the morning of Friday Sneak Peek.	<u>2014</u>	1 (4.2%)	1 (4.2%)	10 (41.7%)	7 (29.2%)	5 (20.8%)	24	3.58
	<u>2015</u>	3 (11.1%)	5 (18.5%)	7 (25.9%)	6 (22.2%)	6 (22.2%)	27	3.26
	<u>2016</u>	0 (0.0%)	0 (0.0%)	4 (16.0%)	7 (28.0%)	14 (56.0%)	25	4.40
Your interactions with festival visitors during Friday Sneak Peek.	<u>2014</u>	0 (0.0%)	3 (12.5%)	4 (16.7%)	9 (37.5%)	8 (33.3%)	24	3.92
	<u>2015</u>	0 (0.0%)	1 (3.7%)	9 (33.3%)	10 (37.0%)	7 (25.9%)	27	3.85
	<u>2016</u>	1 (3.7%)	1 (3.7%)	4 (14.8%)	10 (37.0%)	11 (40.7%)	27	4.07
Your take-down experience at the end of Friday Sneak Peek.	<u>2014</u>	0 (0.0%)	3 (13.0%)	5 (21.7%)	7 (30.4%)	8 (34.8%)	23	3.87
	<u>2015</u>	2 (7.4%)	3 (11.1%)	7 (25.9%)	10 (37.0%)	5 (18.5%)	27	3.48
	<u>2016</u>	0 (0.0%)	0 (0.0%)	6 (23.1%)	4 (15.4%)	16 (61.5%)	26	4.38
Your interactions with the Science Festival team on the day of Friday Sneak Peek.	<u>2014</u>	1 (4.4%)	1 (4.4%)	9 (39.1%)	6 (26.1%)	6 (26.1%)	23	3.65
	<u>2015</u>	0 (0.0%)	2 (7.4%)	13 (48.2%)	6 (22.2%)	6 (22.2%)	27	3.59
	<u>2016</u>	0 (0.0%)	1 (3.8%)	3 (11.5%)	8 (30.8%)	14 (53.8%)	26	4.35
Overall experience with planning for and being part of Friday Sneak Peek.	<u>2014</u>	0 (0.0%)	3 (12.5%)	9 (37.5%)	7 (29.2%)	5 (20.8%)	24	3.58
	<u>2015</u>	1 (3.7%)	5 (18.5%)	11 (40.7%)	9 (33.3%)	1 (3.7%)	27	3.15
	<u>2016</u>	0 (0.0%)	2 (7.7%)	3 (11.5%)	9 (34.6%)	12 (46.2%)	26	4.19

Exhibitor Experience during SPSF

Exhibitors of the Science Festival were asked to rate their experience with the same six aspects on the actual day of the Science Festival (see Table 24). The averages (i.e., means) for all six aspects were well above 4 in 2016 and experienced a significant improvement over the means in 2014 and especially 2015. The question “overall experience with planning for and being part of the event” had an average of 3.86 in 2014, an average of 3.91 in 2015 and an average of 4.27 in 2016.

Table 24
Comparison: Please rate these six aspects of your experience with the 2016
St. Petersburg Science Festival
Comparing 2014, 2015, and 2016

	<i>Year</i>	poor (1)	fair (2)	good (3)	very good (4)	excellent (5)	Total	Mean
Information you received from the festival to help you prepare the event.	<u>2014</u>	1 (2.9%)	6 (17.1%)	7 (20.0%)	14 (40.0%)	7 (20.0%)	35	3.57
	<u>2015</u>	1 (2.3%)	2 (4.7%)	10 (23.3%)	20 (46.5%)	10 (23.3%)	43	3.84
	<u>2016</u>	1 (2.3%)	5 (11.4%)	4 (9.1%)	14 (31.8%)	20 (45.5%)	44	4.07
Your setup experience the morning of the festival.	<u>2014</u>	1 (2.9%)	2 (5.9%)	10 (29.4%)	8 (23.5%)	13 (38.2%)	34	3.88
	<u>2015</u>	1 (2.4%)	1 (2.4%)	10 (23.8%)	15 (35.7%)	15 (35.7%)	42	4.00
	<u>2016</u>	0 (0.0%)	0 (0.0%)	4 (9.3%)	19 (44.2%)	20 (46.5%)	43	4.37
Your interactions with festival visitors during the event.	<u>2014</u>	0 (0.0%)	0 (0.0%)	4 (11.1%)	11 (30.6%)	21 (58.3%)	36	4.47
	<u>2015</u>	0 (0.0%)	0 (0.0%)	7 (16.3%)	14 (32.6%)	22 (51.2%)	43	4.35
	<u>2016</u>	1 (2.3%)	0 (0.0%)	2 (4.5%)	13 (29.5%)	28 (63.6%)	44	4.52
Your take-down experience at the end of the festival.	<u>2014</u>	2 (5.7%)	0 (0.0%)	11 (31.4%)	8 (22.9%)	14 (40.0%)	35	3.91
	<u>2015</u>	1 (2.3%)	2 (4.7%)	11 (25.6%)	17 (39.5%)	12 (27.9%)	43	3.86
	<u>2016</u>	1 (2.3%)	2 (4.7%)	2 (4.7%)	15 (34.9%)	23 (53.5%)	43	4.33

Your interactions with the Science Festival team on the day of the event.	<u>2014</u>	1 (2.9%)	1 (2.9%)	8 (22.9%)	10 (28.6%)	15 (42.9%)	35	4.06
	<u>2015</u>	0 (0.0%)	2 (4.7%)	8 (18.6%)	17 (39.5%)	16 (37.2%)	43	4.09
	<u>2016</u>	0 (0.0%)	0 (0.0%)	9 (20.5%)	14 (31.8%)	21 (47.7%)	44	4.27
Overall experience with planning for and being part of the event.	<u>2014</u>	1 (2.9%)	2 (5.7%)	9 (25.7%)	12 (34.3%)	11 (31.4%)	35	3.86
	<u>2015</u>	1 (2.3%)	3 (7.0%)	10 (23.3%)	14 (32.6%)	15 (34.9%)	43	3.91
	<u>2016</u>	0 (0.0%)	2 (4.5%)	3 (6.8%)	20 (45.5%)	19 (43.2%)	44	4.27

Comparing the 2013, 2014, 2015 and 2016 Exhibitor’s Surveys, the means for the answer to “How do you rate the St. Petersburg Science Festival” for 2013 were much higher than the answer averages for 2014 and 2015 (see Table 25), with the 2016 mean being slightly higher than the ratings in 2013.

	2013		2014		2015		2016	
Rating	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Poor (1)	0	0.0	1	2.8	0	0.0	0	0
Fair (2)	0	0.0	0	0.0	1	2.3	0	0
Good (3)	0	0.0	6	16.7	7	16.3	4	9.1
Very Good (4)	20	51.2	14	38.9	22	51.2	12	27.3
Excellent (5)	21	48.8	15	41.7	13	30.2	28	63.6
Total	41	100.0	36	100.0	43	100.0	44	100
Mean		4.5		4.2		4.1		4.6

The next table displays how the exhibitors rated St. Petersburg Science Festival as compared to other festivals in which exhibitors participated (see Table 26). Accordingly, 14 (31.8%) of the exhibitors had taken part in other science festivals within the past year. Comparing 2013, 2014, 2015 and 2016, the answer “Better than other festivals” had been chosen considerably more often in 2013 (58.2%) than in 2014 (47.4%) and 2015 (45.5%). In 2016 the numbers went up to a record of 71.4%.

Table 26
Comparison: Compared to other festivals you have hosted an exhibit in, how do you rate the
St. Petersburg Science Festival?
Comparing 2013, 2014, 2015, and 2016

	2013		2014		2015		2016	
Rating	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Not as good as most (1)	0	0.0	1	5.3	2	9.1	0	0
On par with other festival (2)	3	23.1	7	36.8	9	40.9	2	14.3
Better than other festivals (3)	7	58.2	9	47.4	10	45.5	10	71.4
The Best (4)	3	23.1	2	10.5	1	4.6	2	14.3
Total	13	100	19	100.0	22	100.0	14	100.0
Mean		3.0		2.6		2.5		3.0

The exhibitors were asked to describe their organization’s goals for the Science Festival, and, similar to prior years, common themes included: 1) educate the public of issues relating to STEM; 2) promote the exhibiting organization and raise awareness; and 3) explain that science is fun, exciting, and beneficial to the local visiting population, and especially young children.

Examples of Exhibitors Comments Concerning Goals

1) Educating the public about science, technology, and the environment

- To educate people of all ages about special adaption for certain species, how they help create healthy ecosystems, and how we as people can promote responsible and natural conservation efforts. We want people to view wildlife and ecosystems as living spaces and not commodities.
- We participate in the Science Festival to: support our mission to stimulate learning through creativity, play and exploration; participate in an event that is free to the public that encourages children and families to play and learn together to strengthen the perception of our museum as a member of the informal science education resources in St. Petersburg.
- Our goal was to inform youth and families about FIRST STEM education programs through interactive experiences with our student teams and their robots.
- Community outreach. We are local company with a strong focus on STEM education so the Science Festival was a great opportunity for us to meet with the local community and inspire students. It was an incredible experience for us!

2) Promoting the exhibiting organization while increasing awareness

- To promote our 4-H Program.
- We wanted to educate the public on the importance of the use of Electric Vehicles.
- As part of the USF College of Marine Science, we met the goals of sharing the science we conduct in our lab and the importance it has for the Florida community.
- Our goals were to educate children on opportunities to explore science without science being the forefront. We also wanted our future teachers to be active in this exhibition to be able to interact with kids and understand their excitement for science in and out of the classroom.”

- The Library's goal is to engage with the Community, raise awareness of the physical, electronic and social service resources available to patrons of all ages and reading levels, and last but not least, to help promote science literacy among our youth and adult patrons.
- We wanted to share information about forensic science with the next generation of investigators. Our plan was also to introduce our newest in-house capability, digital forensics, with the audience.
- Our goal is sell more 3D printers but we have no marketing budget so events like this give us the opportunity to introduce 3D printing technology to people not as familiar and let those that are interested know we are a local manufacturer.
- To be visible to the public and be known as a leader in STEM education for children.

3) Convey that science can be fun and exciting

- To show science is fun! And to be part of the community of scientists locally.
- We wanted to share our love of science and give our students chances [at] leadership opportunities.
- We wanted to have a passive exhibit that was science based and fun. We also hoped that it would bring people into the library and show off some of what we do and offer here as well as show off a great part of the USFSP campus.
- Successfully communicate the research of the Fish Ecology Lab at the College of Marine Science to the general public and impart excitement about the marine environment to students.
- Exposure for the College of Marine Science and specifically our lab group; providing a fun and relatable opportunity for participants from a variety of age groups to learn about plankton, their importance to humans (air we breathe, food we eat), and how hard plankton have to work to survive (which many kids expressed based on the difficulty of the experiment!).
- MOSI (Museum of Science and Industry) participated in the festival with activities from our Mission Nutrition programs, which focus on healthy eating, exercise, and living a drug-free lifestyle. Our goal was to give students and guests the experience to learn how our body works and ways to keep ourselves healthy through hands-on interactions and demonstrations.
- To spread awareness of GSWCF's STEM programming, and recruit new girl members and adult volunteers.
- To share our science research and hopefully catch the attention of people who may become future marine biologists!

The forty-four exhibitors who answered this question (97.73%) felt that they had met their organization's goal by participating in SPSF. Not surprisingly, all forty-four (100%) expressed that they are planning on participating in next year's Science Festival.

To prepare for the 2016 St. Petersburg Science Festival, exhibitors had been asked—for only the third time—to incorporate science standards and prepare focused questions. Consequently, the 2014, 2015 and 2016 surveys included a question designed to measure exhibitors' level of agreement/disagreement with the statement "Incorporating science standards and having focused questions helped me in preparing and delivering my activity" (see Table 27). In 2015, 30 of the 40 exhibitors (75%) agreed to varying degrees; by 2016 that number decreased to 30 of the 44 who answered this question (68.2%). The mean answer slightly dropped from 5.22 in 2015 to 5.18 in 2016. In 2015, 30 (85.7%) of the exhibitors also felt that their exhibit helped in reinforcing school science standards; which was surpassed by 37 of the 40 answering this question in 2016 (92.5%). However, the mean answer decreased slightly from 6.03 in 2015 to 5.98 (out of 7.00) in 2016. The answers show that many of the exhibitors appreciate the opportunity to design exhibits that support and enforce school standards. A new

question was added “I feel my activity was interesting” and of the 40 exhibitors who answered this question 17 (42.5%) strongly agreed, 20 (50%) agreed, 2 (5%) somewhat agree, 1 (2.5%) neither agreed nor disagreed (mean = 6.33 of 7).

		strongly agree (7)	agree (6)	somewhat agree (5)	neither agree nor disagree (4)	somewhat disagree (3)	Disagree (2)	strongly disagree (1)	Mean
Incorporating science standards and having focused questions helped me in preparing and delivering my activity.	<u>2014</u>	6 (16.7%)	7 (19.4%)	9 (25.0%)	8 (22.2%)	2 (5.6%)	4 (11.1%)	0 (0.0%)	4.86
	<u>2015</u>	8 (20.0%)	12 (30.0%)	10 (25.0%)	6 (15.0%)	0 (0.0%)	3 (7.5%)	1 (2.5%)	5.22
	<u>2016</u>	5 (11.4%)	21 (47.7%)	4 (9.1%)	9 (20.5%)	2 (4.5%)	2 (4.5%)	1 (2.3%)	5.18
I feel that my activity was not only interesting but helpful in reinforcing school science standards.	<u>2014</u>	12 (33.3%)	14 (38.9%)	5 (13.9%)	3 (8.3%)	1 (2.8%)	1 (2.8%)	0 (0.0%)	5.83
	<u>2015</u>	15 (42.9%)	11 (31.4%)	4 (11.4%)	5 (14.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	6.03
	<u>2016</u>	14 (35%)	14 (35%)	9 (22.5%)	3 (7.5%)	0	0	0	5.98

Exhibitors were asked to estimate the number of visitors who visited their exhibit (see Table 28). The numbers varied; however, when compared to 2013 and 2014, there were some interesting trends. In 2013 we had exhibitors who only saw 15 or 40 visitors; in 2014; the lowest number of visitors to any exhibit was 100 visitors; followed by subsequent increases in both 2015 and 2016. In 2015, the average number of visitors seen was 611, which climbed to 926 in 2016.

2014			2015			2016		
Number of Visitors	Frequency	Percent	Number of Visitors	Frequency	Percent	Number of Visitors	Frequency	Percent
100	1	3.1	≤100	2	5.1	50	2	5.3
175	1	3.1	120	1	2.6	100	2	5.3
200	4	12.5	150	1	2.6	150	1	2.6
240	1	3.1	200	3	7.7	200	2	5.3
300	2	6.3	250	1	2.6	202	1	2.6
400	4	12.5	300	5	12.8	288	1	2.6
407	1	3.1	400	6	15.4	300	3	7.9
420	1	3.1	500	12	30.8	350	1	2.6
450	1	3.1	600	2	5.1	400	4	10.5
500	3	9.4	700	1	2.6	500	6	15.8
800	2	6.3	800	1	2.6	700	2	5.3
900	1	3.1	1500	2	5.1	800	1	2.6

1000	7	21.9	3000	1	2.6	1000	5	13.2
2000	1	3.1	4000	1	2.6	1149	1	2.6
>2001	2	6.3				1150	1	2.6
						2000	3	7.9
						2500	1	2.6
						10000	1	2.6
Total	32	100.0	Total	39	100.0	Total	44	100.0

In 2016, 40 of the 44 (90.9%) responding exhibitors brought supplies for their visitors. Comparing years 2014 and 2015, both years indicate that most exhibitors were expecting to have enough supplies for quite a large number of visitors (see Table 29). In 2016, fourteen (35.5%) of the exhibitors ran out of supplies.

2014			2015			2016		
Number of visitors for which supplies were brought	Frequency	Percent	Number of visitors for which supplies were brought	Frequency	Percent	Number of visitors for which supplies were brought	Frequency	Percent
<100	3	9.4	≤100	2	5.7	40	1	2.9
200	2	6.3	101 to 200	2	5.7	50	1	2.9
250	1	3.1	201 to 300	4		100	1	2.9
300	3	9.4	301 to 400	5		166	1	2.9
400	1	3.1	401 to 500	10		200	2	5.7
420	1	3.1	501 to 600	1	2.9	250	2	5.7
500	5	15.6	750	2	5.7	255	1	2.9
600	1	3.1	1000	5	14.3	300	1	2.9
800	1	3.1	1500	1	2.9	450	1	2.9
1000	8	25	2500	1	2.9	500	7	20.0
2000	3	9.4	3000	1	2.9	700	1	2.9
3000	1	3.1	4000	1	2.9	800	1	2.9
>3001	2	6.3	Total	35	100.0	900	1	2.9
Total	32	100.0				1000	6	17.1
						1150	1	2.9
						1500	3	8.6
						1569	1	2.9
						10000	2	5.7
						50000	1	2.9
						Total	35	100

In 2016 twenty-eight of the exhibitors made open-ended recommendations concerning how the exhibitor experience could be improved for next year's science festival. Common themes included:

1) Informing exhibitors about SPSF

- a) I would have preferred to receive less emails but instead just a few with more information in each. It was somewhat difficult to keep track of the numerous emails all with different types of information. Also, an introductory email to say a bit of what to expect for the festival such as number of participants/visitors on average per day. On our first trip, we only bought enough supplies for 300 participants but were lucky to run into someone who had a better estimate of the number of attendees and were able to buy more before the festival.
- b) Information regarding check-in, set-up, schedule, etc. should be sent in a single email, or at the very most, one for each day of the festival. We received several emails each with little pieces of information. It made it very hard to find what I needed (like the schedule, parking passes, etc.) the day of the event.
- c) Marketing towards middle school and high school students would help diversify the levels of information a group could distribute. Would it be possible to incorporate a community service (for extra-curricular activities) or internship fair to attract an older audience?

2) Physical layout of exhibits and supplies

- a) Make sure exhibitors have their assigned table available in their exhibit location on Saturday if they do not participate in the Friday preview day. We had a small issue where our table was moved and used by another exhibit group on Friday, and it was not available when we arrived on Saturday morning.
- b) It would be helpful to receive information about parking passes, maps, etc. earlier. Thanks!
- c) More food trucks.
- d) Larger signage for exhibitor identification [to] direct visitors to indoor venues.
- e) It would be good to have the ability to send the teachers information who participate in the Sneak Peek.
- f) The most important is that the inside gets only a fraction of the visitors.
- g) Signs to restrooms.
- h) Have as much information (move-in, booth placement) as soon as possible. While we really appreciated our extra space, we didn't know until a few days before the event.
- i) More signage for exhibits that were in the Student Center and away from everything else.
- j) Not obvious where the water supply was? We improvised but it would be helpful in the future that if you indicate water, instructions as to where the source is also be provided.
- k) Having maps, schedules and other logistical information come out sooner than the week of is helpful towards planning booth help.
- l) Option for an easel, or at least to know if there's an appropriate place to hang a poster at our station or if we'd need to provide an easel.

3) Organization of staff

- a) There was no help for tear down...same as last year.

4) Friday Sneak Peek

- a) Expand the availability of water and power, and second is that there should be more time between school groups on Friday, because it seemed that they were running very late toward the end.

- b) The information we received was very helpful, but I would have liked it to be sent out with more time. For example, we had asked for a Junior Scientist to help, but didn't find out we weren't assigned one until Friday afternoon.
- c) I'd like to make the standards part even more simple and stream lined for exhibitors next year: provide a word doc with list of 4-5th grade standards so exhibitors don't have to hunt for them. Also the CPALMS website wasn't functioning correctly for a little while. A list is easier. They can select the closest match to their activity. I do think that part is important for keeping them at correct age/developmental level. Otherwise their activity might be above or below the level of the children who will actually visit their exhibit on Friday.
- d) I found on Friday's School Day that some of the docents didn't have a good handle on what station they were taking their school group to, or some not quite on time. This resulted in a small number of groups begin confused about where there were supposed to be (and one teacher being quite frustrated). In addition to give the docents more training and the number of the activity station, perhaps consider giving them the name of the station as well, on their schedule list, so they will know what they are looking more specifically.

5) Other

- a) You're all amazing! Thank you for what you do and how well you do it!
- b) Everything went so smoothly from having golf carts helping set up to taking down. I was warned to expect to wait a long time for a golf card at the end of the day and was very pleased with how quickly I was helped. Even had volunteers help me take down.
- c) The location was beautiful, the staff extremely helpful and the accommodations were excellent.
- d) Repeat the weather.

The weather had a wonderful impact on the event. Most of the recommendations are about the layout, water shortage, lack of maps and directions, and the means of communication, especially the overuse of e-mail.

Impact of Last Year Participation in Science Festival on Exhibitor Organization

Thirty-one (72.1%) of the exhibitors participated in last year's Science Festival. These 31 exhibitors were asked a number of questions to help assess the impact of last year's event on their respective organizations (see Table 30). Apparently, it appears that participation in last year's event helped to slightly increase the number of inquiries to the exhibitor's organization, as well as the number of visitors and the likeability of the exhibitor's organization in its community. Participation, however, did not help much to increase the number of customers and volunteers. It further seems that event participation had very little impact on number of orders and number of donations.

	a lot (3)	some (2)	not at all (1)	don't know (0)	Total	Mean
Increased the number of inquiries to your organization	12(6.5%)	17 (54.8%)	2 (6.5%)	10 (32.3%)	31	1.36
Increased the number of visitors to your organization.	2 (6.5%)	13 (41.9%)	5 (16.1%)	11 (35.5%)	31	1.19
Increased the number of customers.	0 (0.0%)	10 (34.5%)	6 (20.7%)	13 (44.8%)	29	0.90

Increased the number of orders.	0 (0.0%)	4 (14.3%)	8 (28.6%)	16 (57.1%)	28	0.57
Increased the number of donations.	0 (0.0%)	4 (14.3%)	9 (32.1%)	15 (53.6%)	28	0.61
Increase in number of volunteers.	2 (6.7%)	10 (33.3%)	7 (23.3%)	11 (36.7%)	30	1.10
Increased the likeability of your organization in your community	7 (22.6%)	13 (41.9%)	2 (6.5%)	9 (29%)	31	1.58

Volunteer Survey

The SPSF is entirely volunteer-driven and this year’s event was made possible by 215 volunteers filling 245 volunteer slots, meaning that a number of volunteers filled multiple slots. This survey measured the volunteer aspect of the SPSF and was answered by 168 of our volunteers, resulting in a response rate of 78.13% and a margin of error of ± 3.54 . The volunteer survey asked general questions concerning a respondent’s volunteer activities and also assessed specific aspects of the volunteer experience at the 2016 SPSF. The survey responses will help our team analyze if we need to reach out to more volunteers and whether we need to work on making this volunteer experience a better one.

Volunteer Commitments

According to the data, most respondents volunteer less than ten hours in a typical month (see Table 31), with an average of 9.2 volunteer hours per month (median=4).

Volunteer Hours	Number of Responses	Percent
0	45	27.3
1-5	64	38.8
6-10	28	17.0
11-15	3	1.8
16-20	10	6.1
21-30	7	4.2
>30	8	4.8
Total	165	100

Focusing on SPSF 2016, the largest group of volunteers (128; 76.2%) helped out 1 to 4 hours (see Table 32). The average number of hours volunteered was 5.72 (median=3.25).

Volunteer Hours	Number of Responses	Percent
1	4	2.4
2	3	1.8
2.25	1	.6
2.50	5	3.0
3	60	35.7
3.15	1	.6

3.25	12	7.1
3.50	12	7.1
3.75	1	.6
4	29	17.3
4.25	3	1.8
4.50	8	4.8
5	2	1.2
6	6	3.6
6.25	1	.6
6.50	2	1.2
7	3	1.8
7.75	1	.6
9.50	1	.6
10	2	1.2
12	2	1.2
13	2	1.2
20	1	.6
25	1	.6
25.50	1	.6
40	1	.6
50	2	1.2
120	1	.6
Total	168	100.2

Types and Timing of Volunteer Activities

There were three main types of volunteer activities that volunteers carried out. Of the 153 respondents who answered this question, the majority were general volunteers and a number carried out multiple volunteer activities (see Table 33).

	Number of Responses	Percent
<i>General Volunteer</i>	75	49.0
<i>Evaluator</i>	55	36.0
<i>School Day Tour Guide/Docent</i>	45	29.4

Concerning the three dates available for volunteering, the majority of volunteers helped on Saturday, October 22 (see Table 34).

Volunteer Date	Number of Responses	Percent
<i>Thursday, October 20</i>	8	4.8
<i>Friday, October 21</i>	74	44.1
<i>Saturday, October 22</i>	112	66.7s

Perceived Attributes of Volunteer Work

When asked how meaningful the volunteer work was, the majority of the 168 respondents (59.5%) answered “extremely meaningful” or “very meaningful” (see Table 35). Only 3 (1.8%) of the respondents answered “not meaningful at all.” Overall, the results shows that respondents thought that the volunteer service they provided was meaningful (mean = 3.73; out of a possible 5), which was a significant decrease over 2015 (mean = 3.91).

	Number of Responses	Percent
<i>Extremely meaningful (5)</i>	41	24.4
<i>Very meaningful (4)</i>	59	35.1
<i>Moderately meaningful (3)</i>	53	31.5
<i>Slightly meaningful (2)</i>	12	7.1
<i>Not at all meaningful (1)</i>	3	1.8
<i>Total</i>	168	100.0

When asked how enjoyable the volunteer work was, the majority of the 167 respondents (74.8%) answered “extremely enjoyable” or “very enjoyable” (see Table 36). Only 2 (1.2%) of the respondents answered “not enjoyable at all.” Overall, the results shows that respondents thought that the volunteer service they provided was enjoyable (mean = 3.94; out of a possible 5).

	Number of Responses	Percent
<i>Extremely enjoyable (5)</i>	51	30.5
<i>Very enjoyable (4)</i>	74	44.3
<i>Moderately enjoyable (3)</i>	25	15.0
<i>Slightly enjoyable (2)</i>	15	9.0
<i>Not at all enjoyable (1)</i>	2	1.2
<i>Total</i>	167	100.0

When asked how much of an impact they felt their volunteer work had, most respondents felt that they had a “great deal of impact” or “a lot of impact” (50.3%) (see Table 37). However, 23 people or 13.8% felt that their work had little or no impact at all. The mean of the answers to this question was 3.50 (out of 5.00) which was a decrease over 2015 (mean = 3.66).

	Number of Responses	Percent
<i>A great deal of impact (5)</i>	29	17.4
<i>A lot of impact (4)</i>	55	32.9
<i>A moderate amount of impact (3)</i>	60	35.9
<i>A little impact (2)</i>	17	10.2
<i>Not any impact at all (1)</i>	6	3.6
<i>Total</i>	167	100.0

Aspects of Volunteer Training

Although the responses to the question “how useful were these volunteer training sessions?” were fairly spread out, the majority of respondents found these training sessions to be either extremely useful or very useful (81 or 49.7%) (see Table 38). However, since the mean for this question was 3.41; which is a decline over the 2015 mean (3.57), the team should revisit the “what and how” of volunteer training content.

	Number of Responses	Percent
<i>Extremely useful (5)</i>	26	16.0
<i>Very useful (4)</i>	55	33.7
<i>Moderately useful (3)</i>	52	31.9
<i>Slightly useful (2)</i>	20	12.3
<i>Not at all useful (1)</i>	10	6.10
<i>Total</i>	163	100.0

Volunteer Interactions

Most of the volunteers interacted with a number of different audiences during their volunteer activity (see Table 39).

	Number of Responses	Percent
<i>Adult visitors</i>	144	85.7
<i>Children</i>	140	83.3
<i>Exhibitors</i>	105	62.5
<i>Other volunteers</i>	135	80.4
<i>Festival staff</i>	119	70.8

The majority of respondents considered it very or extremely easy to get along with other volunteers (see Table 40). The relatively high mean of 4.57 is only slightly lower than last year’s mean of 4.61, and shows that our volunteers were team players.

	Number of Responses	Percent
<i>Extremely easy (5)</i>	104	61.9
<i>Very easy (4)</i>	56	33.3
<i>Moderately easy (3)</i>	7	4.2
<i>Slightly easy (2)</i>	1	0.6
<i>Not at all easy (1)</i>	0	0.0
Total	168	100.0

The respondents seemed to also get along with the staff at the event (see Table 41). That is, 107 (63.7%) reported that it was “extremely easy” to get along with the staff and another 57 (33.9%) found it “very easy.” The mean for this question was 4.61, which is a slight decrease over 2015’s mean of 4.71.

	Number of Responses	Percent
<i>Extremely easy (5)</i>	107	63.7
<i>Very easy (4)</i>	57	33.9
<i>Moderately easy (3)</i>	4	2.4
<i>Slightly easy (2)</i>	0	0.0
<i>Not at all easy (1)</i>	0	0.0
Total	168	100.0

The respondents’ answers (see Table 42) to how much they felt appreciated by their supervisors show that most of the respondents felt either “extremely appreciated” or “very appreciated” (148 or 88.6%). The mean was 4.28, which is line with 2015 (4.30). A closer look at the data shows that the 55 evaluators (aka interviewers) who answered this question were the group of volunteers that felt most appreciated by their volunteer supervisor with 24 (43.6%) responding that they felt “extremely appreciated” and 30 (54.6%) that they felt “very appreciated,” with a mean of 4.42. This was followed by the 75 general volunteers of whom 39 (52.0%) felt “extremely appreciated” and 28 (37.3%) “very appreciated,” with a mean of 4.33. School day tour guides came in lower with 17 (37.8%) of the 45 tour guides feeling “extremely appreciated” and another 18 (40.0%) “very appreciated,” with a mean of 4.08.

	Number of Responses	Percent
<i>Extremely appreciated (5)</i>	75	44.9
<i>Very appreciated (4)</i>	73	43.7
<i>Moderately appreciated (3)</i>	13	7.8
<i>Slightly appreciated (2)</i>	3	1.8
<i>Not at all appreciated (1)</i>	3	1.8
Total	167	100.0

Reasons for Volunteering

Respondents were then presented with a list of reasons for volunteering and asked to check all that apply. Accordingly, extra credit for class is the most successful motivator (56%), followed by loving science (48.2%).

Reason for volunteering	Number of Responses	Percent
<i>Mandatory for a class</i>	21	12.5
<i>Extra credit for a class</i>	94	56.0
<i>I love science</i>	81	48.2
<i>Social opportunity</i>	57	33.9
<i>Altruism (i.e., wanted to help, share science, work with children, desire to give back)</i>	20	11.9
<i>Work-related (i.e., USFSP instructor, NOAA employee)</i>	7	4.2
<i>Academic (i.e., research, like to teach science, for reflection paper)</i>	4	2.4
<i>Student related (i.e., volunteer requirement for graduation, service hours)</i>	4	2.4

Planned Future Volunteerism for the St. Petersburg Science Festival

Respondents seemed to have a positive attitude, and according to the data, many volunteers will continue volunteering at future SPSFs (see Table 44). Sixty three (37.7%) answered they would be “extremely likely” to continue volunteering at the festival, another 53 (31.7%) that they are “very likely.” However, the mean for the answers to this question was 3.94 (out of a possible 5), and significantly lower than last year’s mean of 4.20.

	Number of Responses	Percent
<i>Extremely likely (5)</i>	63	37.7
<i>Very likely (4)</i>	53	31.7
<i>Moderately likely (3)</i>	31	18.6
<i>Slightly likely (2)</i>	18	10.8
<i>Not at all likely (1)</i>	2	1.2
Total	167	100.0

Would Volunteers Recommend to Their Friends and Colleagues to Volunteer at a Future St. Petersburg Science Festival?

When asked how likely a volunteer respondent was to recommend the St. Petersburg Science Festival to a friend or colleague as a place to volunteer (see Table 45), only four respondents (2.4%) gave slightly negative answers, the remaining respondents expressed positive answers in varying degrees with 82 (49.4%) being “extremely likely” to recommend the volunteer experience. These numbers are significantly higher than the 2015 numbers.

	Number of Responses	Percent
<i>Extremely likely (5)</i>	82	49.4
<i>Very likely (4)</i>	60	36.1
<i>Moderately likely (3)</i>	18	10.8
<i>Slightly likely (2)</i>	2	1.2
<i>Not at all likely (1)</i>	4	2.4
Total	166	100.0

Reported Satisfaction with Volunteer Experience

The respondents, overall, felt satisfied with their volunteer experience (see Table 46). Sixty seven (40.4%) of respondents answered that they were “extremely satisfied” with their volunteer experience, 73 (44.0%) were very satisfied, and another 18 (10.8%) were moderately satisfied. The mean for this question was 4.19 (out of a possible 5).

	Number of Responses	Percent
<i>Extremely satisfied (5)</i>	67	40.4
<i>Very satisfied (4)</i>	73	44.0
<i>Moderately satisfied (3)</i>	18	10.8
<i>Slightly satisfied (2)</i>	6	3.6
<i>Not at all satisfied (1)</i>	2	1.2
Total	166	100

Those respondents who had answered that they (1) were not at all satisfied, (2) slightly satisfied, and (3) moderately satisfied were then asked to explain why that did not feel (more) satisfied with their volunteer experience. The thirteen valid responses focused on the following five main topics:

- 1) Type or content of the volunteer assignment (five responses):
 - Some of the volunteers felt that they did not have enough to do. Other volunteers voiced that they were not really assigned anything to do. One of the tour guides

reported that his/her class did not show up, and another stated that her/his second tour had been assigned to somebody else.

- 2) Work management (three responses):
 - These volunteers expressed the opinion that there were too many volunteers assigned to do the same work.
- 3) Length of the attendee survey (three responses):
 - These respondents felt that a five-minute survey was too long for a family event.
- 4) Event mapping (two responses):
 - Both respondents felt that there was a lack of signage or improper signage. One of these volunteers felt that the visitors took their annoyance out on him/her.
- 5) Communication (two responses):
 - One of the volunteers stated that s/he did not know that s/he would be administering surveys; the other stated that s/he felt it was really hard to ask visitors to take surveys and took rejections pretty hard.

Volunteer Comments, Questions, and Concerns

When asked if they have any specific suggestions/recommendations for improving the festival experience for volunteers, 77 of the volunteers (45.8%) responded. Their responses can be divided into the following categories:

- 1) No improvement needed/complementary remarks (26 responses):
 - Many of the respondents indicated that no improvements were needed. Examples include “This year, the activity areas were easier to find It was a fun time and informative.” “No recommendations ... it was fun and interesting.”
 - Many more left complementary remarks, such as “Wonderful experience and I look forward to volunteer next year.” “No, but the training for evaluators was exceptional and the process was very well organized in terms of keeping the volunteers educated on their tasks.” “This event was amazingly well organized!”
- 2) Signs/Visibility (18 responses):
 - Apparently some of the visitors suggested to promoter volunteers that their signs should be placed on stakes to make them easier to spot.
 - Water should be located throughout the exhibit space.
 - Tour maps should list specific tour sites by name (not just number). Several of the volunteers also stated that a lot of visitors found the maps confusing and that it would be helpful to have a map with exact locations of exhibits and activities. Being able to provide general directions only was not satisfactory to some of the visitors and volunteers.
 - A number of volunteers had a hard time finding the volunteer check-in table. Some suggested direction signs at shuttle drop-off point to help volunteers find the PRW building as well as signs identifying the PRW building.

- Many of the comments in this category requested to make exhibit signs more visible.
 - Print programs ahead of time.
 - Mark bathrooms with handicap ready symbols.
 - Several volunteers suggested to NOT require volunteers to stand for four hours holding signs. They suggested to post the signs instead on a pole to people can see them easily.
- 3) Scheduling, Communication, and Accessibility of ATMs (15 responses):
- Several of the respondents suggested that the description of what each volunteer position entails should be more detailed on our website. They felt that they signed up for a position and only found out at the event what they were expected to do.
 - Provide volunteers with a brief overview of the mission and vision of the festival during volunteer training in order to help volunteers to more effectively communicate the broader positive impact of each volunteer's efforts.
 - Volunteers working the Saturday Early Morning Shift were asked to come in way too early and had nothing to do for about an hour.
 - Several of the tour guides/docents requested more access to water for the children and to allow for bathroom breaks especially before students have to board the bus.
 - Some of the tour guides/docents also thought communication between them and the teachers and chaperons could be better.
 - A number of tour guides/docents suggested that we confirm with schools one or two days before the Friday event to make sure that all schools are really coming. Reminding them to show up on time would probably also be of help.
 - There were complaints that there were not enough ATMs.
- 4) Survey adjustments (9 responses)
- Five of the evaluators suggested to make the survey shorter as a number of visitors found it too long.
 - Some suggested that we should provide incentives for people to take the survey.
 - Finally, it was suggested to have teams consisting of two evaluators instead of sending out individual evaluators because many of the visitors were accompanied by children. Having two evaluators would allow for one to help a visitor complete the survey whereas the other could entertain the children.
- 5) Organization (7 responses):
- Check-in and check-out needs to be more organized. The volunteers were not as active/excited as they should have been.
 - Several chaperons/teachers from the school did not show up to the school site on Friday, so docents ended up with a group of 30. The activities were not designed for that many students, so not all students could see or participate. This caused a lot of frustration in the students, teachers, and exhibitors.
 - Smaller group sizes, as larger groups lead to kids that are misbehaving.

- Please provide all exhibit tables for ESSC club in the same place. This time the exhibitor had 8 tables outside and 3 tables in the USC ballroom.
- Provide more interaction with other volunteers.
- Some of the guests suggested to the volunteers that we provide more kid-friendly food and more visible contact info on the website.
- Volunteers also felt that they should be trained to answer questions concerning directions to specific tents, water, etc.

Volunteer Demographics

One hundred and fifteen of the 165 respondents were female (69.7%). In terms of age, the majority were between 18 and 24 of age (63.8%) (see Table 47). It stands to reason that most of this age group were students from USFSP, USF Tampa, and Eckerd College; probably because many of the students received extra credit points from their instructors for volunteering. Overall, however, SPSF was able to recruit volunteers from diverse age groups.

	Number of Responses	Percent
<i>18 to 24</i>	104	63.8
<i>25 to 34</i>	28	17.2
<i>35 to 44</i>	12	7.4
<i>45 to 54</i>	12	7.4
<i>55 to 64</i>	5	3.1
<i>65 to 74</i>	1	0.6
<i>75 or older</i>	1	0.6
Total	163	100.0

The level of education among volunteers was relatively high. Since the majority reported having some college (see Table 48), we are—as pointed out above—probably talking about current students who used this opportunity to earn extra-credit points for one or more of their classes. Some might also use such events to get real world experience in their related field after they finish their degree.

	Number of Responses	Percent
<i>Some high school</i>	1	0.6
<i>Graduated from high school</i>	21	12.9
<i>1 year of college</i>	17	10.4
<i>2 years of college</i>	24	14.7
<i>3 years of college</i>	43	26.4
<i>Graduated from college</i>	24	14.7
<i>Some graduate school</i>	13	8.0
<i>Completed graduate school</i>	20	12.3
Total	163	100.0

In terms of racial makeup most of the respondents indicated that they were White (81.7%). The second largest racial group was Asian (6/7%), and the third largest was from multiple races (6.1%).

	Number of Responses	Percent
<i>American Indian or Alaskan Native</i>	0	0.0
<i>Asian</i>	11	6.7
<i>Black or African American</i>	7	4.3
<i>Native-Hawaiian or other Pacific Islander</i>	2	1.2
<i>White</i>	134	81.7
<i>From multiple races</i>	10	6.1
Total	164	100.0

[Recommendations for Improvements to Future Events](#)

Overall, the results from the surveys affirmed that SPSF had positive feedback from attendees, exhibitors, and volunteers. However, there is always room for improvement, and below are recommendations for such concerning future Science Festivals. The following recommendations are based on the findings.

Recommendations

Specific Recommendations

Logistics and Technical Issues/Recommendations

Friday Sneak Peek

- 1) Contact teachers a day or two before the event to make sure they are really coming.
- 2) Emphasize to schools that it is important for teachers and children to be on time.
- 3) If feasible, make it possible for exhibitors to communicate with the teachers prior to the event.
- 4) Expand the availability of water and power.
- 5) Simplify the standards part even more and stream-line it for the exhibitors.
- 6) Provide more time between school groups to prevent them running late and being rushed at the end of their tours.
- 7) Provide a more explicit map of booths to exhibitors and tour guides/docents.
- 8) Make sure group sizes are not too large so tour guides do not have to struggle with misbehaving children. Also emphasize to teachers that discipline is up to them and their chaperones and NOT our tour guides.
- 9) Make sure that tour guides/docents follow the schedule to eliminate down-time and/or crowding.

- 10) Train tour guides/docents to find exhibits by both name and number.

Science Festival

- 1) Send fewer emails to exhibitors, but provide more information per e-mail. Also, make sure to send one email that contains all pertinent information (i.e., check-in, set up, schedule, etc.).
- 2) Inform exhibitors how many visitors they should expect so they can prepare accordingly.
- 3) Provide important information to exhibitors earlier.
- 4) Market SPSF also towards middle school and high school students to get a more diverse, older audience.
- 5) Make sure exhibitors have their assigned table available in their exhibit location on Saturday if they do not participate in the Friday Sneak Peek School Event.
- 6) Provide larger signage for exhibitors who are indoors. Many indoor exhibitors felt that they received significantly fewer attendees than the outdoor exhibitors.
- 7) Provide signs that point to the restrooms and the water supplies.

Recommendations for Visitor Aspect

- 1) Provide a less confusing, more detailed map to visitors.
- 2) Place promotional signs on stakes to make them easier to spot.
- 3) Provide plenty of water sources throughout the exhibit space.
- 4) Mark bathrooms with handicap ready symbols.
- 5) Mark shuttle drop-off and pick-up points more clearly.

Recommendations for Volunteer Aspect

- 1) Make sure that website provides more detailed information about each volunteer activity. Some volunteers complained that they only found out upon check-in what their duty was.
- 2) Provide volunteers with a brief overview of the mission and vision of the festival during volunteer training in order to help volunteers to more effectively communicate the broader positive impact of each volunteer's efforts.
- 3) Make it easier to find the volunteer check-in site by placing direction signs at shuttle drop-off point to help volunteers find the PRW building as well as sign identifying the building.
- 4) If possible, replace volunteers whose only job it is to hold directional signs with signs that are mounted on poles.
- 5) Reduce length of attendee survey and consider providing incentives to attendees for taking survey.