

The Inclusive and Accessible Museum: Discovering Visitors' Perceptions of the Forensic Anthropology Lab



Smithsonian
National Museum of Natural History

Perceptions of the Forensic Anthropology Lab

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Abstract

This study addresses the accessibility services that the National Museum of Natural History (NMNH) offers for those with disabilities and focuses on visitors' perceptions of the museum's accessibility in the Forensic Anthropology Lab.

In order to measure perceptions, a questionnaire was developed, tested, and then later administered to the visitors when exiting the Lab. They were handed out randomly to visitors and to the visitors with disabilities that were recruited by the Smithsonian Institution's Accessibility Program to attend the Lab.

After analyzing the data, the hypothesis was supported. However, the difference in subsample sizes made analyses exploratory. This information will help the museum make improvements to its accessibility services and when developing future educational experiences within the museum.

Hypothesis

There are differences in perceptions of the Forensic Anthropology Lab between people who identify as having one or more disabilities and people who do not.

Materials and Methods

- Initial research was done to find specific issues on accessibility (see **Figure 1**). It was decided that perception was the most important to focus on.

- A quantitative instrument, in the form of a questionnaire, was developed to measure visitors' perceptions of the Lab.

- It was based on the models of the SERVQUAL and the study on accessibility entitled, *Inclusion, disability, and informal science* (CAISE Access Inquiry Group, 2010).

- The instrument was then tested to ensure reliability and validity. After proving so, the project moved to the testing stage where visitors were asked to fill out the questionnaire.

- Visitors with disabilities were also recruited to participate in the study by the Accessibility Program.

- The research study took place on July 17, July 19-22, July 24, and finally July 26-31, 2010.

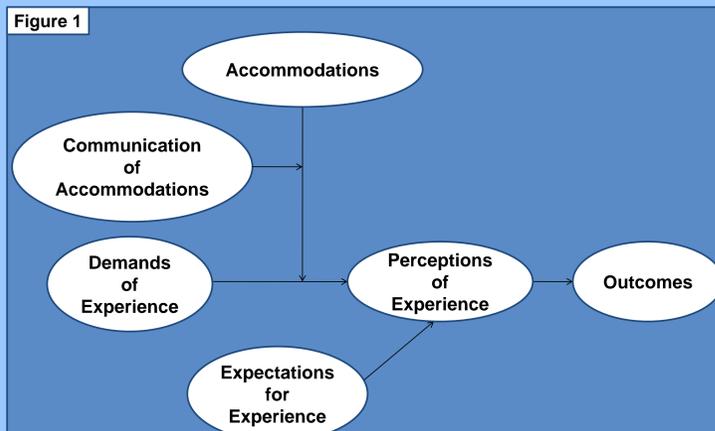


Figure 1: This model was developed and created with help from Bill Watson, Ed.D, Chief of Onsite Learning at NMNH.

Figure 2.1 National Museum of Natural History Summer 2010 Visitor Survey

Directions: Thank you for helping this museum learn more about its services. Please indicate how much you agree or disagree with each of the statements below about the Forensic Anthropology Lab by putting an "x" in the best box next to each question.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I could move around the Lab comfortably.	<input type="checkbox"/>				
I could access the activities in the Lab easily.	<input type="checkbox"/>				
I could find information about the Lab and the activities easily.	<input type="checkbox"/>				
I could participate in the activities in the Lab that I wanted to.	<input type="checkbox"/>				
Information about the Lab and the activities was easy for me to use.	<input type="checkbox"/>				
I felt comfortable interacting with my friends or family in the Lab.	<input type="checkbox"/>				
The Lab was designed with people like me in mind.	<input type="checkbox"/>				
The environment of the Lab made me feel welcome.	<input type="checkbox"/>				

Figure 2.2

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The staff and volunteers in the Lab made me feel welcome.	<input type="checkbox"/>				
I received individual attention in the Lab.	<input type="checkbox"/>				
The Lab was convenient for me to visit once I was in the museum.	<input type="checkbox"/>				
The Lab was designed with my best interests in mind.	<input type="checkbox"/>				
The staff in the Lab understood my needs.	<input type="checkbox"/>				

Directions: Please help us to learn more about how we can best serve our visitors by providing some more information about yourself. All questions in this section are optional.

What is your age? _____

What is your sex? Female Male

Do you have any type of disability? If so, please explain. _____

If you do have a disability, were you provided any services by the museum? If so, please explain. _____

Figures 2.1 & 2.2: Shows the questionnaire used for the study. It follows a 5 scale model from "strongly disagree" to "strongly agree." At the end it contains demographic questions pertaining to age, sex, and disability.



Figure 3: Shows a demonstration being given within the Forensic Anthropology Lab on solving a forensic case.

Results

Once the testing period was complete, it was discovered that out of the total sample, 115 people did not indicate a disability and 18 people did indicate one. Because of the disparity in subsample sizes, analyses should be considered **exploratory**.

Instrument

A principle components analysis with Varimax rotation suggested that the questionnaire used was composed of three factors:

- **Comfortable Atmosphere**, items 6-8, 12. This factor accounted for 49% of the variance in responses. It had acceptable reliability, with Cronbach's alpha = .87. This was an indicator of perceptions of visitors' comfort in the lab and how well the lab met their needs.

- **Accessibility of Activities**, items 1-5, 11. This factor accounted for 11% of the variance in responses. It had an acceptable reliability, with a Cronbach's alpha = .83. This was an indicator of participants' perceptions of how easy it was for them to find out what to do in the lab and to participate in the activities.

- **Staff Attention**, items 9, 10, 13. This factor accounted for 7.7% of the variance in responses. It had an acceptable reliability, with a Cronbach's alpha = .86. This was an indicator of visitors' perceptions of the staff and their availability to assist them.

Findings (Chart 1)

Item/Factor	No Disabilities	Disabilities	t value
Item 1	4.26	4.17	0.468
Item 2	4.57	4.44	0.900
Item 3	4.18	3.44	3.602*
Item 4	4.40	4.39	0.058
Item 5	4.23	4.00	1.195
Item 6	4.46	4.47	-0.031
Item 7	4.20	3.78	1.789**
Item 8	4.34	4.33	0.029
Item 9	4.31	4.44	-0.610
Item 10	3.77	4.28	-1.644***
Item 11	4.12	3.78	1.643***
Item 12	3.99	4.06	-0.296
Item 13	3.88	4.17	-1.174
Comfortable Atmosphere	4.25	4.12	0.746
Accessibility of Activities	4.29	4.04	1.837**
Staff Attention	3.99	4.30	-1.296

* $p < .001$ ** $p < .10$ *** $p = .10$

Findings (Chart 1):

The chart shows the analysis of the data that was done by independent samples *t*-tests. They were used to explore the possibility of differences between these populations on each of the 3 factors and the items separately.

At the bottom we have the *p* value which shows which item/factor has a significant difference. The items with the most significant difference are marked with an asterisk. 1 asterisk being the most significant and 3 stars being significant, but not as much so.

Conclusions

There were no significant differences between people with and without disabilities for **Comfortable Atmosphere** and **Staff Attention**. There was a significant difference on **Accessibility of Activities**, with people with disabilities scoring lower than those without.

For individual items, people with disabilities reported significantly lower agreement with item 3 (find information easily), item 7 (the lab was designed with people like me in mind), and item 11 (the lab was convenient for me to visit once I was in the museum) and significantly greater agreement with item 10 (I received individual attention in the Lab).

Future Work

Future research should be conducted in other inclusive venues at NMNH, such as the Discovery Room. It would also be beneficial to see this instrument used at other museums. The more exposure and testing this instrument can receive, the more valuable and reliable it will be.

It would also be important to focus on other issues of accessibility such as the ones found on **Figure 1**.

Figure 3 (to the left):

Shows visiting children examining skulls and mandibles at the Forensic Anthropology Lab. It is here where they learn to solve forensic cases by being able to touch actual bones.

Figure 4 (to the right):

Shows a girl looking at x-rays of skulls, jaws, and other bones in the Forensic Anthropology Lab.



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