FAMILY LEARNING
IN INTERACTIVE GALLERIES

Motivation | Use | Value Study:

Technical Research Brief #1 - Who are the Families Who Visit Interactive Spaces in Art Museums, and Why do They Visit Them?

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Understanding, fostering, and promoting lifelong learning

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Introduction

Much of what we know about family learning in museums comes from studies conducted in science centers and children's museums. Only a handful of such evaluation studies have been conducted in art museums. Although there is a growing interest in establishing family-oriented, interactive galleries in art museum, little is known about the value these experiences add to visiting families.

As part of a **National Leadership Grant** from IMLS, the Institute for Learning Innovation and Audience Focus, Inc., partnered with three museums—the Frist Center for the Visual Arts, the High Museum of Art, and the Speed Art Museum—to conduct a three-year study to address this knowledge gap.

In 2007, a literature review was conducted to explore the areas of learning outcomes/visitor benefits in art museums, interactive museum experiences and intergenerational learning. While the review revealed a breadth of research and evaluation studies conducted in these fields, there was an absence of data on what families take away from their experiences in these unique spaces—*the outcomes*—and understanding the value that parents and caregivers ascribe to these places. To better understand the nature of these outcomes and allow for broader generalizations across our three partner museums, a quantitative approach was adopted for this study. This initiative lead by ILI is known as the **Motivation | Use | Value study, or MUV study** and is paired with the Longitudinal Case Study conducted by Audience Focus, Inc.

Research Purposes and Questions

The MUV study focused on bringing greater clarity to three key research questions:

1. **WHO** are the families who visit interactive spaces in art museums and WHY do they visit them?
2. **HOW** do families use interactive spaces within art museums?
3. **WHAT** do parents perceive is valuable about interactive spaces in art museums and how do they perceive their families benefit from visiting them?

We defined a family as an intergenerational group of 2 or more individuals with at least one child between the ages of 2-12 years. Throughout this brief, we will use the term family to denote such an intergenerational group.

Methods

Two methods were used to answer the above-mentioned questions: 1) on-site interviews with visiting parents/caregivers, aimed at understanding demographics, psychographics, motivations, and engagement with the museum's interactive space; and 2) a follow-up questionnaire administered online to the same parents/caregivers, focused on understanding the value and benefits that adults ascribe to the museum's interactive space.

The onsite interview was a structured instrument containing three parts. The first section asked visitors to reflect on their entire museum visit and recreate it chronologically using color-coded picture cards. Each card represented a stop on their visit and visitors put the cards in chronological order. While the entire group, including children, could participate in this activity, the primary adult participant in the group was responsible for confirming the completed path.

The second part of the onsite instrument required visitors to answer a series of psychographic questions including frequency of museum visits, museum memberships, motivations for visiting, and interest/background in art. The third part of the interview was demographic in nature, and asked adults for their age, sex, ethnicity, education level, and zip code along with information on how each member of the visiting group was related to the primary adult participant. At the end of the onsite exit interview, adults were asked to provide their contact information, including email, so that they could participate in the follow-up questionnaire.

The offsite questionnaire was administered online, although a paper version was made available to those who requested it. The questionnaire asked participants to indicate what was most valuable about their visit to the museum's interactive gallery. Rating statements were organized into three groups: 1) what is valuable for your child, 2) what is valuable for you (as a parent/caregiver), and 3) what is valuable for your group together. Finally, participants were asked to answer some open-ended questions about their visit to the interactive space and how they described their visit to others. The questionnaire was administered via email one week after the participant's museum visit allowing them time for reflection and enabling them to complete the study at their convenience.

Incentives were used to recruit study participants. Specifically, all participants who completed the offsite questionnaire were eligible for a monthly drawing for a $100 American Express gift card.

All data were collected by one of three trained Research Assistants – Kim Jameson at the Frist Center for the Visual Arts, Gwen Kelly at the Speed Art Museum, and Sofia Broman at the High Museum of Art. Data were collected from April 2009 through May 2010, during randomly assigned blocks of time during each month. In this way, we could be sure that the study sample represented the larger population of families visiting the interactive space in a given year.

Purpose of Brief

For the purposes of sharing study results on the FLING website and within the FLING toolkit, ILI decided to present top-line findings in the form of research briefs. We prepared three briefs, one for each of our primary research questions. Each brief takes a "just the facts" approach to presenting basic frequencies for all relevant variables; minimal interpretation and context is provided, since these briefs are intended to provide a panoramic view of the data. More specific snapshots will be offered in peer-reviewed journal articles. These articles will tell more detailed, contextualized stories about the research questions, moving beyond the straightforward frequencies within the research briefs to more field-wide discussion of what the findings mean for both research and practice in museums.

This first technical brief summarizes results from the first research question: **Who are the families who visit interactive spaces in art museums, and why do they visit them?** Information in this brief includes general demographics and psychographics of study participants, their museum visitation habits, and their motivations for visiting the museum and the museum's interactive gallery. Where available, information is provided for each partner museum as well as in aggregate. This brief provides basic interpretation for each type of analysis ILI has performed and synthesizes the findings into general conclusions.

Study Sample

Across all three partner museums, a total of 2,408 people participated in the onsite exit interviews and 1,513 people completed the online questionnaire—a 62% conversion rate. We were able to match 1,503 sets of visitor data. Table 1 shows the breakdown of onsite and offsite data collected across sites.

Table 1: Number of Onsite interviews and Number of Online questionnaires

TOTALS TO DATE (from 04/27 - 5/31)	TOTAL	Frist	High	Speed*
Onsite interviews	2408	980	869	559
Offsite questionnaires	1513	640	541	332
Matched onsite/offsite	1503	633	540	330
Conversion from ONSITE to OFFSITE	62%	64%	62%	59%

* Due to the closure of the Speed Art Museum for weather damage repair and renovation, MUV data was not collected between mid-August and the end of October 2009. The figure reported here represents data collected between May and the first week of August. Data collection resumed November 3rd, 2009.

Over 80% of the study participants were female. There were no statistically significant differences in sex between museum sites.

Table 2: Sex

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	N	%	n	%	n	%	n	%	
Female	1959	81.4	801	81.7	707	81.4	451	80.7	NO (Chi-square)
Male	449	18.6	179	18.3	162	18.6	108	19.3	
TOTAL	**2408**	**100**	**980**	**100**	**869**	**100**	**559**	**100**	

The average age of study participants was 39 years old; Speed participants were younger.

Table 3: Age

	Total	Frist	High	Speed	Statistically Sig. Diff.?
N	2301	971	851	479	YES (ANOVA, F=5.148, df=2, p<.05; Post Hoc LSD) • Speed<High and Frist • Frist=High
Mean	39.49	39.49	40.160	38.29	
Median	38.00	38.00	39.00	37.00	
Mode	40.00	40.00	40.00	33.00	
Std. Deviation	10.248	10.444	9.665	10.753	
Minimum	17.00	17.00	20.00	17.00	
Maximum	80.00	79.00	75.00	80.00	

This was a highly educated sample. In total, 36.2% of study participants had college degrees with 35.5% having graduate degrees. Participants from the High Museum had slightly higher levels of education compared with the other two museums—almost 40% with graduate degrees. Those from the Frist, though college educated, had a comparably lower percentage of participants with graduate degrees.

Table 4: Education Level

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	N	%	n	%	n	%	
Some high school	6	.2	4	.4	1	.1	1	.2	YES (Pearson Chi-square=41.554, df=8, p<.05; 'some high school' and 'other' were excluded)
High school graduate	76	3.2	29	3.0	23	2.6	24	4.3	
Some college	325	13.5	165	16.9	73	8.4	87	15.6	
College degree	868	36.2	362	37.1	328	37.8	178	32.0	
Some graduate work	217	9.0	91	9.3	77	8.9	49	8.8	
Graduate degree	853	35.5	309	31.6	342	39.4	202	36.3	
Other	56	2.3	17	1.7	24	2.8	15	2.7	
TOTAL	**2401**	**100**	**977**	**100**	**868**		**556**	**100**	

Less than expected; More than expected

More than 80% of the sample was Caucasian with African-Americans comprising the next largest ethnic group across all sites.

Table 5: Ethnicity

	Total		Frist		High		Speed	
	N	%	N	%	n	%	n	%
African American	204	8.5	55	5.6	126	14.5	23	4.1
Asian/Pacific Islander	92	3.8	31	3.2	50	5.8	11	2.0
Caucasian	1997	82.9	861	87.9	624	71.8	512	91.6
Hispanic/Latino	109	4.5	32	3.3	67	7.7	10	1.8
Native American	30	1.2	11	1.1	13	1.5	6	1.1
Other	51	2.1	14	1.4	30	3.5	7	1.3
TOTAL*	**2483**	**103**	**1004**	**102.5**	**910**	**104.8**	**569**	**101.9**

*Multiple responses allowed. Percentages total more than 100%.

Who are the Families Who Use Interactive Spaces in Art Museums?

Museum Membership

About one third of study participants were members of the study museums. This was different for the High, where the majority of participants (62%) were members.

Table 6: Museum Membership At Study Museum

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	n	%	N	%	n	%	
No	1475	61.3	738	75.3	332	38.2	405	72.5	YES (Pearson Chi-square=305.587, df=2, p<.05, n=2408)
Yes	933	38.7	242	24.7	537	61.8	154	27.5	
TOTAL	**2408**	**100.0**	**980**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Less than expected; More than expected

In general, about half of participants were members of another museum. The High was again different in that 65% of participants indicated that they were not members of another museum.

Table 7: Museum Membership at Another Museum

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	n	%	N	%	n	%	
No	1225	50.9	455	46.4	566	65.3	204	36.6	YES (Pearson Chi-square=125.522, df=2, p<.05, n=2405)
Yes	1180	49.1	525	53.6	301	34.7	354	63.4	
TOTAL	**2405**	**100.0**	**980**	**100.0**	**867**	**100.0**	**558**	**100.0**	

Less than expected; More than expected

Museum Visitation

About half of participants said they had 'occasionally' visited a museum as a child. Participants at the High tended to have visited museum as a child more frequently, whereas participants at the Frist tended to do so less frequently.

Table 8: Frequency of Visits to Museum as a Child

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	N	%	n	%	n	%	
Never	240	10.0	120	12.3	60	6.9	60	10.7	Yes (Pearson Chi-square=35.903, df=6, p<.05, n=2406)
Maybe once	252	10.5	115	11.7	76	8.8	61	10.9	
Occasionally	1284	53.4	523	53.4	454	52.3	307	54.9	
Often	630	26.2	221	22.6	278	32.0	131	23.4	
TOTAL	**2406**	**100.0**	**979**	**100.0**	**868**	**100.0**	**559**	**100.0**	

Less than expected; More than expected

On average, participants said they visited the study museum 4.13 times in a year. About 40% of participants were visiting the study museums for the first time. The Frist had fewer visitations when compared with the High and Speed.

Table 9: Total Number of Times Visiting the Study Museum in the Past 12 Months (Including the study visit)

	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2405		977		869		559		YES (ANOVA, F=13.954, df=2, p<.05; Post Hoc LSD) • Frist< Speed and High • Speed=High
Mean	4.13		3.34		4.88		4.32		
Median	2.00		2.00		3.00		2.00		
Mode	1.00		1.00		1.00		1.00		
Std. Deviation	6.360		4.073		7.925		6.747		
Minimum	1.00		1.00		1.00		1.00		
Maximum	102.00		33.00		67.00		102.00		
	N	%	n	%	n	%	n	%	
No visits	0	0	0	0	0	0	0	0	
1 visit	953	39.6	455	46.6	288	33.1	210	37.6	
2 visits	373	15.5	145	14.8	145	16.7	83	14.8	
3 visits	291	12.1	93	9.5	127	14.6	71	12.7	
4 visits	189	7.9	73	7.5	72	8.3	44	7.9	
5 visits	116	4.8	39	4.0	46	5.3	31	5.5	
6 visits	111	4.6	48	4.9	40	4.6	23	4.2	
7 visits	58	2.4	22	2.3	22	2.5	14	2.5	
8 visits	62	2.6	26	2.7	18	2.1	18	3.2	
9 visits	22	.9	7	.7	8	0.9	7	1.3	
10 – 24 visits	191	7.9	62	6.3	80	9.2	49	8.8	
25 – 49 visits	26	1.1	7	0.7	11	1.3	8	1.4	
50+ visits	13	.5	0	0	12	1.4	1	0.2	
TOTAL	**2405**	**100.0**	**977**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Based on the number of times they said they had visited the study museum, families were grouped as "first time" and "repeat" visitors (lower visitation, with 2-9 visits and higher visitation, with 10 visits).

Table 10: Group Type Based on Total Number of Times Visiting the Study Museum in the Past 12 Months

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	n	%	n	%	n	%	
First time	953	39.6	455	46.6	288	33.1	210	37.6	Yes (Pearson Chi-square=40.228, df=4, p<.05, n=2405)
Repeat visitors - 2-9 visits	1222	50.8	453	46.4	478	55.0	291	52.1	
Repeat visitors - 10-102 visits	230	9.6	69	7.1	103	11.9	58	10.4	
TOTAL	**2405**	**100**	**977**	**100**	**869**	**100**	**559**	**100**	

Less than expected; More than expected

Study participants were asked who they came to the museum with during prior visits – alone, with other adults only, or with children. The great majority of participants (91%) said they visited the study museum as part of a group. For those who visited previously alone, those visiting the Speed tended to do so more frequently than in the other study museums.

Table 11: Number of Times Visiting the Study Museum in the Past 12 Months, While Alone

	Total		**Frist**		**High**		**Speed**		**Statistically Sig. Diff.?**
N	2401		974		868		559		YES (ANOVA, F=4.957, df=2, p<.05; Post Hoc LSD) • Speed>High and Frist • Frist=High
Mean	.26		.24		.16		.42		
Median	.00		.00		.00		.00		
Mode	0		0		0		0		
Std. Deviation	1.543		.881		1.048		2.672		
Minimum	0		0		0		0		
Maximum	50		10		20		50		
	n	%	n	%	n	%	n	%	
No visits	2177	90.7	870	89.3	819	94.4	488	87.3	
1 visit	105	4.4	46	4.7	24	2.8	35	6.3	
2 visits	53	2.2	25	2.6	9	1.0	19	3.4	
3 visits	20	.8	11	1.1	6	.7	3	.5	
4 visits	12	.5	10	1.0	5	.6	2	.4	
5 visits	17	.7	8	.8	1	.1	4	.7	
6 visits	6	.2	3	.3	0	0	2	.4	
7 visits	1	.0	0	0	0	0	1	.2	
8 visits	1	.0	0	0	0	0	1	.2	
9 visits	0	0	0	0	0	0	0	0	
10 – 24 visits	7	.2	1	.1	4	.4	2	.4	
25 – 49 visits	1	.0	0	0	0	0	1	.2	
50+ visits	1	.0	0	0	0	0	1	.2	
TOTAL	**2401**	**100.0**	**974**	**100.0**	**868**	**100.0**	**559**	**100.0**	

Most participants (75%) did *not* visit the study museum previously with other adults. Those visiting the study museums with other adults tended to do so less frequently at the Speed.

Table 12: Number of Times Visiting the Study Museum in the Past 12 Months, With Other Adult(s) Only

	Total		**Frist**		**High**		**Speed**		**Statistically Sig. Diff.?**
N	2398		971		868		559		YES (ANOVA, F=5.104, df=2, p<.05; Post Hoc LSD) • Speed<High and Frist • Frist=High
Mean	.58		.60		.67		.40		
Median	.00		.00		.00		.00		
Mode	0		0		0		0		
Std. Deviation	1.538		1.706		1.604		1.029		
Minimum	0		0		0		0		
Maximum	30		30		15		10		
	n	%	n	%	n	%	n	%	
No visits	1807	75.4	741	76.3	626	72.1	440	78.7	
1 visit	257	10.7	91	9.4	106	12.2	60	10.7	
2 visits	174	7.2	68	7.0	71	8.2	35	6.2	
3 visits	63	2.6	23	2.4	27	3.1	13	2.3	
4 visits	46	1.9	26	2.7	13	1.5	7	1.3	
5 visits	18	.8	10	1.0	7	.8	1	.2	
6 visits	10	.4	3	.3	6	.7	1	.2	
7 visits	1	.0	0	0	1	.1	0	0	
8 visits	3	.1	2	.2	1	.1	0	0	
9 visits	0	0	0	0	0	0	0	0	
10 – 24 visits	18	.7	6	.6	10	.10	2	.4	
25 – 49 visits	1	.0	1	.1	0	0	0	0	
50+ visits	0	0	0	0	0	0	0	0	
TOTAL	**2398**	**100.0**	**971**	**100.0**	**868**	**100.0**	**559**	**100.0**	

Table 13 shows that almost half of study participants indicated that their previous visit to the study museum was their first visit to that museum with a child. However, in general, participants tended to visit the study museum an average 3.3 times in a year. The High had the largest and the Frist had the lowest number of repeat visits with a child.

Table 13: Number of Times Visiting the Study Museum in the Past 12 Months, With Child(ren)

	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2403		975		869		559		YES (ANOVA, F=20.516, df=2, p<.05; Post Hoc LSD) • Frist< Speed and High • Speed<High
Mean	3.30		2.51		4.06		3.49		
Median	2.00		1.00		2.00		2.00		
Mode	1		1		1		1		
Std. Deviation	5.280		3.093		7.044		4.909		
Minimum	0		0		1		1		
Maximum	57		30		57		50		
	n	%	n	%	n	%	n	%	
No visits	1	.0	1	.1	0	0	0	0	
1 visit	1142	47.5	528	54.2	367	42.2	247	44.2	
2 visits	430	17.9	172	17.6	162	18.6	96	17.2	
3 visits	258	10.7	103	10.6	100	11.5	55	9.8	
4 visits	163	6.8	59	6.1	61	7.0	43	7.7	
5 visits	84	3.5	20	2.1	37	4.3	27	4.8	
6 visits	92	3.8	35	3.6	32	3.7	25	4.5	
7 visits	16	.7	4	.4	7	.8	5	0.9	
8 visits	40	1.7	13	1.3	15	1.7	12	2.2	
9 visits	8	.3	1	.1	3	.3	4	0.7	
10 – 24 visits	146	6.1	38	3.8	69	7.9	39	7.1	
25 – 49 visits	11	.5	1	.1	5	.5	5	1	
50+ visits	12	.5	0	0	11	1.3	1	0.2	
TOTAL	**2403**	**100.0**	**975**	**100.0**	**869**	**100.0**	**559**	**100.0**	

The number of visits reportedly made to other museums in the last 12 months was also analyzed. On average, participants made 8 visits a year if visits to zoos are not included and 12.6 visits to museums if zoos are included. Only 12% of participants did not visit another museum in the past year, and this percentage is even lower (3%) when zoos are considered. The High had a larger number of repeat visits to other museums than the Frist and the Speed, both when zoos were included and not.

Table 14: Total Number of Visits to Other Museums (not including Zoo/Aquaria) in the Past 12 Months

All Museums, but Zoo/Aquaria	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2407		979		869		559		YES (ANOVA, F=21.764, df=2, p<.05; Post Hoc LSD) • High> Frist and Speed • Speed=Frist
Mean	6.14		5.54		7.54		5.04		
Median	4.00		3.00		5.00		3.00		
Mode	2.00		2.00		2.00		.00		
Std. Deviation	8.014		6.897		9.709		6.481		
Minimum	.00		.00		.00		.00		
Maximum	95.00		64.00		95.00		62.00		
	n	%	n	%	n	%	n	%	
No visits	288	12.0	131	13.4	73	8.4	84	15.0	
1 visit	298	12.4	127	13.0	92	10.6	79	14.1	
2 visits	302	12.5	137	14.0	95	10.9	70	12.5	
3 visits	248	10.3	103	10.5	81	9.3	64	11.4	
4 visits	212	8.8	84	8.6	69	7.9	59	10.6	
5 visits	181	7.5	83	8.5	63	7.2	35	6.3	
6 visits	125	5.2	49	5.0	48	5.5	28	5.0	
7 visits	125	5.2	44	4.5	53	6.1	28	5.1	
8 visits	102	4.2	36	3.7	46	5.3	20	3.6	
9 visits	85	3.5	25	2.6	46	5.3	14	2.5	
10 – 24 visits	367	15.2	135	13.5	165	19.1	67	12.3	
25 – 49 visits	61	2.5	22	2.2	30	3.1	9	1.8	
50+ visits	13	0.5	3	.3	8	.8	2	0.4	
TOTAL	**2407**	**100.0**	**979**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Table 15: Total Number of Visits to Other Museums (including Zoo/Aquaria) in the Past 12 Months

All Museums	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2408		980		869		559		YES (ANOVA, F=6.524, df=2, p<.05; Post Hoc LSD) • High> Frist and Speed • Speed=Frist
Mean	11.67		10.61		12.08		12.89		
Median	8.00		7.00		8.00		9.50		
Mode	4.00		4.00		2.00		2.00		
Std. Deviation	12.641		11.133		13.585		13.467		
Minimum	.00		.00		.00		.00		
Maximum	125.00		97.00		125.00		105.00		
	n	%	n	%	n	%	n	%	
No visits	76	3.2	33	3.4	28	3.2	15	2.7	
1 visit	121	5.0	60	6.1	36	4.1	25	4.5	
2 visits	168	7.0	68	6.9	62	7.1	38	6.8	
3 visits	149	6.2	63	6.4	54	6.2	32	5.7	
4 visits	178	7.4	87	8.9	58	6.7	33	5.9	
5 visits	173	7.2	83	8.5	61	7.0	29	5.2	
6 visits	166	6.9	68	6.9	61	7.0	37	6.6	
7 visits	139	5.8	53	5.4	59	6.8	27	4.8	
8 visits	112	4.7	50	5.1	36	4.1	26	4.7	
9 visits	99	4.1	35	3.6	47	5.4	17	3.0	
10 – 24 visits	766	31.8	287	29.3	273	31.4	206	36.9	
25 – 49 visits	211	8.8	79	8.1	73	8.4	59	10.6	
50+ visits	50	2.1	14	1.4	21	2.4	15	2.7	
TOTAL	**2408**	**100.0**	**980**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Previous visits to other museums were broken down into visits to other art, children's, history, and science museums, as well as zoo/aquaria. In general, about half of study participants had visited another art museum and/or a children's museum, and about 40% had visited a history museum, at least once in the 12 months prior to the interview. Science museums were visited by 67% of the sample and 87% of participants visited a zoo.

Those visiting the High reported more previous visits to art museums, children's museums, and history museums than did those visiting the Frist and Speed. No differences were found in the visitation to science museums. Speed participants made more repeat visits to zoos/aquaria than did participants at the Frist and High.

Table 16: Number of Visits to Other Art Museums in the Past 12 Months

Art Museums	**Total**		**Frist**		**High**		**Speed**		**Statistically Sig. Diff.?**
N	2407		979		869		559		YES (ANOVA, F=9.241, df=2, p<.05; Post Hoc LSD) • High> Frist and Speed • Speed=Frist
Mean	1.52		1.44		1.87		1.12		
Median	.00		.00		1.00		.00		
Mode	0		0		0		0		
Std. Deviation	3.317		3.732		3.356		2.266		
Minimum	0		0		0		0		
Maximum	60		60		36		20		
	N	%	n	%	n	%	n	%	
No visits	1289	53.6	545	55.7	406	46.7	338	60.5	
1 visit	391	16.2	161	16.4	139	16.0	91	16.3	
2 visits	273	11.3	120	12.3	113	13.0	40	7.2	
3 visits	155	6.4	50	5.1	66	7.6	39	7.0	
4 visits	93	3.9	27	2.8	46	5.3	20	3.6	
5 visits	68	2.8	22	2.2	37	4.3	9	1.6	
6 visits	41	1.7	18	1.8	16	1.8	7	1.3	
7 visits	9	.4	4	.4	3	.3	2	.4	
8 visits	10	0.4	5	.5	3	.3	2	.4	
9 visits	2	.1	0	0	1	.1	1	.2	
10 – 24 visits	67	2.8	22	2.2	35	4.0	10	1.8	
25 – 49 visits	7	.3	3	.3	4	.5	0	0	
50+ visits	2	.1	2	.2	0	0	0	0	
TOTAL	**2407**	**100.0**	**979**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Table 17: Number of Visits to Children's Museums in the Past 12 Months

Children's Museums	**Total**		**Frist**		**High**		**Speed**		**Statistically Sig. Diff.?**
N	2407		979		869		559		YES (ANOVA, F=40.964, df=2, p<.05; Post Hoc LSD) • High> Frist and Speed • Speed=Frist
Mean	1.56		1.19		2.38		.93		
Median	.00		.00		1.00		.00		
Mode	0		0		0		0		
Std. Deviation	3.442		2.425		4.751		1.996		
Minimum	0		0		0		0		
Maximum	52		20		52		20		
	N	%	n	%	n	%	n	%	
No visits	1208	50.2	537	54.9	349	40.2	322	57.6	
1 visit	522	21.7	219	22.4	181	20.8	122	21.8	
2 visits	282	11.7	100	10.2	113	13.0	69	12.3	
3 visits	133	5.5	41	4.2	70	8.1	22	3.9	
4 visits	54	2.2	16	1.6	32	3.7	6	1.1	
5 visits	53	2.2	24	2.5	28	3.2	1	.2	
6 visits	36	1.5	12	1.2	20	2.3	4	.7	
7 visits	14	.6	1	.1	11	1.3	2	.4	
8 visits	14	.6	5	.5	6	.7	3	.5	
9 visits	6	.2	2	.2	4	.5	0	0	
10 – 24 visits	77	3.2	22	2.2	47	5.4	8	1.4	
25 – 49 visits	6	.2	0	0	6	.7	0	0	
50+ visits	2	.1	0	0	2	.2	0	0	
TOTAL	**2407**	**100.0**	**979**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Table 18: Number of Visits to History Museums in the Past 12 Months

History Museums	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2406		979		868		559		YES (ANOVA, F=9.363, df=2, p<.05; Post Hoc LSD) • High> Frist and Speed • Speed=Frist
Mean	.87		.80		1.07		.69		
Median	.00		.00		.00		.00		
Mode	0		0		0		0		
Std. Deviation	1.760		1.500		2.023		1.715		
Minimum	0		0		0		0		
Maximum	25		12		25		25		
	N	%	n	%	n	%	n	%	
No visits	1419	59.0	594	60.7	472	54.4	353	63.1	
1 visit	534	22.2	208	21.2	197	22.7	129	23.1	
2 visits	235	9.8	92	9.4	100	11.5	43	7.7	
3 visits	82	3.4	32	3.3	29	3.3	21	3.8	
4 visits	51	2.1	20	2.0	27	3.1	4	0.7	
5 visits	36	1.5	16	1.6	18	2.1	2	.4	
6 visits	17	0.7	9	.9	5	.6	3	.5	
7 visits	4	0.2	1	.1	3	.3	0	0	
8 visits	2	0.1	0	0	2	.2	0	0	
9 visits	1	0.0	0	0	0	0	1	.2	
10 – 24 visits	23	1.0	7	.7	14	1.6	2	0.4	
25 – 49 visits	2	0.1	0	0	1	.1	1	.2	
50+ visits	0	0	0	0	0	0	0	0	
TOTAL	**2406**	**100.0**	**979**	**100.0**	**868**	**100.0**	**559**	**100.0**	

Table 19: Number of Visits to Science Museums in the Past 12 Months

Science Museums	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2407		979		869		559		NO (ANOVA)
Mean	2.20		2.10		2.23		2.30		
Median	1.00		1.00		1.00		1.00		
Mode	0		0		0		0		
Std. Deviation	4.136		3.751		4.480		4.225		
Minimum	0		0		0		0		
Maximum	50		48		50		50		
	N	%	n	%	n	%	n	%	
No visits	805	33.4	314	32.1	312	35.9	179	32.0	
1 visit	678	28.2	284	29.0	236	27.2	158	28.3	
2 visits	380	15.8	165	16.9	131	15.1	84	15.0	
3 visits	170	7.1	75	7.7	59	6.8	36	6.4	
4 visits	96	4.0	31	3.2	38	4.4	27	4.8	
5 visits	58	2.4	27	2.8	16	1.8	15	2.7	
6 visits	48	2.0	19	1.9	12	1.4	17	3.0	
7 visits	15	.6	4	.4	5	.6	6	1.1	
8 visits	23	1.0	9	.9	10	1.2	4	.7	
9 visits	4	.2	2	.2	0	0	2	.4	
10 – 24 visits	117	4.9	46	4.7	43	4.9	28	5.0	
25 – 49 visits	10	.4	3	.3	5	.6	2	.4	
50+ visits	3	.1	0	0	2	.2	1	.2	
TOTAL	**2407**	**100.0**	**979**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Table 20: Number of Visits to Zoo/Aquaria in the Past 12 Months

Zoo/Aquaria	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2407		980		868		559		YES (ANOVA, F=34.582, df=2, p<.05; Post Hoc LSD) • Speed>Frist and High • Frist=High
Mean	5.53		5.08		4.54		7.85		
Median	3.00		3.00		2.00		4.00		
Mode	2		2		2		2		
Std. Deviation	7.762		6.669		6.553		10.381		
Minimum	0		0		0		0		
Maximum	100		50		50		100		
	N	%	n	%	n	%	n	%	
No visits	310	12.9	133	13.6	129	14.9	48	8.6	
1 visit	367	15.2	149	15.2	155	17.9	63	11.3	
2 visits	419	17.4	162	16.5	175	20.2	82	14.7	
3 visits	266	11.1	109	11.1	105	12.1	52	9.3	
4 visits	189	7.9	84	8.6	68	7.8	37	6.6	
5 visits	145	6.0	74	7.6	33	3.8	38	6.8	
6 visits	127	5.3	52	5.3	43	5.0	32	5.7	
7 visits	42	1.7	17	1.7	16	1.8	9	1.6	
8 visits	55	2.3	29	3.0	12	1.4	14	2.5	
9 visits	13	.5	5	.5	3	.3	5	.9	
10 – 24 visits	398	16.5	145	14.8	103	11.9	150	26.8	
25 – 49 visits	60	2.5	18	1.8	23	2.6	19	3.4	
50+ visits	16	.7	3	.3	3	.3	10	1.8	
TOTAL	**2407**	**100.0**	**980**	**100.0**	**868**	**100.0**	**559**	**100.0**	

Museum Attitudes

A series of statements were used to measure participants' interest in art (see Table 21). In general, participants had high levels of involvement in art, both informally and professionally. Over 65% said they 'create art for their own enjoyment' and/or 'have taken 2 or more art courses in school.' About half said they 'have participated in art enrichment classes.' A significant portion was/had been involved in art at a more professional level: 16% said they 'have an art-related degree,' 14% said they 'create art professionally,' and 28% said they 'work or have worked in an art-related field.'

A few differences were found among the study museums, with a greater proportion of participants from the High saying they 'created art for their own enjoyment' and 'participated in art enrichment classes' and more participants from the Frist saying they 'created art professionally.'

Table 21: Interest in Art

Interest in Art		Total		Frist		High		Speed		Statistically Sig. Diff.?
		n	%	n	%	n	%	n	%	
I create art for my own enjoyment	NO	773	32.2	352	36.0	224	25.8	197	35.4	YES (Chi-square)[a]
	YES	1631	67.8	627	64.0	644	74.2	360	64.6	
I have participated in art enrichment classes in my free time (e.g., art-making, lectures, gallery talks, etc.)	NO	1241	51.6	521	53.3	392	45.1	328	58.7	YES (Chi-square)[b]
	YES	1164	48.4	456	46.7	477	54.9	231	41.3	
I have taken 2 or more art courses in school	NO	840	34.9	348	35.6	309	35.6	183	32.7	NO (Chi-square)
	YES	1565	65.1	629	64.4	560	64.4	376	67.3	
I have an art-related degree	NO	2011	83.7	806	82.5	730	84.1	475	85.0	NO (Chi-square)
	YES	393	16.3	171	17.5	138	15.9	84	15.0	
I create art professionally	NO	2067	86.1	810	82.9	763	88.1	494	88.5	YES (Chi-square)[c]
	YES	334	13.9	167	17.1	103	11.9	64	11.5	
I work or have worked in an art-related field	NO	1730	72.1	709	72.7	624	72.0	397	71.1	NO (Chi-square)
	YES	670	27.9	266	27.3	243	28.0	161	28.9	

Less than expected; More than expected

[a] Pearson Chi-square=25.153, df=2, p<.05; n=2404

[b] Pearson Chi-square=27.033, df=2, p<.05; n=2405

[c] Pearson Chi-square=13.981, df=2, p<.05; n=2401

Table 22: Total Number of Art-Related Activities (as defined in the statements above; range from 0 to 6)

	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2408		980		869		559		YES (ANOVA, F=2.961, df=2, p<.05; Post Hoc LSD) • High> Speed • Frist=High and Speed
Mean	2.39		2.36		2.49		2.28		
Median	2.00		2.00		2.00		2.00		
Mode	2.00		1.00		2.00		1.00		
Std. Deviation	1.649		1.739		1.580		1.584		
Minimum	.00		.00		.00		.00		
Maximum	6.00		6.00		6.00		6.00		
	n	%	n	%	n	%	n	%	
No activities	267	11.1	134	13.7	73	8.4	60	10.7	
1 activity	557	23.1	227	23.2	185	21.3	145	25.9	
2 activities	575	23.9	220	22.4	215	24.7	140	25.0	
3 activities	447	18.6	162	16.5	196	22.6	89	15.9	
4 activities	244	10.1	93	9.5	85	9.8	66	11.8	
5 activities	175	7.3	73	7.4	68	7.8	34	6.1	
6 activities	143	5.9	71	7.2	47	5.4	25	4.5	
TOTAL	**2408**	**100.0**	**980**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Group Characteristics

In general, groups visiting the interactive spaces were small, averaging three people (78% of the groups had 4 people or less). Group size was similar among study museums.

Table 23: Group Size

Group Size	Total		Frist		High		Speed		Statistically Sig. Diff.?
N	2408		980		869		559		NO (ANOVA)
Mean	3.63		3.63		3.62		3.65		
Median	3.00		3.00		3.00		3.00		
Mode	3		3		3		3		
Std. Deviation	1.492		1.441		1.515		1.545		
Minimum	2		2		2		2		
Maximum	12		12		11		12		
	n	%	n	%	n	%	n	%	
2 people	562	23.3	212	21.6	211	24.3	139	24.9	
3 people	740	30.7	320	32.7	260	29.9	160	28.6	
4 people	589	24.5	238	24.3	215	24.7	136	24.3	
5 people	262	10.9	114	11.6	94	10.8	54	9.7	
6 people	144	6.0	54	5.5	48	5.5	42	7.5	
7 people	56	2.3	21	2.1	16	1.8	19	3.4	
8 people	27	1.1	12	1.2	14	1.6	1	.2	
9 people	17	.7	6	.6	6	.7	5	.9	
10 people	6	.2	2	.2	3	.3	1	.2	
11 people	3	.1	0	0	2	.2	1	.2	
12 people	2	.1	1	.1	0	0	1	.2	
TOTAL	**2408**	**100.0**	**980**	**100.0**	**869**	**100.0**	**559**	**100.0**	

When looking at group composition based on sex of the adults, over half of the groups had only females, with 43% comprised of only *one* adult female. Mixed groups were the next largest segment, with 35% of groups having both adult females and males. The sample from the High tended to have a larger proportion of mixed groups and slightly fewer single-sex adult groups than the Frist and Speed.

Table 24: Group Composition Based on Sex of the Adults

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	n	%	n	%	n	%	
One adult only, female	1033	42.9	439	44.8	346	39.6	250	44.7	YES (Pearson Chi-square=16.007, df=6, p<.05, n=2399; 'all males' was excluded)
One adult only, male	214	8.9	95	9.7	66	7.6	53	9.5	
All females	313	13.0	119	12.1	114	13.1	80	14.3	
All males	9	.4	5	.5	2	.2	2	.4	
Mixed females and males	839	34.8	322	32.9	343	39.4	174	31.1	
TOTAL	**2408**	**100.0**	**980**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Less than expected; More than expected

Groups were characterized based on the sex of children. Groups with only girls (one or more) were the most frequent (38%), followed by mixed groups (36%), and groups with one or more boys (26%). The sample from the High was slightly different in that it had more one-child groups (especially one-child boys) than the Frist and Speed.

Table 25: Group Composition Based on Sex of the Children

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	n	%	n	%	n	%	
One child, girl	517	21.5	205	20.9	196	22.6	117	20.9	YES (Pearson Chi-square=17.102, df=8, p<.05, n=2408)
One child, boy	372	15.4	132	13.5	164	18.9	75	13.4	
All girls	403	16.7	177	18.1	130	15.0	95	17.0	
All boys	248	10.3	102	10.4	90	10.4	57	10.2	
Mixed girls and boys	868	36.0	364	37.1	289	33.3	215	38.5	
TOTAL	**2408**	**100.0**	**980**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Less than expected; More than expected

Each group was categorized based on developmental age-categories of the children. First, we categorized children according to one of four developmental categories: 1) Birth to 23 months; 2) 2 years up to 7 years; 3) 7 years up to 11 years; and 4) 11 years up to 17 years. Next, we coded the largest distance between these developmental categories within each group:

- **No distance/ One Child**: These groups either had children in only one of the age categories, or one single child.
- **Adjacent**: These groups had at least two children in adjacent age categories. For example, one child was 2 up to 7 years-old and another was 7 up to 11.
- **One degree**: These groups had at least two children with one age category in between them. For example, was 2 up to 7 years-old and another was 11 up to 17.

- **Two degrees**: These groups had at least two children with two age categories in between them. For example, one child was up to 2 years-old and another 11 up to 17.
- **Age not available**: In these groups, the age for at least one child was unavailable.

The majority of the groups visiting the interactive space had only one child (37%) or had multiple children in either the same age category (20%) or in adjacent age categories (32%). About 10% of the groups had children in developmental age categories differing at one or two degrees. This general pattern was similar for each of the museums studied.

Table 26: Group Type Based on Developmental Distance Among Children

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	N	%	n	%	n	%	
One Child	889	36.8	337	34.1	360	41.4	192	34.2	NO (Chi-square; 'age not available' was excluded)
No distance	472	19.5	203	20.6	162	18.6	107	19.1	
Adjacent	769	31.8	322	32.6	264	30.3	183	32.6	
One degree	204	8.4	92	9.3	66	7.6	46	8.2	
Two degrees	35	1.4	14	1.4	14	1.6	7	1.2	
Age not available	39	1.6	12	1.2	3	.3	24	4.3	
Total	2408	99.6	980	99.3	869	99.9	559	99.6	

Less than expected; More than expected

In addition to analyzing the age of the children, we also analyzed how group members were related to one another. Most participants visiting the interactive space were in groups with family members; the majority of them self-identified as 'mothers' (62%), with 16% saying they were 'fathers' and 10% 'grandparents.' Non-familial individuals, including professional roles, comprised less than 5% of study participants.

Table 27: Relationship of the Study Participant with the Closest Blood Relative Child in the Group

	Total		Frist		High		Speed	
	n	%	n	%	n	%	n	%
Mother	1501	62.3	593	60.5	571	65.7	337	60.3
Father	394	16.4	152	15.5	146	16.8	96	17.2
Aunt	43	1.8	20	2.0	13	1.5	10	1.8
Uncle	7	.3	4	.4	3	.3	0	0
Sister	10	.4	7	.7	1	.1	2	.4
Brother	2	.1	1	.1	1	.1	0	0
Cousin	8	.3	4	.4	0	0	4	.7
Godmother	9	.4	5	.5	4	.5	0	0
Grandaunt	7	.3	3	.3	2	.2	2	.4
Grandmother	205	8.5	77	7.9	67	7.7	61	10.9
Grandfather	31	1.3	12	1.2	8	.9	11	2.0
Great-grandmother	2	.1	1	.1	0	0	1	.2
Non-familial	39	1.6	18	1.8	13	1.5	8	1.4
Professional	3	.1	1	.1	1	.1	1	.2
Professional - Nanny	64	2.7	17	1.7	33	3.8	14	2.5
Unspecified - Adult	83	3.4	65	6.6	6	.7	12	2.1
Total	2408	100.0	980	100.0	869	100.0	559	100.0

Groups were characterized by the overall relationship among adults and children into:

- **Nuclear family**: one or two parents accompanying their child(ren).
- **Extended family**: at least one parent, with at least one close relative, such as a grandparent or aunt/uncle accompanying their child(ren).
- **Non parental familial**: only a relative, without parents, accompanying their child(ren), for example, a grandparent or aunt/uncle. It includes godparents.
- **Non-family**: a non-relative accompanying the child(ren)
- **Non-familial professional**: a non-relative accompanying the child(ren), but identifying as a "nanny."
- **Mixed family and non-family**: when more than one family were together. This included when an adult brought his or her child, as well as a child's friend.
- **Not specified**: when relationship was not specified.

Overall, the great majority of groups visiting the interactive space were nuclear families (56%), followed by other family-related groups: extended family (14%) and non-parental familial (10%). Groups with more than one family represented 12% of the sample. Non-family groups comprised less than 5% of the sample. In general the composition of groups visiting the study

museums were highly comparable. Only a few slight differences were found among the study museums, with the Speed having more non-parental familial groups.

Table 28: Group Type Based on Child(ren) and Adults in the Group

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	N	%	n	%	n	%	
Nuclear family	1357	56.4	541	55.2	508	58.5	308	55.1	YES (Pearson Chi-square=81.546, df=12, p<.05, n=2408)
Extended family	343	14.2	133	13.6	131	15.1	79	14.1	
Non parental familial	239	9.9	100	10.2	66	7.6	73	13.1	
Non-family	33	1.4	15	1.5	11	1.3	7	1.3	
Non-familial professional	68	2.8	19	1.9	34	3.9	15	2.7	
Mixed family and non-family	278	11.5	100	10.2	113	13.0	65	11.6	
Not specified	90	3.7	72	7.3	6	.7	12	2.1	
TOTAL	**2408**	**100.0**	**980**	**100.0**	**869**	**100.0**	**559**	**100.0**	

Less than expected; More than expected

WHY do families visit art museums?

We assessed families' motivations for visiting art museums, as well as their motivations for using interactive spaces within art museums. To code responses to these open-ended questions, we adapted categories from Moussourri (1997):

- **Place**: Motivations indicative of the museum as a leisure, recreational, or cultural venue; museum as emblematic of a particular city or region; museum as a destination or attraction; and/or museum as a special place or a new, unique or special experience.
    - **Exhibition-based**: Motivations related to a specific exhibition at the museum.
    - **Program-based**: Motivations related to a specific program at the museum.
- **Content**: Motivations related to the aesthetic, informational, or cultural content of the museum. Art/culture is the influencing factor for visit.
- **Social event**: Motivations specific to an outing with family and/or friends. Includes special events or family occasions in which the group is getting together.
- **Entertainment**: Motivations related to fun or play or enjoyment.
- **Practical issues**: External motivating factors such as weather, proximity to the museum, time availability, crowd conditions, free passes, membership, other logistics, etc.
- **Interactive space**: Motivations related to the interactive space specifically.

- **Other**: Motivations that did not fit within the categories above.

In general, motivations for visiting the study museum varied. Table 29 shows that place-based motivations were the most frequently mentioned (33%), followed by the interactive space (21%), as well as content (15%) and practical issues (15%). Groups also came to the museum for social (12%) and entertainment (2%) reasons.

When comparing the study museums, some differences were found. Groups in the Frist indicated 'place' as motivation more frequently. However, in the High, the place-based motivation related to specific 'exhibitions' and 'programs' were more frequent. In the High, also frequently mentioned were 'content-based' motivations. In the Speed, the 'interactive space' was frequently mentioned as a motivation.

Table 29: Motivation to Visit the Museum

Motivation to Come to the Museum	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	n	%	n	%	n	%	
Place general	216	9.0	130	13.3	64	7.4	22	3.9	YES (Pearson Chi-square=881.648, df=16, p<.05, n=2406)
Place: Exhibition-based	395	16.4	128	13.1	263	30.3	4	.7	
Place: Program-based	186	7.7	18	1.8	150	17.3	18	3.2	
Content	351	14.6	149	15.2	177	20.4	25	4.5	
Social Event	300	12.5	133	13.6	103	11.9	64	11.5	
Entertainment	56	2.3	24	2.5	18	2.1	14	2.5	
Practical Issues	364	15.1	173	17.7	72	8.3	119	21.3	
Interactive Space	498	20.7	203	20.7	18	2.1	277	49.6	
Other	40	1.7	21	2.1	4	.5	15	2.7	
TOTAL	**2406**	**100.0**	**979**	**100.0**	**869**	**100.0**	**558**	**100.0**	

Less than expected; More than expected

We used the same coding rubric to code families' motivations for using the interactive space during their visit to the study museum. Given that responses to this question differed slightly, we adapted the rubric as follows:

- **Place**: Motivations that suggest the interactive space is a leisure, recreational, or cultural attraction; the interactive space as a destination or attraction or regular outing for the family
    - **Behavioral**: Motivations related to using the interactive space as a reward or carrot to modify children's behavior while in the museum.
- **Content**: Child-oriented motivations related to content and/or educational potential of the interactive space; may relate to role of the space in their child's development.

- **Social Event**: Group-oriented motivations related to a desire to spend time together as a family or a group; or related to desire for kids to spend time with others.
- **Entertainment**: Child-oriented motivations that express a desire to have fun and/or enjoy themselves.
- **Design**: Place-oriented motivations relating to design-specific aspects of the interactive space. It includes ideas such as characteristics of the space (i.e. open-ended, hands-on, interactive, kid-friendly), space layout, resources offered (materials, activities, staff/volunteers), etc.
- **Visit requested by child**: Motivation driven specifically by a child's request (with little context).
- **Practical Issues**: Situation-oriented, most often parent-drive, where practical factors motivated them to go to the interactive space.
- **Other**: Motivations that do not fit within the categories above.

In general, groups presented a wide range of reasons why they went to the interactive space within the study museum that day. The most frequently mentioned reason was the 'design' of the space (28%), followed by 'place-based' motivations (22%), 'content' (17%), and 'entertainment' (14%). The least frequently mentioned motivations were 'practical' (9%), 'social' (5%), and 'request by a child' (3%).

Some differences were found when comparing responses across study museums. The Frist presented place-based motivation less frequently, but 'content' and 'design' motivations were the highest. The High most frequently presented 'place-based', 'entertainment,' and 'request by a child' types of motivations. In the Speed, 'social' and 'practical' motivations were higher than in the other museums.

Table 30: Motivation to Come to the Interactive Space

Motivation to Come to the Interactive Space	Total		Frist		High		Speed		Statistically Sig. Diff.?
	N	%	n	%	n	%	n	%	
Place	427	17.8	134	13.7	190	21.9	103	18.7	YES (Pearson Chi-square=339.722, df=16, p<.05, n=2400)
Place-Behavioral	89	3.7	17	1.7	71	8.2	1	.2	
Content	408	17.0	264	26.9	81	9.3	63	11.4	
Social Event	116	4.8	36	3.7	28	3.2	52	9.4	
Entertainment	325	13.5	114	11.6	159	18.3	52	9.4	
Design	664	27.7	310	31.6	209	24.1	145	26.3	
Visit requested by child	67	2.8	16	1.6	37	4.3	14	2.5	
Practical Issues	209	8.7	45	4.6	80	9.2	84	15.2	
Other	95	4.0	44	4.5	13	1.5	38	6.9	
TOTAL	**2400**	**100.0**	**980**	**100.0**	**868**	**100.0**	**552**	**100.0**	

Less than expected; More than expected

Motivations to visit the interactive space were also categorized according to whether or not they were child-driven. This determination was made by the researcher as she read open-ended responses. The great majority of motivations appeared to be child-driven (80%). Comparatively, the Speed presented a smaller proportion of child-driven motivations.

Table 31: Child-Driven Motivation to Come to the Interactive Space

	Total		Frist		High		Speed		Statistically Sig. Diff.?
	n	%	n	%	n	%	n	%	
No	474	19.7	157	16.0	112	12.9	205	36.7	Yes (Pearson Chi-square=135.752, df=2, p<.05, n=2408)
Yes	1934	80.3	823	84.0	757	87.1	354	63.3	
TOTAL	**2408**	**100**	**980**	**100**	**869**	**100**	**559**	**100**	

Less than expected; More than expected

How Visit Motivations Relate To Who Visits Interactive Spaces in Art Museums

Motivations to visit art museums were looked at more closely, by comparing this variable with other relevant variables, including museum membership, previous museum visitation, and characteristics of the study participant including interest in art and group composition.

Study participants who were members of the study museum tended to say they were visiting the museum to see a specific exhibition or program more frequently than did non-member participants. On the other hand, adults who were not members of the study museum said they were visiting for general place reasons or practical reasons more often than did members.

Participants who were members of other museums were more likely to be motivated to visit the study museum because of the 'interactive space'. Adults who were not members of other museums were more likely to be motivated by the 'content' or by the desire to see specific exhibitions.

Table 32: Motivations to Visit the Museum by Museum Membership

Variable	Relevant Statistics				Statistically Sig. Diff.?
Motivation to Come to the Museum	Study Museum Membership				YES (Pearson Chi-square=199.316, df=7, p<.05, n=2366)
	No		Yes		
	n	%	n	%	
Place	171	11.8	45	4.9	Less than expected; More than expected
Content	203	14.0	148	16.1	
Place: Exhibition-based	187	12.9	208	22.6	
Social Event	195	13.5	105	11.4	
Practical Issues	269	18.6	95	10.3	
Place: Program-based	47	3.3	139	15.1	
Entertainment	39	2.7	17	1.8	
Interactive Space	334	23.1	164	17.8	
TOTAL	1445		921		
Motivation to Come to the Museum	Other Museum Membership				YES (Pearson Chi-square=64.133, df=7, p<.05, n=2363)
	No		Yes		
	n	%	n	%	
Place	115	9.5	101	8.8	Less than expected; More than expected
Content	208	17.2	141	12.2	
Place: Exhibition-based	243	20.1	152	13.2	
Social Event	156	12.9	144	12.5	
Practical Issues	174	14.4	190	16.5	
Place: Program-based	99	8.2	87	7.5	
Entertainment	26	2.1	30	2.6	
Interactive Space	189	15.6	308	26.7	
TOTAL	1210		1153		

Museum visitation frequency was also compared with visit motivations. Several differences were found in motivations, based on frequency of visits to the study museum and to several other museum types. Some of these differences are described below.

- Table 33 shows that study respondents who visit the study museum frequently came to the art museum that day to attend a specific program more so than any other motivation. In addition, respondents who visit frequently also came to use the interactive space specifically, more so than they came for practical reasons or because the museum is a cultural destination.

- Respondents who came to the study museum because of an exhibition tended to be more frequent art museum goers than those who came because of the interactive space or for practical reasons. Those respondents who came for 'place' reasons were also more visited art museums more frequently than did those who came because of a specific program, the interactive space, practical reasons, or content. (Table 34)

- Those visitors who came to the study museums to attend a specific program tended to visit children's museums more frequently than those who came with any other motivation. On the other hand, those visitors who came because of the interactive space tended to visit children's museums less frequently than almost all the others. (Table 35)

- Visitors who came to the study museum because of a specific program or exhibition visited history museums more frequently than did those who came because of the interactive space, content, or for practical reasons. (Table 36)

- Those whose main motivation was the interactive space or practical reasons visited zoos and aquaria more frequently than those who came motivated by the content, a specific exhibition, or the social nature of the museum.

- No differences were found in motivations related to the frequency of visitation to science museum.

Table 33: Motivations to Visit the Museum by Study Museum Visitation

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	Study Museum Visitation			YES (ANOVA, F=9.644, df=7, p<.05, n=2363; Post Hoc LSD)
	n	Mean	SD	
Place: Program-based	186	7.09	9.749	• Place-program: > all • Interactive Space: > Place, Practical Issues, Place-exhibition; < Place-program • Content/ Entertainment/ Social Event: > Place, < Place-program • Place-exhibition/ Practical Issues: < Interactive Space, Place-program • Place: < Content, Social Event, Interactive Space, Place-program
Interactive Space	498	4.79	7.385	
Content	351	4.09	6.044	
Entertainment	56	4.07	7.150	
Social Event	300	3.98	5.887	
Place: Exhibition-based	395	3.65	5.135	
Practical Issues	361	3.30	4.043	
Place	216	2.63	5.582	
TOTAL	2363	4.13	6.385	

Table 34: Motivations to Visit the Museum by Visitation to Art Museums

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	Art Museum Visitation			YES (ANOVA, F=3.015, df=7, p<.05, n=2365; Post Hoc LSD)
	n	Mean	SD	
Place	216	2.09	4.482	• Place: > Content, Practical Issues, Interactive Space, Place-Program • Place: Exhibition-based: > Practical Issues, Interactive Space • Social Event: > Practical Issues • Content: < Place • Interactive Space: < Place, Place-Exhibition • Place: Program-based: < Place • Entertainment: = All • Practical Issues: <Place, Social Event, Place-Exhibition
Place: Exhibition-based	394	1.84	3.6	
Social Event	300	1.8	4.518	
Content	351	1.37	3.284	
Interactive Space	498	1.37	2.638	
Place: Program-based	186	1.34	2.191	
Entertainment	56	1.16	2.606	
Practical Issues	364	1.1	2.232	
Total	2365	1.52	3.32	

Table 35: Motivations to Visit the Museum by Visitation to Children's Museums

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	Children Museum Visitation			YES (ANOVA, F=8.128, df=7, p<.05, n=2365; Post Hoc LSD)
	n	Mean	SD	
Place: Program-based	186	3.15	5.737	• Place: Program-based: > All, except Entertainment • Entertainment: > Social Event, Practical Issues, Interactive Space, Place-Exhibition • Content: > Interactive Space; <Place-Program • Place: <Place-Program • Place: Exhibition-based: > Interactive Space; <Entertainment, Place-Program • Practical Issues/Social Event: < Entertainment, Place-Program • Interactive Space: <Content, Entertainment, Place-Exhibition, Place-Program
Entertainment	56	2.55	7.256	
Content	351	1.64	3.37	
Place	216	1.63	3.328	
Place: Exhibition-based	394	1.57	3.395	
Practical Issues	364	1.37	2.917	
Social Event	300	1.32	2.87	
Interactive Space	498	1.09	2.126	
Total	2365	1.57	3.462	

Table 36: Motivations to Visit the Museum by Visitation to History Museums

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	History Museum Visitation			YES (ANOVA, F=3.839, df=7, p<.05, n=2364; Post Hoc LSD)
	n	Mean	SD	
Place: Program-based	186	1.26	2.843	• Place: Program-based/ Place: Exhibition-based: >Content, Social Event, Practical Issues, Interactive Space • Place: >Content, Practical Issues, Interactive Space • Entertainment: =All • Social Event: <Place-Exhibition, Place-Program • Interactive Space/ Content/ Practical Issues: < Place, Place-Exhibition, Place-Program
Place: Exhibition-based	393	1.12	1.779	
Place	216	1.03	1.868	
Entertainment	56	0.88	1.706	
Social Event	300	0.81	1.597	
Interactive Space	498	0.74	1.908	
Content	351	0.72	1.31	
Practical Issues	364	0.72	1.165	
Total	2364	0.88	1.769	

Table 37: Motivations to Visit the Museum by Visitation to Science Museums

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	Science Museum Visitation			NO (ANOVA)
	n	Mean	SD	
Interactive Space	498	2.53	4.622	
Place: Program-based	186	2.25	4.606	
Place	216	2.24	4.426	
Content	351	2.16	4.393	
Place: Exhibition-based	394	2.12	3.58	
Practical Issues	364	2.09	3.592	
Entertainment	56	2.07	3.949	
Social Event	300	1.72	2.724	
Total	2365	2.18	4.032	

Table 38: Motivations to Visit the Museum by Visitation to Zoo/ Aquaria

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	Zoo/ Aquaria Visitation			YES (ANOVA, F=8.211, df=7, p<.05, n=2365; Post Hoc LSD)
	n	Mean	SD	
Interactive Space	498	7.27	10.019	• Interactive Space: > Place, Content, Social Event, Entertainment, Place-Exhibition
Place: Program-based	186	6.28	7.944	• Place: Program-based: > Content, Place-Exhibition
Practical Issues	364	6.25	8.15	• Practical Issues: > Content, Social Event, Place-Exhibition
Place	216	5.02	6.795	• Place: >Interactive Space
Social Event	300	4.92	6.687	• Social Event: < Practical Issues, Interactive Space
Content	351	4.85	6.66	• Content/ Place: Exhibition-based: < Practical Issues, Interactive Space, Place-Program
Entertainment	56	4.78	5.699	• Entertainment: < Interactive Space
Place: Exhibition-based	394	3.78	5.591	
Total	2365	5.53	7.749	

Table 39: Motivations to Visit the Museum by Visitation to All Other Museums Combined (excluding Zoo/ Aquaria)

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	All Other Museums Visitation (no Zoo/ Aquaria)			YES (ANOVA, F=3.079, df=7, p<.05, n=2365; Post Hoc LSD)
	n	Mean	SD	
Place: Program-based	186	8.01	11.522	• Place-program: > Content, Social Event, Practical Issues, Interactive Space • Place/ Place-exhibition: > Practical Issues • Entertainment: = all • Content/ Interactive Space/ Social Event: <Place-program • Practical Issues: < Place, Place-exhibition, Place-program
Place	216	6.98	8.828	
Entertainment	56	6.66	13.784	
Place: Exhibition-based	394	6.65	7.420	
Content	351	5.88	7.881	
Interactive Space	498	5.74	7.156	
Social Event	300	5.65	7.078	
Practical Issues	364	5.28	6.179	
TOTAL	2365	6.14	7.987	

Table 40: Motivations to Visit the Museum by Visitation to All Other Museums Combined (including Zoo/ Aquaria)

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	All Other Museums Visitation (with Zoo/ Aquaria)			YES (ANOVA, F=3.198, df=7, p<.05, n=2366; Post Hoc LSD)
	n	Mean	SD	
Place: Program-based	186	14.29	15.995	• Place-program: > Content, Social Event, Practical Issues, Place-exhibition • Interactive Space: >Content, Social Event, Place-exhibition • Place/ Entertainment: = all • Practical Issues: <Place-program • Content/ Social Event/ Place-exhibition: < Interactive Space, Place-program
Interactive Space	498	13.01	13.823	
Place	216	12.00	12.367	
Practical Issues	364	11.52	11.286	
Entertainment	56	11.44	17.611	
Content	351	10.73	11.420	
Social Event	300	10.57	11.413	
Place: Exhibition-based	395	10.41	10.908	
TOTAL	2366	11.67	12.566	

Table 41: Post Hoc (Mean Difference I-J): Motivations to Visit the Museum by Visitation

I	J							
Study Museum Visitation	**Place-Program**	**Interactive Space**	**Content**	**Entertainment**	**Social Event**	**Place-Exhibition**	**Practical Issues**	**Place**
Place- Program		2.300*	3.000*	3.023*	3.117*	3.443*	3.794*	4.460*
Interactive Space	-2.300*		.700	.723	.818	1.144*	1.494*	2.160*
Content	-3.000*	-.700		.023	.117	.443	.793	1.460*
Entertainment	-3.023*	-.723	-.023		.095	.421	.771	1.437
Social Event	-3.117*	-.818	-.117	-.095		.326	.676	1.342*
Place- Exhibition	-3.443*	-1.144*	-.443	-.421	-.326		.350	1.016
Practical Issues	-3.794*	-1.494*	-.793	-.771	-.676	-.350		.666
Place	-4.460*	-2.160*	-1.460*	-1.437	-1.342*	-1.016	-.666	
Art Museum Visitation	**Place-Program**	**Interactive Space**	**Content**	**Entertainment**	**Social Event**	**Place-Exhibition**	**Practical Issues**	**Place**
Place- Program		-.028	-.025	.183	-.459	-.499	.245	-.744*
Interactive Space	.028		.004	.212	-.431	-.470*	.274	-.715*
Content	.025	-.004		.208	-.434	-.474	.270	-.719*
Entertainment	-.183	-.212	-.208		-.643	-.682	.062	-.927
Social Event	.459	.431	.434	.643		-.039	.704*	-.285
Place- Exhibition	.499	.470*	.474	.682	.039		.744*	-.245
Practical Issues	-.245	-.274	-.270	-.062	-.704*	-.744*		-.989*
Place	.744*	.715*	.719*	.927	.285	.245	.989*	
Children's Museum Visitation	**Place-Program**	**Interactive Space**	**Content**	**Entertainment**	**Social Event**	**Place-Exhibition**	**Practical Issues**	**Place**
Place- Program		2.057*	1.512*	.597	1.834*	1.582*	1.780*	1.526*
Interactive Space	-2.057*		-.545*	-1.460*	-.223	-.475*	-.278	-.532
Content	-1.512*	.545*		-.915	.322	.070	.267	.013
Entertainment	-.597	1.460*	.915		1.237*	.985*	1.183*	.929
Social Event	-1.834*	.223	-.322	-1.237*		-.252	-.054	-.308
Place- Exhibition	-1.582*	.475*	-.070	-.985*	.252		.198	-.056
Practical Issues	-1.780*	.278	-.267	-1.183*	.054	-.198		-.254
Place	-1.526*	.532	-.013	-.929	.308	.056	.254	
History Museum Visitation	**Place-Program**	**Interactive Space**	**Content**	**Entertainment**	**Social Event**	**Place-Exhibition**	**Practical Issues**	**Place**
Place- Program		.515*	.540*	.383	.451*	.136	.534*	.230
Interactive Space	-.515*		.025	-.132	-.064	-.379*	.019	-.285*
Content	-.540*	-.025		-.157	-.089	-.404*	-.006	-.310*
Entertainment	-.383	.132	.157		.068	-.247	.151	-.153
Social Event	-.451*	.064	.089	-.068		-.315*	.083	-.221
Place- Exhibition	-.136	.379*	.404*	.247	.315*		.398*	.094
Practical Issues	-.534*	-.019	.006	-.151	-.083	-.398*		-.304*
Place	-.230	.285*	.310*	.153	.221	-.094	.304*	

I	J							
Zoo/ Aquaria Visitation	**Place-Program**	**Interactive Space**	**Content**	**Entertainment**	**Social Event**	**Place-Exhibition**	**Practical Issues**	**Place**
Place- Program		-.988	1.435*	1.508	1.365	2.508*	.039	1.266
Interactive Space	.988		2.423*	2.496*	2.353*	3.496*	1.027	2.255*
Content	-1.435*	-2.423*		.074	-.070	1.074	-1.395*	-.168
Entertainment	-1.508	-2.496*	-.074		-.143	1.000	-1.469	-.242
Social Event	-1.365	-2.353*	.070	.143		1.143	-1.326*	-.099
Place- Exhibition	-2.508*	-3.496*	-1.074	-1.000	-1.143		-2.469*	-1.242
Practical Issues	-.039	-1.027	1.395*	1.469	1.326*	2.469*		1.227
Place	-1.266	-2.255*	.168	.242	.099	1.242	-1.227	

*. The mean difference is significant at the 0.05 level.

'I' smaller than 'J'; 'I' larger than 'J'

Table 42: Correlations Among Museum Visitation Variables

		Study Museum	Art Museum	Children's Museum	History Museum	Science Museum	Zoo/ Aquaria	Other Museum (No Zoo/ Aquaria)	Other Museum (With Zoo/ Aquaria)
Visits to study museum	Pearson's r	1	.116**	.111**	.196**	.291**	.183**	.289**	.295**
	N	2405	2404	2404	2403	2404	2404	2404	2405
Visits to Art Museums	Pearson's r	.116**	1	.151**	.251**	.114**	.077**	.593**	.423**
	N	2404	2407	2407	2406	2407	2406	2407	2407
Visits to Children's Museums	Pearson's r	.111**	.151**	1	.241**	.198**	.190**	.647**	.527**
	N	2404	2407	2407	2406	2407	2406	2407	2407
Visits to History Museums	Pearson's r	.196**	.251**	.241**	1	.214**	.047*	.538**	.369**
	N	2403	2406	2406	2406	2406	2405	2406	2406
Visits to Science Museums	Pearson's r	.291**	.114**	.198**	.214**	1	.312**	.695**	.632**
	N	2404	2407	2407	2406	2407	2406	2407	2407
Visits to Zoo/ Aquaria	Pearson's r	.183**	.077**	.190**	.047*	.312**	1	.285**	.794**
	N	2404	2406	2406	2405	2406	2407	2406	2407
Visits to other museums (no Zoo/Aquaria)	Pearson's r	.289**	.593**	.647**	.538**	.695**	.285**	1	.809**
	N	2404	2407	2407	2406	2407	2406	2407	2407
Visits to other museums (with Zoo/Aquaria)	Pearson's r	.295**	.423**	.527**	.369**	.632**	.794**	.809**	1
	N	2405	2407	2407	2406	2407	2407	2407	2408

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Large = 0.5 and above

Moderate = 0.3 to 0.5

Small = 0.1 to 0.3

Trivial = smaller 0.1

Adult participants' motivations to visit the study museum were also compared with their art interest. Though the average score in the art interest scale was similarly low (~2.5 on a 0-6 point-scale) some differences were found. Those who had 'exhibition-based' motivation engaged in a larger number of art-related activities than did those with 'entertainment', 'practical', 'interactive space', or 'program-based motivations'. On the other hand, those with 'practical' motivations engaged in fewer art-related activities than those with 'content', 'interactive space', or 'exhibition-related' motivations. Those with 'social' and 'place' motivations engaged in similar number of activities than the all others.

Table 43: Motivations to Visit the Museum by Art Interest

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Come to the Museum	Art-Interest (summated)			YES (ANOVA, F=7.454, df=7, p<.05, n=2366; Post Hoc LSD)
	n	Mean	SD	
Place: Exhibition-based	395	2.61	1.710	• Place-exhibition: >Entertainment, Practical Issues, Interactive Space, Place-program
Content	351	2.52	1.609	• Content: >Practical Issues
Social Event	300	2.39	1.631	• Social Event/ Place: = all
Interactive Space	498	2.37	1.656	• Interactive Space: >Practical Issues, <Place-exhibition
Place	216	2.37	1.690	• Place-program/ Entertainment: <Place-exhibition
Place: Program-based	186	2.32	1.529	• Practical Issues: <Content, Interactive Space, Place-exhibition
Practical Issues	364	2.14	1.645	
Entertainment	56	2.13	1.514	
TOTAL	2366	2.39	1.648	

Table 44: Post Hoc (Mean Difference I-J): Motivations to Visit the Museum by Art Interest

I	J							
	Place-Exhibition	Content	Social Event	Interactive Space	Place	Place-Program	Practical Issues	Entertainment
Place- Exhibition	t	0.086	0.214	.234*	0.242	.290*	.465*	.483*
Content	-0.086	t	0.128	0.148	0.156	0.204	.379*	0.396
Social Event	-0.214	-0.128	t	0.02	0.028	0.076	0.25	0.268
Interactive Space	-.234*	-0.148	-0.02	t	0.008	0.056	.231*	0.248
Place	-0.242	-0.156	-0.028	-0.008	t	0.049	0.223	0.241
Place-Program	-.290*	-0.204	-0.076	-0.056	-0.049	t	0.174	0.192
Practical Issues	-.465*	-.379*	-0.25	-.231*	-0.223	-0.174	t	0.018
Entertainment	-.483*	-0.396	-0.268	-0.248	-0.241	-0.192	-0.018	T

*. The mean difference is significant at the 0.05 level.
'I' smaller than 'J'; 'I' larger than 'J'

Adult participants' motivations to visit the study museum were compared with group composition and significant differences were found. In general, adult respondents from *nuclear families* tended to have 'content-based' or 'practical' motivations. Those from *extended families* tended to express 'exhibition-based' or 'social' motivations more frequently. Adult respondents from *non-parental familial* groups tended to express more frequently motivations based on 'interactive space', 'program-based', or 'entertainment'. Those in *non-family* groups more frequently expressed 'interactive space' or 'program-based' motivations. Those in *mixed family and non-family* groups tended to express 'social' motivations more frequently.

Table 45: Motivations to Visit the Museum by Group Composition

Variable	**Relevant Statistics**										**Statistically Sig. Diff.?**
Motivation to Come to the Museum	Nuclear family		Extended family		Non parental familial		Non-family		Mixed family/ non-family		YES (Pearson Chi-square=171.676, df=28, p<.05, n=2279)
	n	%	n	%	n	%	n	%	n	%	
Place: Exhibition-based	230	17.2	81	24.0	22	9.4	5	5.2	52	18.9	
Content	228	17.1	37	11.0	21	9.0	12	12.4	41	14.9	Less than expected; More than expected
Social Event	111	8.3	66	19.6	51	21.9	10	10.3	51	18.5	
Interactive Space	247	18.5	65	19.3	72	30.9	31	32.0	59	21.5	
Place	138	10.3	27	8.0	16	6.9	4	4.1	22	8.0	(Non-family and non-familial professional were combined; Not specified was not included)
Place: Program-based	111	8.3	15	4.5	21	9.0	18	18.6	17	6.2	
Practical Issues	244	18.3	38	11.3	22	9.4	12	12.4	29	10.5	
Entertainment	27	2.0	8	2.4	8	3.4	5	5.2	4	1.5	
TOTAL	1336		337		233		97		275		

How Motivations to Visit the Interactive Space Relate To Who Visits the Study Museum

Motivations to visit the interactive space in the study museum were looked at more closely, by comparing them with museum membership and characteristics of the study participant, as well as their art interest and the overall group composition.

Overall, participants who were members of the study museum tended to express motivations such as 'place-behavioral' or 'request by child' more frequently than did non-members. On the other hand, adults who were not members of the study museum did not seem to express any of the motivations more frequently than did members.

Participants who were members of other museums were more likely to be motivated to visit the interactive space because of the 'design' of the space. Adults who were not members of other museums were more likely to express 'place-based' motivations.

Table 46: Motivations to Visit the Interactive Spaces by Museum Membership

Variable	Relevant Statistics				Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	Study Museum Membership				YES (Pearson Chi-square=34.613, df=7, p<.05, n=2305)
	No		Yes		
	n	%	n	%	
Place	273	19.4	154	17.1	Less than expected; More than expected
Content	263	18.7	145	16.1	
Social Event	67	4.8	49	5.4	
Entertainment	182	13.0	143	15.9	
Practical Issues	146	10.4	63	7.0	
Design	405	28.8	259	28.7	
Place-Behavioral	37	2.6	52	5.8	
Requested by Child	31	2.2	36	4.0	
TOTAL	1404		901		
Motivation to Visit the Interactive Space	Other Museum Membership				YES (Pearson Chi-square=27.655, df=7, p<.05, n=2302)
	No		Yes		
	n	%	n	%	
Place	245	20.8	182	16.2	Less than expected; More than expected
Content	190	16.1	217	19.3	
Social Event	57	4.8	59	5.2	
Entertainment	190	16.1	134	11.9	
Practical Issues	109	9.3	100	8.9	
Design	300	25.5	363	32.3	
Place-Behavioral	49	4.2	40	3.6	
Requested by Child	37	3.1	30	2.7	
TOTAL	1177		1125		

Museum visitation frequency was also compared with motivations to visit the interactive space. The only statistically significant difference found was based on frequency of study museum visitation. Participants who were motivated to visit the interactive space based on a 'request by child' or as a 'social event' had higher frequency of museum visitation to the study museum than those visiting for 'place', 'entertainment', 'practical', 'design', or 'place-behavioral' motivations. Those motivated by the 'content' of the interactive space had similar visitation frequency as all the other groups.

Table 47: Motivations to Visit the Interactive Space by Study Museum Visitation

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	Study Museum Visitation			YES (ANOVA, F=2.673, df=7, p<.05, n=2304; Post Hoc LSD) • Requested by Child/Social Event: > Place, Entertainment, Practical Issues, Design, Place-Behavioral • Content: =All • Place, Entertainment/ Practical Issues/ Design/ Place-Behavioral: <Social Event, Requested by Child
	n	Mean	SD	
Requested by Child	66	5.93	12.977	
Social Event	116	5.65	9.953	
Content	408	4.40	5.969	
Entertainment	325	4.23	7.152	
Design	664	4.14	5.585	
Place-Behavioral	89	3.84	4.868	
Place	426	3.61	5.860	
Practical Issues	209	3.33	4.102	
TOTAL	2303	4.14	6.426	

Table 48: Post Hoc (Mean Difference I-J): Motivations to Visit the Interactive Space by Study Museum Visitation

I	J							
	Requested by Child	Social Event	Content	Entertainment	Design	Place-Behavioral	Place	Practical Issues
Requested by Child		.285	1.535	1.704*	1.791*	2.089*	2.320*	2.602*
Social Event	-.285		1.249	1.419*	1.506*	1.804*	2.035*	2.316*
Content	-1.535	-1.249		.169	.256	.554	.786	1.067
Entertainment	-1.704*	-1.419*	-.169		.087	.385	.616	.898
Design	-1.791*	-1.506*	-.256	-.087		.298	.529	.811
Place-Behavioral	-2.089*	-1.804*	-.554	-.385	-.298		.231	.513
Place	-2.320*	-2.035*	-.786	-.616	-.529	-.231		.281
Practical Issues	-2.602*	-2.316*	-1.067	-.898	-.811	-.513	-.281	

*. The mean difference is significant at the 0.05 level.
'I' smaller than 'J'; 'I' larger than 'J'

Table 49: Motivations to Visit the Interactive Space by Visitation to All Other Museums Combined (excluding Zoo/ Aquaria)

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	All Other Museums Visitation (no Zoo/ Aquaria)			NO (ANOVA)
	n	Mean	SD	
Requested by Child	67	7.10	9.907	
Place-Behavioral	89	6.69	8.498	
Design	664	6.63	8.622	
Social Event	115	6.15	8.183	
Place	427	6.03	7.453	
Content	408	5.79	6.960	
Entertainment	325	5.66	6.783	
Practical Issues	209	5.53	8.650	
TOTAL	2304	6.13	7.909	

Table 50: Motivations to Visit the Interactive Space by Visitation to All Other Museums Combined (including Zoo/ Aquaria)

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	All Other Museums Visitation (with Zoo/ Aquaria)			NO (ANOVA)
	n	Mean	SD	
Requested by Child	67	12.64	14.870	
Design	664	12.35	12.760	
Place-Behavioral	89	12.27	13.110	
Practical Issues	209	11.62	13.977	
Content	408	11.49	11.417	
Place	427	11.37	12.066	
Social Event	116	11.09	11.951	
Entertainment	325	10.52	11.451	
TOTAL	2305	11.63	12.382	

Table 51: Motivations to Visit the Interactive Space by Visitation to Art Museums

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	Art Museum Visitation			NO (ANOVA)
	n	Mean	SD	
Social Event	115	1.90	3.683	
Design	664	1.63	3.214	
Content	408	1.55	3.867	
Place	427	1.51	4.019	
Requested by Child	67	1.43	2.904	
Place-Behavioral	89	1.36	1.926	
Practical Issues	209	1.33	2.672	
Entertainment	325	1.25	2.240	
TOTAL	2304	1.51	3.322	

Table 52: Motivations to Visit the Interactive Space by Visitation to Children's Museums

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	Children Museum Visitation			NO (ANOVA)
	n	Mean	SD	
Place-Behavioral	89	2.06	4.655	
Requested by Child	67	1.87	5.199	
Design	664	1.67	3.888	
Place	427	1.67	3.098	
Social Event	115	1.65	3.552	
Practical Issues	209	1.65	4.493	
Entertainment	325	1.44	2.614	
Content	408	1.21	2.253	
TOTAL	2304	1.57	3.475	

Table 53: Motivations to the Interactive Space by Visitation to History Museums

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	History Museum Visitation			NO (ANOVA)
	n	Mean	SD	
Requested by Child	67	1.00	2.139	
Design	664	.96	2.100	
Content	408	.89	1.762	
Place-Behavioral	89	.85	1.628	
Entertainment	325	.84	1.433	
Place	426	.82	1.645	
Practical Issues	209	.71	1.278	
Social Event	115	.70	1.409	
TOTAL	2303	.87	1.759	

Table 54: Motivations to Visit the Interactive Space by Visitation to Science Museums

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	Science Museum Visitation			NO (ANOVA)
	n	Mean	SD	
Requested by Child	67	2.81	6.593	
Place-Behavioral	89	2.42	4.552	
Design	664	2.37	4.108	
Content	408	2.14	3.418	
Entertainment	325	2.13	4.379	
Place	427	2.03	3.927	
Social Event	115	1.91	3.068	
Practical Issues	209	1.85	3.185	
TOTAL	2304	2.18	3.992	

Table 55: Motivations to Visit the Interactive Space by Visitation to Zoo/ Aquaria

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	Zoo/ Aquaria Visitation			NO (ANOVA)
	n	Mean	SD	
Practical Issues	209	6.09	9.006	
Design	663	5.73	7.995	
Content	408	5.69	7.258	
Place-Behavioral	89	5.58	7.377	
Requested by Child	67	5.54	6.361	
Place	427	5.33	7.451	
Social Event	116	4.99	5.971	
Entertainment	325	4.85	6.877	
TOTAL	2304	5.51	7.555	

Participants' motivations to visit the interactive space were also compared with their art interest. The average score in the art interest scale was similarly low (~2.5 on a 0-6 point-scale) and no statistically significant differences were found.

Table 56: Motivations to Visit the Interactive Space by Art Interest

Variable	Relevant Statistics			Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	Art-Interest (summated)			NO (ANOVA)
	n	Mean	SD	
Place-Behavioral	89	2.55	1.645	
Design	664	2.52	1.707	
Content	408	2.38	1.735	
Entertainment	325	2.34	1.597	
Practical Issues	209	2.33	1.704	
Requested by Child	67	2.30	1.467	
Place	427	2.29	1.567	
Social Event	116	2.18	1.478	
TOTAL	2305	2.39	1.652	

Participants' motivations to visit the interactive space were compared with group composition and significant differences were found. In general, adults from *nuclear families* or in *mixed family and non-family groups* did not express any particular motivation more frequently. Those from *extended families* tended to express 'place-behavioral' motivations more frequently. Adults from *non-parental familial* groups tended to express more frequently 'social event' based motivations. Those in *non-family* groups tended to express 'design-related' motivations more frequently.

Table 57: Motivations to Visit the Interactive Space by Group Composition

Variable	Relevant Statistics										Statistically Sig. Diff.?
Motivation to Visit the Interactive Space	Nuclear family		Extended family		Non parental familial		Non-family		Mixed family/ non-family		YES (Pearson Chi-square=61.461, df=28, p<.05, n=2221)
	N	%	n	%	n	%	n	%	n	%	
Place	251	19.3	54	16.4	45	19.9	17	17.7	52	19.5	
Content	229	17.6	58	17.6	47	20.8	12	12.5	49	18.4	Less than expected; More than expected
Social Event	50	3.8	18	5.5	20	8.8	6	6.3	17	6.4	
Entertainment	198	15.2	41	12.4	17	7.5	15	15.6	44	16.5	
Practical Issues	117	9.0	32	9.7	17	7.5	7	7.3	29	10.9	
Design	384	29.5	93	28.2	63	27.9	37	38.5	52	19.5	(Non-family and non-familial professional were combined; Not specified was not included)
Place-Behavioral	42	3.2	25	7.6	7	3.1	2	2.1	11	4.1	
Requested by Child	32	2.5	9	2.7	10	4.4	0	.0	12	4.5	
TOTAL	1303		330		226		96		266		

Appendices

Appendix 1 Sample Instrument

FRIST CENTER FOR THE VISUAL ARTS

Families in Art Museums: ONSITE INTERVIEW

The first thing I'd like you to do is to use these picture cards to recreate your visit today. Each card represents a gallery you may have spent time in, or an activity you may have done. **Put them in order for me representing your visit—in order of what you did.**

	1 (Orig)	2 (Spur)
1st		
2nd		
3rd		
4th		
5th		
6th		
7th		
8th		
9th		
10th		
11th		
12th		
13th		

Visitor ID: _____

Date: _____

Time Interviewed: _____

Group Composition: _____

YOUR MUSEUM VISIT EXPERIENCE

1. **Including this visit, how many times have you visited the *Frist Center for the Visual Arts* in the last 12 months?**

While alone	_____	times	☐ None
With other adult(s) only	_____	times	☐ None
With child(ren)	_____	times	

2. **How many times have you visited other museums in the last 12 months?**

Art museums *(not the Frist)*	_____	times	☐ None
Children's museum	_____	times	☐ None
History museum	_____	times	☐ None
Science museum	_____	times	☐ None
Zoos & aquaria	_____	times	☐ None

3. **Do you currently have a membership…**

	Yes	No
…at the Frist Center?	☐	☐
…at another museum?	☐	☐

1 of 4

4. **Why did you come to the *Frist Center* today?**

5. **While you were at the *Frist Center* today, did you pick up and/or use any of the following items?**

	No	Pick Up	Use
Gallery Guides – printed or audio	☐	☐	☐
Family Activity Pack	☐	☐	☐

6. **Over the <u>last 12 months</u>, how often have you participated or used the following family programs:**

Kid's Club	_____	times
Summer Camp	_____	times
Free Family Days	_____	times
Story Time	_____	times
Lectures/Presentations	_____	times
Other: _____	_____	times

YOUR INTEREST IN ART

7. **I'm going to read you six statements. For each one, please tell me whether or not it describes you by answering Yes or No.**

	Yes	No
I create art for my own enjoyment.	☐	☐
I have participated in art enrichment classes in my free time. (e.g., art-making, lectures, gallery talks, etc.)	☐	☐
I have taken 2 or more art courses in school.	☐	☐
I have an art-related degree.	☐	☐
I create art professionally.	☐	☐
I work or have worked in an art-related field.	☐	☐

8. **How often did you visit museums as a child?**

- ☐ Never
- ☐ Maybe once
- ☐ Occasionally
- ☐ Often

YOUR ARTQUEST EXPERIENCE

9. **Had you heard about *ArtQuest* before today?**

- ☐ Yes
- ☐ No

10. **Including this visit, how many times have you been to *ArtQuest* in the last 12 months?**

_____ times

11. **Why did you go to *ArtQuest* during your visit to the museum today?**

Tell us about yourself

12. Who are you visiting the museum with today? List everyone in your group, including yourself.

	Sex	Age
1. MYSELF	☐ F ☐ M	

OTHERS: [Please indicate relationship to you – i.e. husband, friend, daughter, mother, etc.]

2.	☐ F ☐ M	
3.	☐ F ☐ M	
4.	☐ F ☐ M	
5.	☐ F ☐ M	
6.	☐ F ☐ M	
7.	☐ F ☐ M	
8.	☐ F ☐ M	
9.	☐ F ☐ M	
10.	☐ F ☐ M	

13. What is your ethnic origin?
[Check all that apply]

- ☐ African American
- ☐ Asian/Pacific Islander
- ☐ Caucasian
- ☐ Hispanic/Latino
- ☐ Native American
- ☐ Other (please describe) _____

14. Please indicate your educational background:

- ☐ Some high school
- ☐ High school graduate
- ☐ Some college
- ☐ College degree
- ☐ Some graduate work
- ☐ Graduate degree
- ☐ Other (please describe) _____

15. What is your zip code?
[If outside of U.S., please indicate country]

_____ Zip Code

Please provide us with YOUR CONTACT INFORMATION

In order for us to contact you to complete the second part of this research study, we need some additional information from you.

Name: _____

Email: _____

Phone: _____

This number is for my: ☐ Home ☐ Work ☐ Cell