

Instrument/Measure: *Modified General Museum Visitor Satisfaction Index*

Type:	Self-report survey index
Number of items:	Five
Primary construct:	General satisfaction with exhibit experience
Intended audience:	Adult museum visitors
Language(s):	English, Spanish
Suggested citation:	Pattison, S., Rubin, A., Benne, M., Gontan, I., Andanen, E., Shagott, T., Francisco, M., Ramos-Montañez, S., Bromley, C., & Dierking, L. (2016). <i>The impact of facilitation by museum educators on family learning at interactive exhibits: Results of a quasi-experimental study</i> . Manuscript in preparation.

The Modified General Museum Visitor Satisfaction Index (M-GMVS) is a five-item self-report survey measure intended to assess museum visitors' general satisfaction with an exhibit experience. Respondents rate their level of agreement to each item using a seven-point Likert-like scale with five anchor categories (strongly disagree to strongly agree). Satisfaction scores are constructed using the unweighted average across all five items.

Development process

Items for the M-GMVS were adapted from Packer (2004) to be relevant to experiences at museum exhibits. For example, the item "the visit was as good as I had hoped" was modified to read "the experience was as good as I had hoped." The English version of the instrument was originally piloted with 61 visitors (Pattison, Randol, et al., 2016). These items were then translated into Spanish by a team of three qualified, bilingual/bicultural researchers. Validity and reliability were tested for the final English and Spanish versions with 263 adult visitors surveyed after engaging with interactive math exhibits with their families. The full M-GMVS development process is described in Pattison et al. (2016).

Cultural assumptions and considerations

- The M-GMVS allows visitors to assess satisfaction based on their own goals and criteria. However, it does not provide insights into the underlying causes of the satisfaction, including different cultural expectations related to the museum experience.
- The original version of the measure was developed in English and the English items were not modified during the translation process to consider issues of cross-cultural validity.
- The number of Spanish responses in the final study was not large enough to assess validity and reliability separately for the English and Spanish versions.
- There were no statistically significant correlations between the M-GMVS and participant gender, ethnicity, race, languages spoken at home, or education level. Scores may have differed based on respondent characteristics not measured in the study.

Reliability and validity evidence

- Internal consistency, or reliability among items, was high (Cronbach's $\alpha=0.95$).
- Principal component analysis (PCA) provided strong evidence that the five items related to a single underlying dimension. Component loadings ranged from 0.89 to 0.94 for the five items and the single factor solution explained 83% of the variance in responses.
- As evidence of convergent validity, the M-GMVS was strongly correlated with reported enjoyment of the mathematical elements of the experience ($r=0.47$, $p<0.001$).

References

- Packer, J. (2004). *Motivational factors and the experience of learning in educational leisure settings* (Doctoral dissertation). Queensland University of Technology, Queensland, AU. Retrieved from http://eprints.qut.edu.au/15911/1/Jan_Packer_Thesis.pdf
- Pattison, S. A., Randol, S., Benne, M., Rubin, A., Gontan, I., Andanen, E., ... Dierking, L. D. (2016). *Modeling staff-facilitated family learning at interactive math exhibits: A design-based research study*. Manuscript in preparation.
- Pattison, S. A., Rubin, A., Benne, M., Gontan, I., Andanen, E., Shagott, T., ... Dierking, L. D. (2016). *The impact of facilitation by museum educators on family learning at interactive exhibits: Results of a quasi-experimental study*. Manuscript in preparation.

OMSI is interested in learning more about your experience with exhibits. Your feedback is very valuable to us and we appreciate your time. Please answer the questions as thoughtfully and honestly as you can. All of your responses will be confidential. Thank you!

Think about the experience you just had at the exhibit.

1. How satisfied were you with your exhibit experience? (Please circle one response for each item.)

	Strongly disagree	Disagree	In the middle	Agree	Strongly agree		
a. I feel I benefited greatly from my experience with the exhibit today.	1	2	3	4	5	6	7
b. I found the exhibit experience to be very worthwhile.	1	2	3	4	5	6	7
c. The experience was as good as I hoped.	1	2	3	4	5	6	7
d. I would highly recommend this exhibit to a friend.	1	2	3	4	5	6	7
e. Overall, I was very satisfied with the exhibit experience.	1	2	3	4	5	6	7

2. What would you tell a friend this exhibit is about?

Think about the interaction you just had with the OMSI educator at the exhibit, even if it was very brief. Please provide honest and thoughtful feedback so that we can improve our educator trainings.

3. How helpful was the support provided by the OMSI educator? (Please circle one response for each item.)

	Much less than I wanted	A little less than I wanted	Just perfect!	A little more than I wanted	Much more than I wanted		
a. The support provided by the educator for how to use the exhibit was...	1	2	3	4	5	6	7
b. The support provided by the educator for engaging deeply with the exhibit was...	1	2	3	4	5	6	7
c. The support provided by the educator for understanding the main messages of the exhibit was...	1	2	3	4	5	6	7
d. The support provided by the educator for exploring the exhibit at my own pace and in my own way was...	1	2	3	4	5	6	7
e. The support provided by the educator for interacting with others in my group was...	1	2	3	4	5	6	7

4. How enjoyable were each of the following aspects of your experience at the exhibit? (Please circle one response for each item.)

	Not at all enjoyable	Not very enjoyable	In the middle	Enjoyable	Very enjoyable	We did not do this
a. Testing out different combinations and locations of weights on each side of the bar	1	2	3	4	5	6 7 X
b. Making the bar balance	1	2	3	4	5	6 7 X
c. Figuring out that both distance from the center and weight matter when balancing the bar	1	2	3	4	5	6 7 X
d. Discovering that weight times distance on one side of the bar must equal weight times distance on the other side	1	2	3	4	5	6 7 X
e. Figuring out the mystery weights	1	2	3	4	5	6 7 X

Please tell us about you and your family (your responses will be completely confidential).

5. Including this visit, how many times have you been to OMSI in the last 12 months? _____

6. What is your age? _____

7. What is your gender? Male Female Other

8. Including yourself, how many adults (over 18 years of age) are in your group today? _____

9. How old are the children in your group today? Ages of Boys _____ Ages of Girls _____

10. What is the highest level of education you have completed? (Please mark one.)

- | | |
|--|--|
| <input type="checkbox"/> Some formal school (grades K–11) | <input type="checkbox"/> Associate's degree (such as AA, AS) |
| <input type="checkbox"/> 12th grade (no diploma) | <input type="checkbox"/> Bachelor's degree (such as BA, BS) |
| <input type="checkbox"/> High school diploma (or equivalent) | <input type="checkbox"/> Graduate or professional degree (such as MA, MD, PhD) |
| <input type="checkbox"/> Some college (no degree) | |

The following information will help us determine if we are hearing from a representative sample of OMSI visitors.

11. Are you of Hispanic, Latino or Spanish origin? (Please mark one or more boxes.)

- | | |
|--|--|
| <input type="checkbox"/> No, not of Hispanic, Latino, or Spanish origin | <input type="checkbox"/> Yes, Puerto Rican |
| <input type="checkbox"/> Yes, Mexican, Mexican American, Chicano | <input type="checkbox"/> Yes, Cuban |
| <input type="checkbox"/> Yes, another Hispanic, Latino or Spanish origin (please indicate) _____ | |

12. What is your race? (Please mark one or more boxes.)

- | | | |
|---|--|--|
| <input type="checkbox"/> American Indian or Alaska Native | <input type="checkbox"/> Black or African American | <input type="checkbox"/> White |
| <input type="checkbox"/> Asian Indian | <input type="checkbox"/> Chinese | <input type="checkbox"/> Japanese |
| <input type="checkbox"/> Korean | <input type="checkbox"/> Filipino | <input type="checkbox"/> Vietnamese |
| <input type="checkbox"/> Other Asian (please indicate) _____ | | |
| <input type="checkbox"/> Native Hawaiian | <input type="checkbox"/> Samoan | <input type="checkbox"/> Guamanian or Chamorro |
| <input type="checkbox"/> Other Pacific Islander (please indicate) _____ | | |
| <input type="checkbox"/> Some other race (please indicate) _____ | | <input type="checkbox"/> Not Sure |

13. What language(s) do you speak at home? _____

THANK YOU for your help!

OMSI está interesado en aprender más sobre su experiencia con nuestras exhibiciones. Su opinión es valiosa y apreciamos su tiempo. Por favor considere las siguientes preguntas y provea la respuesta más detallada posible. Todas sus respuestas son anónimas. ¡Gracias!

Piense acerca de su experiencia en la exhibición.

1. *¿Cuán satisfecho esta con su experiencia en la exhibición? (Por favor encierre su respuesta en un círculo para cada afirmación).*

	Completamente en desacuerdo	Desacuerdo	En el medio	Acuerdo	Completamente de acuerdo		
a. Siento que me he beneficiado al visitar esta exhibición hoy.	1	2	3	4	5	6	7
b. Mi experiencia en la exhibición valió la pena.	1	2	3	4	5	6	7
c. Mi experiencia fue tan buena como esperaba.	1	2	3	4	5	6	7
d. Recomendaría altamente esta exhibición a un amigo (a).	1	2	3	4	5	6	7
e. En general, estoy muy satisfecho (a) con mi experiencia en la exhibición.	1	2	3	4	5	6	7

2. *¿De qué le diría a un amigo que se trata esta exhibición?*

Aunque haya sido breve, piense en la interacción que acaba de tener con el educador(a) de OMSI en la exhibición. Por favor comparta la opinión más honesta y detallada que pueda. Sus opiniones ayudarán a mejorar el entrenamiento que le proveemos a los educadores.

3. *¿Cuán útil fue el apoyo provisto por el educador(a) de OMSI? (Por favor encierre su respuesta en un círculo para cada afirmación).*

	Menos de lo que quería	Un poco menos de lo que quería	¡Perfecto!	Más de lo que quería	Mucho más de lo que quería		
a. El apoyo provisto por el educador para utilizar la exhibición fue...	1	2	3	4	5	6	7
b. El apoyo provisto por el educador para envolverme profundamente con la exhibición fue...	1	2	3	4	5	6	7
c. El apoyo provisto por el educador para entender el mensaje principal de la exhibición fue...	1	2	3	4	5	6	7
d. El apoyo provisto por el educador para poder explorar la exhibición a mi propio ritmo y a mi propia manera fue...	1	2	3	4	5	6	7
e. El apoyo provisto por el educador para interactuar con otros miembros de mi grupo fue...	1	2	3	4	5	6	7

4. ¿Cuánto disfrutó los siguientes aspectos de su experiencia en la exhibición?
(Por favor encierre su respuesta en un círculo para cada afirmación).

	Desagradable	No muy agradable	En el medio	Agradable	Muy agradable	No hicimos esto		
a. Experimentar con diferentes combinaciones y posiciones de las pesas en cada lado de la barra	1	2	3	4	5	6	7	X
b. Equilibrar la barra	1	2	3	4	5	6	7	X
c. Descubrir que no solamente el peso de pero la distancia en relación al centro de la barra son importantes para alcanzar equilibrio	1	2	3	4	5	6	7	X
d. Descubrir que el peso multiplicado por la distancia en un lado de la barra debe ser igual que el peso multiplicado por la distancia del otro lado	1	2	3	4	5	6	7	X
e. Descubrir las pesas incógnitas	1	2	3	4	5	6	7	X

Por favor díganos más acerca de usted y su familia (sus respuestas son completamente anónimas).

5. Incluyendo esta visita, ¿Cuántas veces ha visitado a OMSI en los últimos 12 meses? _____

6. ¿Cuál es su edad? _____

7. ¿Cuál es su género? Masculino Femenino Otro

8. Incluyéndose usted, ¿Cuántos adultos (18 años de edad o más) se encuentran con usted hoy? _____

9. ¿Qué edad tienen los niños que están con usted hoy? Edad de niños _____ Edad de niñas _____

10. ¿Cuál es el nivel más alto de educación que usted ha completado? (Marque uno)

- | | |
|---|--|
| <input type="checkbox"/> Algo de aprendizaje formal (grados K-11) | <input type="checkbox"/> Título de Asociado (AA, AS diploma) |
| <input type="checkbox"/> Algo de preparatoria (sin diploma) | <input type="checkbox"/> Título Universitario (BA, BS diploma) |
| <input type="checkbox"/> Graduado de preparatoria (o su equivalente) | <input type="checkbox"/> Maestría o doctorado (MA, MD, PhD) |
| <input type="checkbox"/> Algo de universidad (sin título) | |

La siguiente información nos ayuda a determinar si estamos obteniendo la opinión de un grupo representativo de visitantes de OMSI.

11. ¿Es usted de origen hispano, latino o español? (Por favor marque uno o más cuadros.)

- | | |
|--|---|
| <input type="checkbox"/> No, no soy de origen hispano, latino o español | <input type="checkbox"/> Sí, puertorriqueño |
| <input type="checkbox"/> Sí, mexicano, mexicano americano, chicano | <input type="checkbox"/> Sí, cubano |
| <input type="checkbox"/> Sí, otro origen hispano, latino o español (por favor indique) _____ | |

12. ¿Cuál es su raza? (Por favor marque uno o más cuadros)

- | | | |
|---|---|--|
| <input type="checkbox"/> Nativo Americano o nativo de Alaska | <input type="checkbox"/> Negra, Africana Americana o negroide | <input type="checkbox"/> Blanca |
| <input type="checkbox"/> India asiática | <input type="checkbox"/> China | <input type="checkbox"/> Japonesa |
| <input type="checkbox"/> Coreana | <input type="checkbox"/> Filipina | <input type="checkbox"/> Vietnamita |
| <input type="checkbox"/> Otra asiática (por favor indique) _____ | | |
| <input type="checkbox"/> Nativa de Hawái | <input type="checkbox"/> Samoana | <input type="checkbox"/> Guameña |
| <input type="checkbox"/> Otra de las islas del Pacífico (por favor indique) _____ | | |
| <input type="checkbox"/> Alguna otra raza (Por favor indique) _____ | | <input type="checkbox"/> No estoy seguro |

13. ¿Qué idioma(s) habla en su casa? _____