Every Body Eats

Let's Get Active

Summative Evaluation Report

Prepared for

Oregon Museum of Science & Industry

by

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[Every Body Eats shows] ***individuals the importance of eating healthier by providing healthier meals, snacks, & groceries for their families.*** *[It reminded me]* ***I am doing a good job for my kids & family but I need to do more.*** **adult female**

[I didn't know that] ***most of the sodium in our diets comes from the prosest*** *[sic]* ***food.*** *[It reminded me]* ***On trips I eat a lot of prosest food.***
8-year-old girl

Photographs by Laura Dempsey

[Let's Get Active shows] ***the advantages of physical activity over video games & computer time.*** *[It reminded me]* ***It is important to control "screen time" for kids. Physical activities are important.*** **adult male**

We need to stay active in order to live a healthy life !una vida sana!
15-year-old girl

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Executive Summary

This report presents the findings from a summative evaluation of ***Every Body Eats*** and ***Let's Get Active***, two 800-square-foot traveling exhibitions developed by the Oregon Museum of Science and Industry (OMSI) and the Small Museum Research Collaborative (SMRC) for small museums. These thematically related exhibitions explore this common central idea:

The whole family benefits when we make informed healthy choices.

Patricia McNamara, an independent evaluator, designed this study to document the exhibitions' impact and effectiveness. This summary highlights key findings. Readers are encouraged to consult the body of the report for a more fine-grained portrait of visitors' experiences in these two exhibitions.

Every Body Eats began its national tour in October 2009; ***Let's Get Active*** opened at its first venue in October 2010. All summative data was collected at exhibit tour sites between November 2009 and April 2011. Principal findings are summarized by exhibition.

Principal findings ✦ *Every Body Eats*
Tracking-and-timing observations

A total of 77 adults were unobtrusively observed as they toured the exhibition at the Cleveland Museum of Natural History (CMNH). Females accounted for 60 percent of those observed; approximately 80 percent or more of all observed visitors were judged to be white and not Latino. Nearly all visitors were in the company of others as they toured the exhibition; the majority of adults were accompanied by one or more children and approximately 50 percent of all groups included at least one pre-school-age child.

Overall time spent and level of engagement

- Visitors spent a median time of four minutes in ***Every Body Eats***. The shortest time spent by any visitor was one minute; the longest was 21 minutes. Visitors stopped at a median of three (or 20 percent of the exhibitions' 15 elements. At CMNH, the exhibition was installed in a wide passageway that connected the museum lobby to other exhibition galleries and program areas. Although visitors could enter the gallery from either end of this hallway, their initial entry point did not affect either their total time in the exhibition or the number of stops that they made.

- When visitors' overall use of ***Every Body Eats*** at CMNH is compared with that of visitors in a national sample of similarly sized and themed exhibitions (Serrell, 1998), it is clear that even though visitors moved relatively slowly through the exhibition (their average speed was 138 feet per minute), their level of engagement with exhibit components was much lower than was commonly observed (only seven percent of the CMNH sample stopped at more than 50 percent of the available elements).

Visitors' use of individual components

- Only one component (*Fuel Your Body*) attracted stops from more than 25 percent of the observed adults and supported relatively long interactions (the average stop lasted approximately three minutes). Other components (notably *Reading Labels (sides 1 and 2)*, and *Dinner Theater*) were more likely to attract visitors' attention, but sustained much shorter interactions. The *introduction panel*, on the other hand, prompted only three visitor stops.

- Visitors could enter this gallery from either end of the exhibition; visitors' original entry point did seem to influence their likelihood to stop at particular components. For example, *Added Ingredients* was located near the lobby end of the exhibition, but faced in the opposite direction. Nearly all of the visitors who stopped at that component approached it from the far end of the exhibition (rather than from the lobby).

Visitors' behavior at specific exhibit elements

- Even though visitors stopped at very few components overall, when they did stop, they were very likely to engage in relevant activity (i.e., reading text, engaging in physical interaction themselves, or watching another's interaction with an element). Five components (*Fuel Your Body*, *Calories In/Calories Out*, *Reading Labels (side 1)*, *Reading Labels (side 2)*, and *Dinner Theater*) both attracted stops and promoted visitor interaction.

- Sixty-two percent of all visitor stops included reading; 38 percent of the adults in this sample were observed to read associated labels during every component stop in the gallery.

- *Dinner Theater*, one of two components designed to engage families with young children, was especially successful in that regard. Nearly 50 percent of adults accompanied by pre-school-age children stopped at *Dinner Theater* and nearly all of those interacted appropriately, using the puppets and variety of plastic fruits and vegetables to prompt conversations about healthy eating and eating habits (e.g., favorite or familiar/unfamiliar fruits and vegetables).

Principal findings ✦ *Every Body Eats*
Cued questionnaires and interviews

A total of 61 self-administered questionnaires were completed by 41 adults and 20 children. Nearly all visitors were accompanied by others; approximately 90 percent of adults were accompanied by one or more children and 60 percent of the children were part of informal groups that included at least one other child. A separate sample of 23 adults participated in a one-on-one conversation with a trained interviewer after those visitors had been asked to spend time in the exhibition. Again, 90 percent of those adults had toured ***Every Body Eats*** in the company of one or more children.

All of these visitors were "cued" – recruited as they entered the exhibit to fill out a survey after they exited. This procedure makes it possible to gauge an exhibition's impact when visitors are motivated to use exhibit components more thoroughly and pay attention to exhibition messages.

Visitors in the cued questionnaire sample did spend more than four times as long in the gallery as those who were unobtrusively observed.

The questionnaires included open-ended items that encouraged visitors to share their understanding of the exhibition's overall "purpose" (i.e., what it was intended to "show people" or "make people do"), relate new ideas they encountered (e.g., "I never knew that …"), and recall anything that they were reminded of during their visit to the gallery. Minor wording changes were made to facilitate children's use of the questionnaires. The interview protocol prompted adults to choose from a variety of different snack bars, explain their choice, discuss the factors they consider when planning healthy family meals, and explain the meaning of "nutrition" and "calorie."

- Approximately 65 percent of the adults and children who completed the questionnaires addressed one or more of the exhibitions' key messages in their responses. Sixty percent of the children and nearly 50 percent of the adults specifically mentioned what they had realized about their own eating habits or described healthier eating practices that they could adopt, e.g.,

  [***Every Body Eats*** reminded me] *To eat better every day. Kid Cuisine© is not good for you.* [ID# 11, 8-year-old boy]

- Questionnaire responses were very likely to reference specific component-related content; 85 percent of the adults and 75 percent of the children mentioned such ideas in one or more of their responses.

- Adults' interview responses were compared with those made by a sample of adults interviewed during the exhibition's original planning process. Even though visitors' experiences in ***Every Body Eats*** did not seem to influence their choice of snack bar, those who had seen the exhibition were significantly more likely to review the nutritional information provided on the bars as they made and discussed their choice than were those who had no experience with the exhibition. When discussing how they plan healthy meals for themselves and their families, the POST interviewees were also more likely to describe overall strategies that they employ (e.g., avoiding processed food, watching portion sizes), or mention particular foods that they try to either include (e.g., fruits, vegetables) or avoid (e.g., sugar, fats). Both PRE and POST interviewees struggled to explain the meaning of "nutrition" and "calorie."

Principal findings ✦ *Let's Get Active*

Tracking-and-timing observations

Tracking-and-timing data was collected at two sites: Cleveland Museum of Natural History (CMNH) and Granville Museum in Oxford, NC (Granville). Sixty-nine adult visitors were unobtrusively observed as they toured ***Let's Get Active*** at CMNH; a total of 20 similar observations were completed at Granville. Females predominated in both samples; 75 percent or more of those observed were judged to be white and not Latino. Nearly all of these adults were accompanied by one or more children (56 percent of the CMNH group and 65 percent of those observed at Granville included pre-school-age children). These two museums differed

significantly in terms of their size, character, and level of visitation, making it difficult to combine the resulting data or make meaningful comparisons in any detail.

Overall time spent and level of engagement

- These findings vividly demonstrate how site characteristics and circumstances can influence visitor engagement with the same exhibition. At the mid-sized CMNH, ***Let's Get Active's*** installation in an area that also served as a passageway seemed to discourage extended visitation: visitors spent an average of seven minutes in the exhibition and stopped at an average of only four components. Granville's more enclosed gallery configuration (and much more limited menu of exhibitions and programs) clearly promoted more in-depth exploration. Visitors' average time in ***Let's Get Active*** increased to 29 minutes and the average number of component stops tripled. Since relatively few observations were completed at Granville Museum, the more detailed analyses that follow focus solely on the larger CMNH dataset.

Visitors' use of individual exhibition elements

- Only one component stood out in terms of both its attractiveness and holding power. *Balancing Act* prompted stops from 50 percent of the observed adults; those visitors' median time was two minutes. Only one other element (*Hop to Healthy Bones*) attracted a higher proportion of visitor stops, but sustained shorter interactions (a median stop time of one minute).

- As was true for ***Every Body Eats***, visitors' point of entry did not affect their total time in the exhibition or their overall engagement with components.

Visitors' behavior at specific exhibit elements

- When visitors did stop at a component, they were very likely to read labels, engage in some degree of physical interaction, and talk with each other about their experiences. Unlike those observed in ***Every Body Eats***, these adults were more likely to watch someone else's interaction (often that of an accompanying child) than to physically engage with a component themselves.

- Overall, nine components prompted stops from at least 25 percent of this sample and were especially successful at encouraging interaction. In addition to the two components mentioned above, these included the three components that comprise *Test Your Strength* (*Grip Strength*, *Wall Squats*, *Push-Ups/Sit-Ups), Be Flexible*, *Using Energy*, *Power of Exercise*, and *Animal Motion*. With three exceptions, these more engaging elements included all of those that offered adults and children the opportunity to test their own level of strength/fitness along a variety of dimensions.

- ***Let's Get Active*** also included one component designed for a pre-school-age audience; however, *Animal Motion* was only moderately successful in engaging target families.

Principal findings ✦ *Let's Get Active*
Cued questionnaires

Sixty-one adults and 30 children completed self-administered questionnaires. The demographic profile and group composition of these visitors closely resembled those of visitors completing questionnaires about ***Every Body Eats***. The recruitment procedures and questionnaires were nearly identical to those used to assess the impact of that exhibition. Again, that cuing procedure dramatically increased the time that these visitors spent in the exhibition. Like those adults and children who answered questions about ***Every Body Eats***, these visitors spent a median time of 14 minutes in ***Let's Get Active*** (approximately three times the median time spent by those in the uncued tracking-and-timing sample).

- ✦ Describing the exhibition's overall purpose, the majority of adults and children emphasized encouraging increased activity, demonstrating how to exercise properly, and increasing visitors' awareness of their own physical fitness. Approximately one half mentioned one or more elements of the exhibition's central idea and key messages, e.g.,

  [Didn't know] *A little activity is so much better than no activity.* [Reminded me] *Small efforts make a big difference.* [ID# 51 Adult]

  [Didn't know] *That all the time you spend playing video games it all adds up to a lot of wasted time.* [ID# 1, 11-year-old boy]

- ✦ Like visitors who were questioned about ***Every Body Eats***, those who interacted with ***Let's Get Active*** components often mentioned content that reflected their interactions with specific exhibit components. Both adults and children most often related ideas from *Sports Nutrition Foods*, e.g.,

  [Didn't know] *Different so called healthy drinks/food had contents which were unhealthy. …* [Reminded me] *We want to stick with fresh/basic foods for our family.* [ID# 45 Adult]

- ✦ When these visitors attempted to estimate the daily exercise levels recommended for others in their age category (either adults or children), both groups described levels even greater than those suggested by the Centers for Disease Control. For example, 40 percent of adults who had seen ***Let's Get Active*** estimated that adults should exercise more than 30 minutes per day to stay fit and healthy.

Adults' recommendations to improve other visitors' experiences in these exhibitions

Approximately 40 percent of those completing the cued questionnaires identified changes that might improve other families' experiences in either ***Every Body Eats*** or ***Let's Get Active***.

- ✦ Overall, nine percent expressed concern about the amount of text (or suggested that audio interpretation or more illustration-based directions would be helpful).

- ✦ A similar proportion commented on the exhibitions' "age appropriateness." These were evenly divided between those requesting additional activities for a specific age group and those noting that the mix of activities were well matched to the ages of children in their group.

- Thirteen percent described problems that they encountered with specific components or suggested how specific components might be improved, e.g.,

  Add bacon to Race Cars exhibit [Fuel Your Body]. *Add sweet potato to Supermarket exhibit.* [ID# 5, Adult]

  Flexibility exhibit is not sized for kids. [ID# 48 Adult]

Discussion and Recommendations

Study findings demonstrate that, under the right circumstances, both ***Every Body Eats*** and ***Let's Get Active*** are very engaging and effective exhibitions. At the same time, the differences in visitor behavior observed in two very different gallery settings underscore how powerfully site characteristics can limit (or enhance) the effectiveness of traveling exhibitions such as these.

This study also raises issues and questions for the OMSI team. These exhibitions were specifically designed and tested in partnership with the Small Museum Research Collaborative and study findings suggest that ***Every Body Eats*** and ***Let's Get Active*** engage visitors more effectively in the small venues for which these exhibitions were designed. Even though OMSI staff has little control over which kinds of venues rent small exhibits or how those exhibits are installed, exhibit developers and designers are nevertheless encouraged to brainstorm how OMSI-originated traveling exhibitions might be designed and tested to maximize their effectiveness across a variety of museum configurations and circumstances. OMSI exhibition staff might also consider how exhibitions that address especially important but potentially challenging topics (e.g., changing personal eating and exercise habits) could support continuing learning, practice, and conversation within visiting families.

Introduction

This report summarizes the summative evaluation of ***Every Body Eats (EBE)*** and ***Let's Get Active (LGA)***, two traveling exhibitions developed by the Oregon Museum of Science and Industry (OMSI) in partnership with the Small Museum Exhibit Collaborative (SMRC) to better understand and address the needs of small museums.[1] Although designed to be displayed and communicate independently, these two 800-square-foot exhibitions address a common theme, to "promote intergenerational learning about healthy nutrition and fitness."[2]

Since these exhibitions were developed to function as temporary installations in a variety of museum settings, this evaluation of the exhibitions' impact was conducted at two early tour venues. The selection of tour venues was dictated by the exhibitions' booking schedules and the project's overall award period.

- The Cleveland Museum of Natural History (CMNH; Cleveland, OH) hosted ***Every Body Eats*** from October through December, 2009. CMNH was also the second tour stop for ***Let's Get Active*** (February through April, 2011). Note that CMNH is a much larger facility than the small venues for which these exhibitions were originally intended.

- Granville Museum (GM; Oxford, NC), first tour site for ***Let's Get Active***, hosted that exhibition from October through December, 2010. The evaluation's scope at Granville Museum was limited by that site's relatively low visitation.

These two 800-square-foot exhibitions were developed to especially suit the needs of small museums, engage the interest of both adults and children, and support the involvement of both English and Spanish-speaking families. Working with project advisors and representatives from the SMRC partner museums, the OMSI exhibit team developed a variety of interactive components to communicate this "Big Idea":[3]

The whole family benefits when we make informed healthy choices.

The planning team formulated additional messages that expand on that central idea:

Both exhibitions

- Healthy eating and physical fitness help to keep my body strong, give me energy to do my favorite activities, and enable me to look and feel my best.
- A healthy lifestyle requires a balance of calories in and calories out.
- Healthy living is a family responsibility.
- Small, simple changes to my diet/activity level can make a big difference.
- I can look to science (and results from clinical research) to get information to help

[1] ***Every Body Eats*** and ***Let's Get Active*** were produced and are toured by the Oregon Museum of Science and Industry. These exhibits were made possible by a Science Education Partnership Award (SEPA) grant from the National Center for Research Resources (NCRR), a component of the National Institutes of Health (NIH).
[2] Statements about the exhibitions' goals and visitor outcomes are taken from two OMSI planning documents, *SEPA Nutrition Exhibit with ACC Metrics* (dated 7-09-07) and *SEPA Fitness Exhibit with ACC Metrics* (dated 8-01-07).
[3] Serrell, Beverly. 1998. *Exhibit Labels: An Interpretive Approach*. Walnut Creek, CA: Altamira Press.

me make healthy choices.

- I can look to scientific research to help me decipher the messages about food, nutrition, and physical fitness presented by the media and advertisers.

Every Body Eats

- Healthy eating involves choosing whole foods and drinking water.

Let's Get Active

- There are many ways to be active, not just traditional sports and exercise, and many ways to fit physical activity into my day.
- Limiting "screen time" can create more time for physical activity.

Several features common to both exhibitions reflected the project team's broader set of goals for the project as a whole.

- To promote intergenerational learning about healthy nutrition and physical fitness, each exhibition included at least one component specifically designed to engage families with very young children. For example, in ***Every Body Eats***, a pre-school-sized kitchen table and chairs (complete with puppets and plastic food and vegetables) encouraged adults and children to talk about food choices and the importance of a varied diet. *Animal Motion* in ***Let's Get Active*** (pictured to the right), offered children a chance to don animal costumes and dance to music in front of a mirror while accompanying adults could read about the importance of play-based physical activity for young children.

- A variety of interactive elements offered families an opportunity to practice relevant behaviors and skills. ***Every Body Eats'*** components especially encouraged visitors to read nutritional labels, cut down on consumption of processed foods and soft drinks, and plan healthier meals. Several ***Let's Get Active*** elements gave visitors a chance to both practice strength and fitness-building activities (e.g., jumping, balancing, stretching, doing push-ups and sit-ups) and compare their own fitness level with that typical for their gender and age group.

- Fully bilingual exhibit text increased the exhibitions' appeal and usefulness for families, whether their preferred language was English or Spanish (see Appendix A for examples of bilingual labels used in these exhibitions).

Study Methodology

Two primary evaluation strategies were used to document visitors' use of and reactions to these two exhibitions: tracking-and-timing observations of adults in the exhibitions, and self-administered questionnaires completed by separate samples of adults and children who had spent time touring either ***Every Body Eats*** or ***Let's Get Active***. A small sample of adults who had seen ***Every Body Eats*** were interviewed at the exhibition exit; their responses were compared with those offered by adults who had been interviewed during the project's front-end evaluation phase. Table 1 summarizes sample sizes by study component, site, and audience.

Table 1: Summative evaluation sample sizes (by study component, site, and audience)

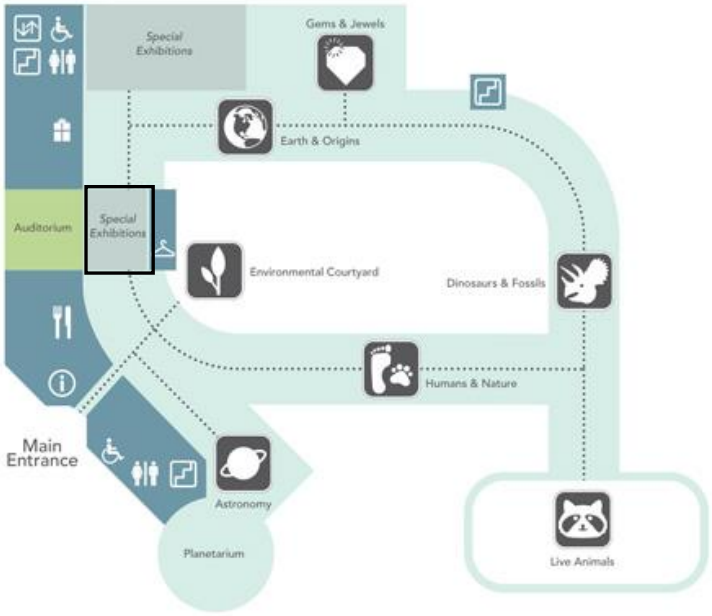
Component	Exhibition (site)	Adults	Children	Total
Tracking-and-timing observations	***EBE*** (CMNH)	77	0	**77**
	LGA (Granville)	20	0	**20**
	LGA (CMNH)	69	0	**69**
Cued questionnaires	***EBE*** (CMNH)	41	20	**61**
	LGA (CMNH)	61	30	**91**
Cued interviews	***EBE*** (CMNH)	23	0[4]	**23**
Total		**291**	**50**	**341**

The data collection timeline was largely dictated by the project's overall development schedule. Front-end interviews of adults were conducted in 2006 at the partner museum sites by staff or volunteers at those museums.[5] Summative evaluation data was collected at the exhibit tour sites between November 2009 and April 2011.

Tracking-and-timing observations

Unobtrusive observation of visitors' behavior in an exhibition can provide a good overview of the range of visitor behaviors prompted by exhibition components and the extent to which individual components capture and maintain visitor attention. Such data indicate whether casual visitors tend to spend enough time (or interact with a wide enough variety of components) to come in contact with the exhibition's key messages and ideas. Findings from these observations complement the insights about visitor experiences offered by more direct interaction with visitors (e.g., interviews or questionnaires).

The majority of tracking-and-timing observations were conducted at CMNH, where exhibit components were installed in the smaller of the museum's two special exhibition galleries, an 800-square-foot "hallway" that connected the museum entrance lobby to additional exhibition galleries and program areas (a floor plan of the museum's main level is provided to the right; this gallery is the smaller of two areas labeled "Special Exhibitions"). Individual adults were randomly selected for observation as they entered the special exhibits gallery from either the museum lobby or from the hallway's opposite end. The observation was not initiated, however, until the target visitor actually stopped at an



[4] Two children were actually interviewed at CMNH, but those interviews are not included in this report.
[5] The front-end study findings were summarized in earlier reports (McNamara, 2006; Ewing, 2007).

exhibition component for at least two seconds. Observations were terminated when the target visitor left the gallery and entered one of the adjacent spaces (e.g., the lobby, the café, the auditorium, or to the remaining public areas on the main level). Approximately one half of all visitors were tracked as they entered from the lobby, while the remainder entered from the gallery's opposite end.[6] Observations were only included in the study samples if the targeted visitor spent at least one minute in the gallery and stopped at at least one component.

At Granville Museum, ***Let's Get Active*** was installed in a more conventional gallery space with a single entry/exit point. At that site, target visitors were randomly selected for observation as they entered the gallery; again, an observation was initiated when the target visitor stopped at the first exhibit component. The observation was terminated when the target visitor left the gallery.[7]

For the purpose of this study, a "visitor stop" was recorded if the target visitor paused in front of a component and directed attention to it for at least two seconds. If a visitor returned to a particular element, that subsequent interaction was not tabulated as a separate stop (but any additional activity or time spent was recorded and added to data for the initial stop).[8] All observations were "uncued," i.e., visitors were not made aware of the observation) and no contact occurred between visitors and observers. Copies of the observation forms used at each site are included in the report appendices.

As Table 2 indicates, the majority of observations were conducted on weekend days. No observations were conducted at any site on Tuesdays.

Table 2: Data collection schedule for tracking-and-timing observations

Day of week	***Every Body Eats*** (N=77)	***Let's Get Active*** (N=89)
Saturday	43%	57%
Sunday	17%	9%
Monday	19%	10%
Wednesday	0%	5%
Thursday	0%	6%
Friday	21%	13%

[6] The introductory panel for each exhibition was placed at the "lobby" entrance to the gallery, referred to as the exhibition entrance. The opposite end of the gallery is referred to as the "rear" of the exhibition, even though many visitors actually entered from that direction.

[7] One exhibit component was installed in the building lobby, a small space immediately outside the museum's temporary exhibit gallery. Stops at that component were included in the observations.

[8] If a target visitor left the exhibition and was clearly planning to return (e.g., she mentioned to companions that she was leaving to find a restroom), the observer paused the observation and resumed it when that visitor returned (or terminated it if the visitor did not reappear within a reasonable time).

Cued Questionnaires

A brief questionnaire prompted visitors to relate their own interpretation of the exhibitions' main messages, recall any new ideas that they encountered in the gallery, and share feelings and memories that their exhibition experience evoked. The same basic questionnaire was used for both exhibitions. Questionnaire respondents were "cued," i.e., they were randomly recruited for participation as they approached the exhibition entrance. Those who agreed to participate in the study were asked to spend as much time in the gallery as they wished and to return to complete the questionnaire when they were finished. The data collector recorded the amount of time that each target visitor spent in the exhibition, but made no other observations of his or her behavior in the gallery. Visitors completed the questionnaire without any assistance from the data collector; minor wording changes were made to facilitate children's use of the questionnaire. When the target visitor was a child, the accompanying adult was encouraged to remain to help the child understand the questions or reflect on the exhibit experience. The data collector did emphasize, however, that the child should write his or her own answers and that those answers should reflect only the child's ideas and feelings. Copies of cued questionnaires can be found in the report appendices.

All questionnaires were completed by visitors touring the exhibitions at CMNH. The majority of ***Every Body Eats*** questionnaires were completed on weekend days; since the majority of ***Let's Get Active*** questionnaire respondents were recruited during a school spring break period, data collection was more evenly distributed across both weekdays and weekend days.

Table 3: Data collection schedule for cued questionnaires

	Every Body Eats		***Let's Get Active***	
Day of week	**Adults** (N=41)	**Children** (N=20)	**Adults** (N=61)	**Children** (N=30)
Saturday	59%	35%	20%	4%
Sunday	22%	25%	36%	3%
Monday	--	--	11%	20%
Wednesday	--	--	10%	47%
Thursday	--	--	--	23%
Friday	17%	40%	23%	3%
No information	2%	--	--	--

Cued Interviews

A small sample of cued interviews were also conducted during the ***Every Body Eats*** venue at CMNH. That post-exhibition interview was an abbreviated version of a front-end interview conducted in 2006 with a sample of adults and children at both OMSI and at the SMRC partner museum sites:

- Bootheel Youth Museum (Malden, MO)
- KidZone Museum (Truckee, CA)
- Las Cruces Museum of Natural History (Las Cruces, NM)
- Palouse Discovery Science Center (Pullman, WA)

- ScienceWorks Museum (Ashland, OR)

This structured interview prompted visitors to share their knowledge of key nutrition concepts, discuss strategies that they might use to plan healthier meals for themselves and their families, and demonstrate how they would actually make a choice among several snack bars. The interview protocol used at CMNH included fewer questions than were used during the project's front-end study, but was otherwise very similar.

The original front-end study targeted two adult groups for participation: adults accompanied by children younger than six years of age and those accompanied by children six and older. At the partner sites, adults were randomly selected for interviews (these visitors had not seen ***Every Body Eats*** or any other similarly themed exhibition). Interviewers at the partner sites were museum staff or volunteers with minimal evaluation training. Approximately 30 percent of all interviews were conducted at OMSI (by trained interviewers who randomly selected adults for interviews) or at a nearby community site (those interviewees were not randomly selected for participation). Overall, approximately 25 percent of the front-end interviews were conducted in Spanish by native Spanish speakers.

At CMNH, adult visitors were randomly selected for the summative interviews as they entered ***Every Body Eats*** from the museum lobby. As was the case for the cued questionnaire sample, interviewees were asked to spend as much time as they wished in the exhibition and directed to meet the interviewer at the opposite end of the exhibition when they were finished. The interviewer noted the total time that interviewees spent in ***Every Body Eats***, but made no other record of the interactions in the gallery.

The summative interviews were conducted by a trained interviewer and were transcribed from a tape recording. In contrast, interviewees' responses during the front-end interviews were recorded in longhand by the interviewer. Although post-exhibit interviews of both adults and children were planned at CMNH, only two child interviews were actually completed (these are not included in the study findings). A copy of the CMNH interview protocol is included in the report appendices.

Even though cued interviews were not conducted with visitors who toured ***Let's Get Active***, one item from the original front-end ***Let's Get Active*** interview protocol was repeated on the cued questionnaires distributed at CMNH.

Principal Findings ✦ *Every Body Eats*

Findings (including both observations and questionnaire/interview responses) are reported separately for the two exhibitions. A comparison of visitors' overall activity patterns and reactions to the two exhibitions can be found on page 49 and following.

Tracking-and-timing observations

How did visitors spend their time in **Every Body Eats***?*

Visitors at CMNH spent an average of six minutes in the gallery, stopping at a median of three components (or 20 percent of the entire exhibition). When visitors did stop at an exhibition component, they were very likely to engage in appropriate interaction, read text, and talk with each other about their experiences.

Visitor characteristics

Seventy seven adults were observed unobtrusively as they spent time in ***Every Body Eats***. Because these visitors were not interviewed, the observers estimated their ages, recorded the target visitor's apparent race and ethnicity, and documented how many other adults and children were accompanying them as they entered the exhibition. Sixty-one percent of visitors in this sample entered the gallery from the museum lobby (the remainder entered from the gallery's opposite end).

Females accounted for nearly 60 percent of those observed; approximately one half of all adults were estimated to be between 30 and 49 years old. Approximately 80 percent of all observed visitors appeared to be white and non-Latino.[9]

Table 4: Demographic characteristics of visitors observed in **Every Body Eats**

Characteristic		N	%
Gender	Female	45	58%
	Male	32	42%
Estimated age	18 – 29 years	16	21%
	30 – 39 years	23	30%
	40 – 49 years	16	21%
	50 – 59 years	9	12%
	60 years or older	11	14%
Race and ethnicity	African American (not Latino)	2	3%
	Asian (not Latino)	3	4%
	Asian (unsure of ethnicity)	3	4%
	White (not Latino)	61	79%
	White (Latino)	1	1%
	Other or unsure	7	9%

Table 5 summarizes the group composition for all observed visitors. Only two adults were touring ***Every Body Eats*** by themselves; all other visitors were accompanied by one or more other adults or children. All but twelve visitors were accompanied by one or more children. Note that 51 percent of all visitor groups included at least one child who appeared to be younger than six years of age.

[9] See Appendix B for a demographic profile of the overall CMNH audience.

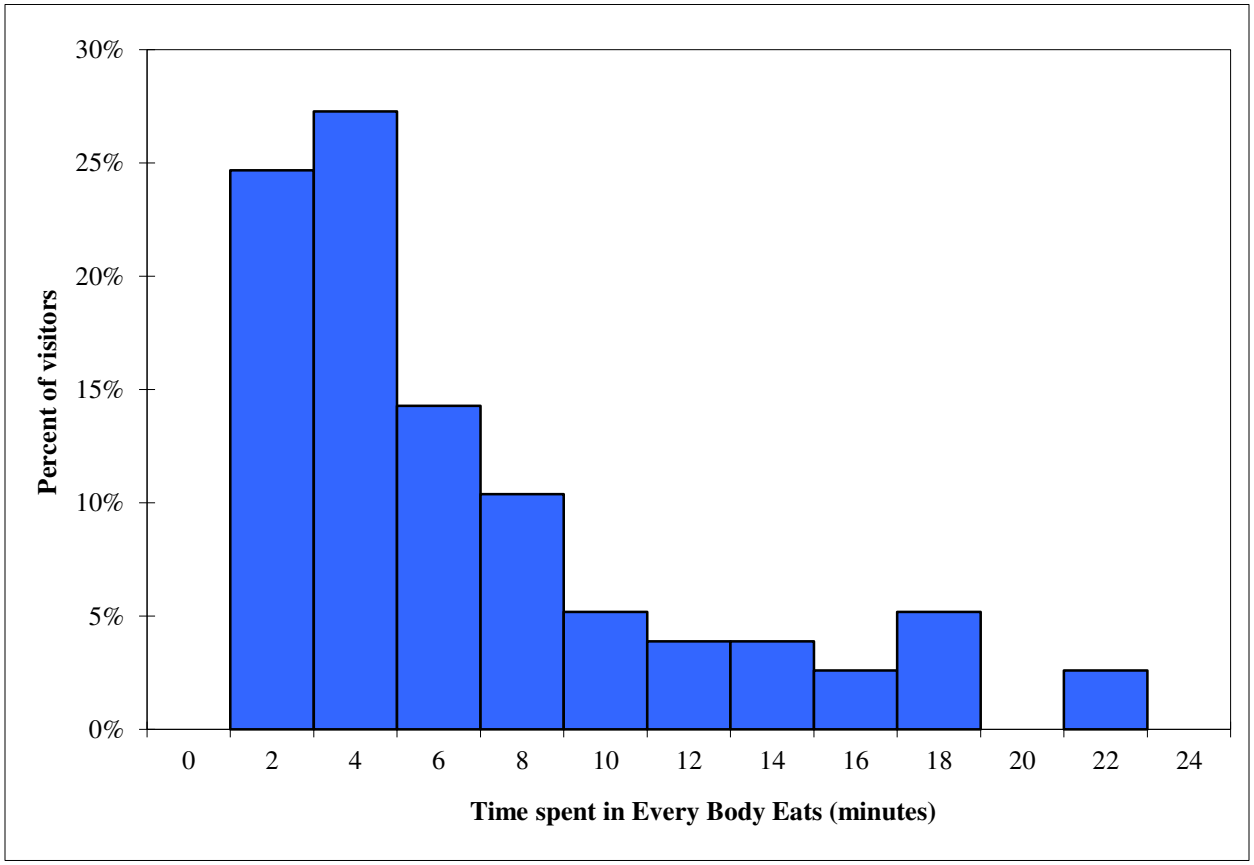
Table 5: Group composition of all observed visitors (N = 77)

Number of children:	Number of adults: One	Two	Three or more	Total
None	3%	12%	1%	**16%**
One	12%	17%	6%	**35%**
Two	10%	21%	9%	**40%**
Three or more	2%	4%	3%	**9%**
Total	**27%**	**54%**	**19%**	**100%**

How thoroughly did visitors use Every Body Eats*?*

The total time spent by adults in ***Every Body Eats*** ranged from one minute to 20.6 minutes. As Figure 1 indicates, the distribution of visitor times was markedly skewed to the right (that is, the majority of visitors fall to the right side of the distribution's peak). Collecting tracking-and-timing data for more than 100 exhibitions of all kinds and sizes, Serrell (1998) found that this general distribution characterized the time spent by visitors in 50 percent of the exhibitions that she reviewed.[10]

Figure 1: Total time spent by visitors in **Every Body Eats** *(N = 77)*



[10] Serrell, Beverly. 1998. *Paying Attention: Visitors and Museum Exhibitions*. Washington, D.C.: American Association of Museums, Technical Information Service.

In Serrell's data set, the relationship between exhibition size and time spent was roughly linear (i.e., as exhibition size increased, so too did the time spent by visitors). This equation expresses that relationship:

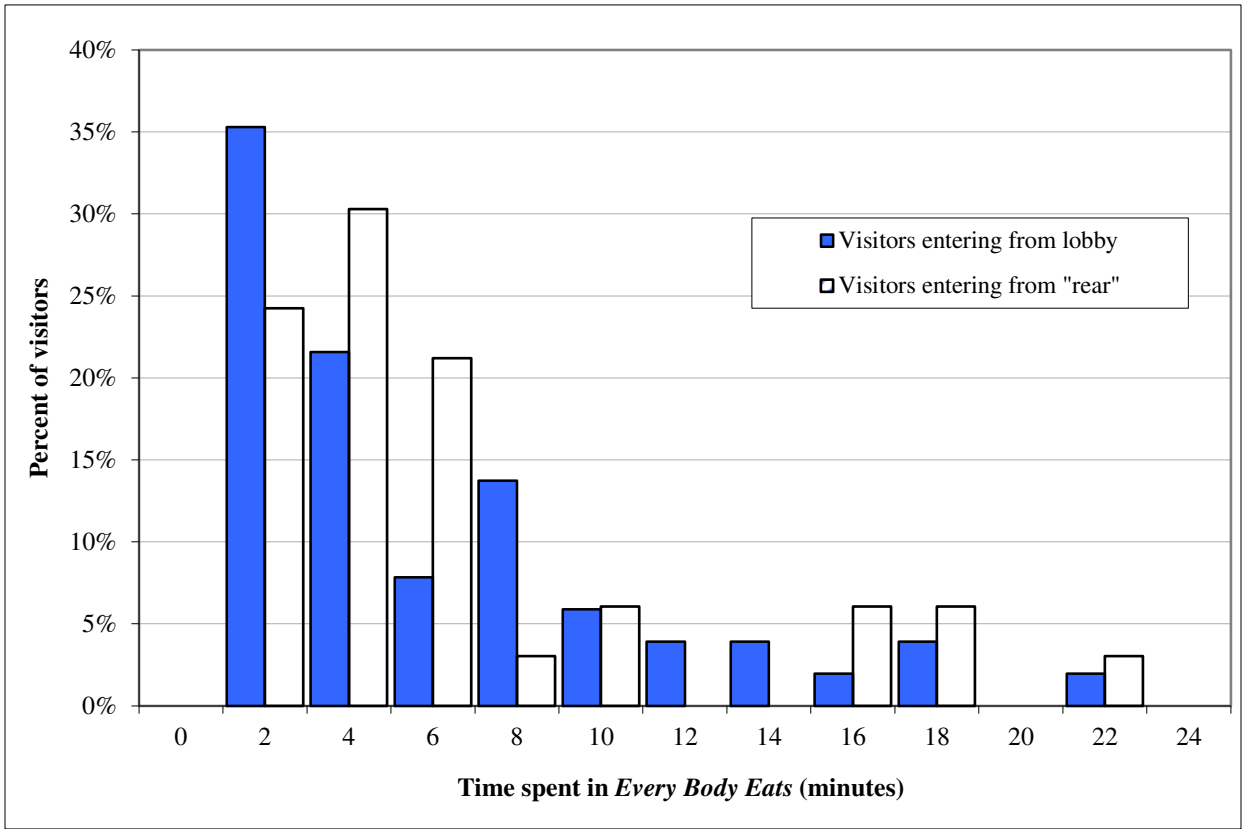
Average time spent (minutes) =
1.76 x exhibition size (thousands of square feet) + 6.42[11]

This equation predicts that visitors would spend an average of 8 minutes in ***Every Body Eats***. In fact, visitors' average time spent in the exhibition was only 6 minutes, or 25 percent less than what Serrell's equation predicts.

Since relatively few visitors in exhibitions tend to spend the longest amounts of time, a more representative measure of visitors' observed behavior is often the median. Visitors spent a median time of four minutes in ***Every Body Eats***.

Figure 2 compares the time spent by visitors who entered from the museum lobby (or "front") with that of visitors who entered from the gallery's opposite end (the "rear"). Note that these two distributions were very similar and the average times spent by the two samples of visitors were statistically indistinguishable.

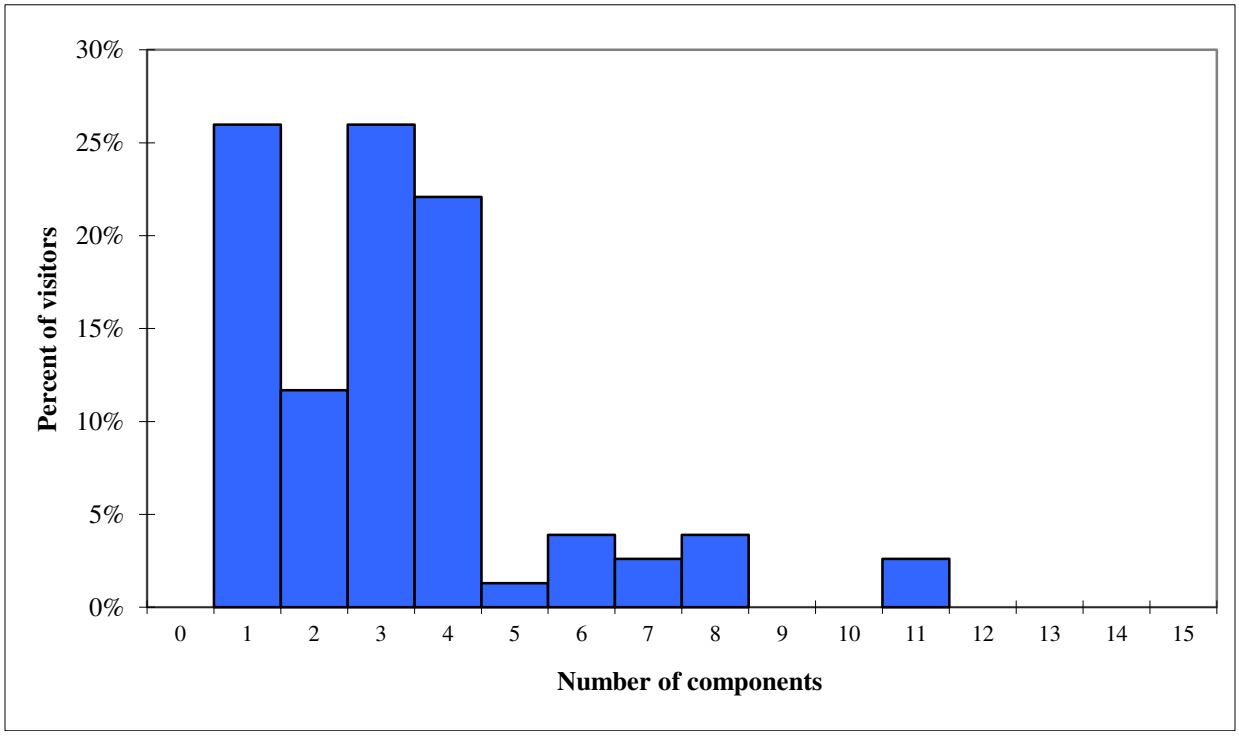
Figure 2: A comparison of time spent by visitors entering from the gallery's opposite ends



[11] Ibid., p. 22.

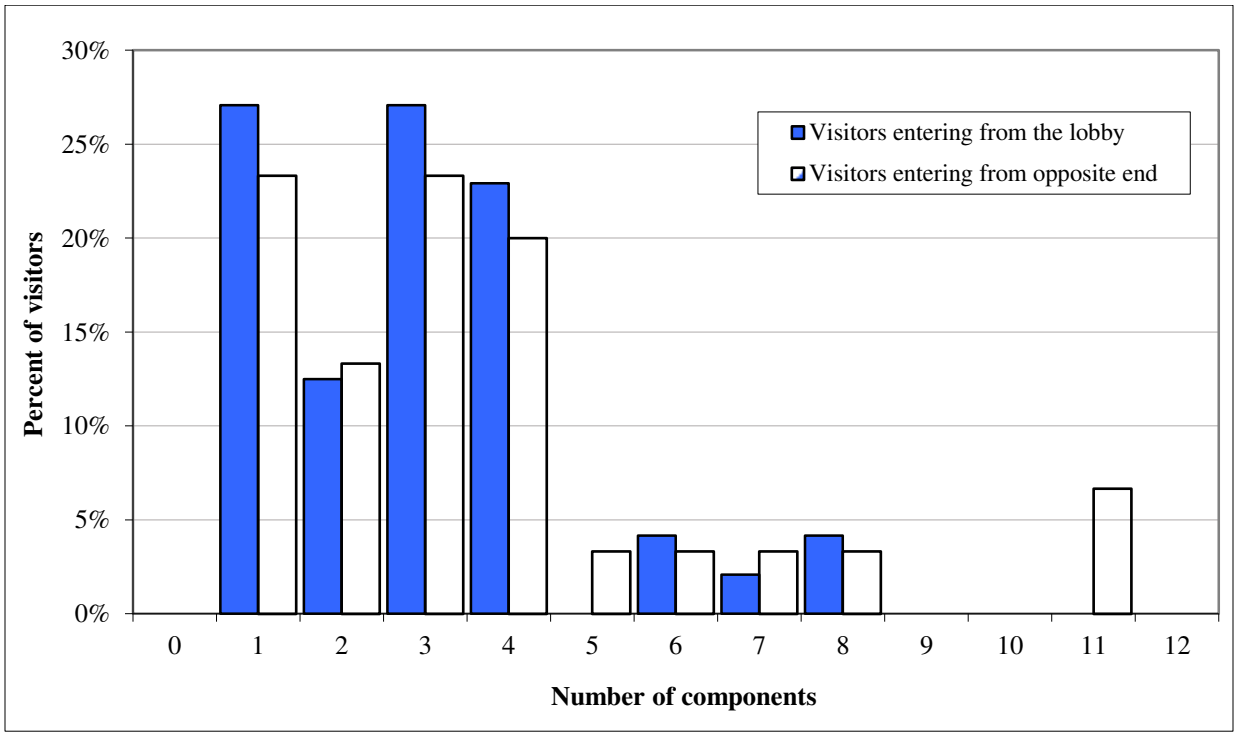
Given the relatively short time that visitors spent in ***Every Body Eats***, it is not surprising that 64 percent of them stopped at three or fewer of the exhibition's 15 elements. As was the case for the total time spent by visitors, the distribution of components used by visitors in skewed to the right. The latter histogram is somewhat unusual in that it is bi-modal, with peaks at both one stop and three tops (see Figure 3).

Figure 3: Number of component stops made by visitors in **Every Body Eats** *(N = 77)*



Again, the total number of components used was the same for all observed visitors, regardless of how they entered the gallery (see Figure 4).

Figure 4: Component stops made by visitors entering from the gallery's opposite ends



In her review of exhibitions, Serrell (1998) also proposed two global measures of visitors' behavior in exhibitions: the sweep rate index (SRI) and percent diligent visitors (%DV). When visitors' overall use of ***Every Body Eats*** is compared with Serrell's sample of similarly sized and themed exhibitions (nondiorama exhibitions under 3,900 square feet), it is clear that visitors to ***Every Body Eats*** actually moved more slowly through the gallery than was the case for a typical "small nondiorama exhibition," but stopped at fewer components.

The SRI is computed by dividing the exhibition's total square footage (in this case, 800 square feet) by the average time spent there by visitors. As visitors spend more time (and move more slowly through the exhibition), the SRI drops correspondingly. The SRI for visitors observed in ***Every Body Eats*** was 138 (i.e., visitors moved through the gallery at the rate of 138 square feet per minute). By comparison, the average SRI reported for small nondiorama exhibitions in Serrell's database was 244.[12]

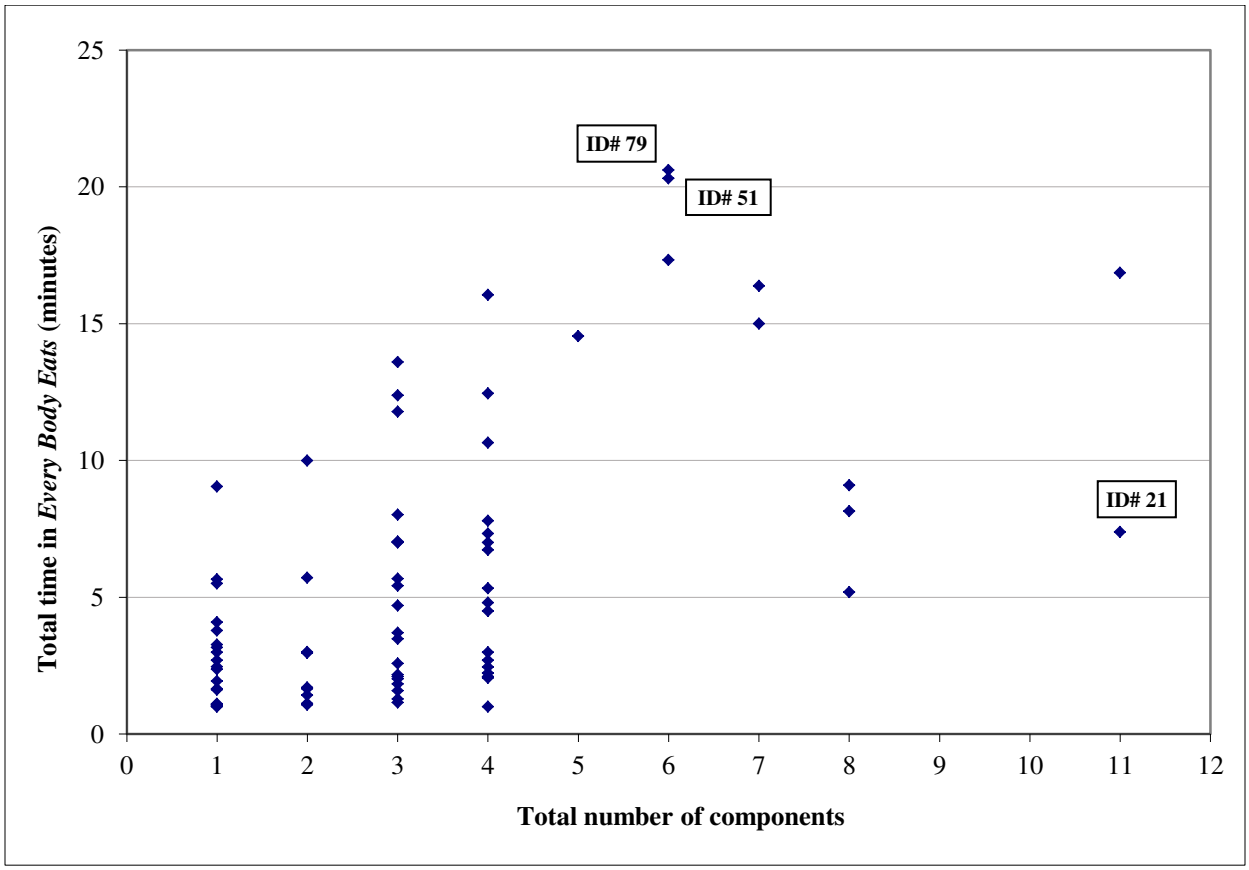
Percent diligent visitors (%DV) indicates how thoroughly visitors use an exhibition. It equals the percentage of visitors stopping at more than 50 percent of an exhibition's components. Only five visitors in this sample met that criterion (corresponding to a %DV of 7), suggesting that these visitors used ***Every Body Eats*** much less thoroughly than was the case for typical small nondiorama exhibitions (30 %DV), science-related exhibitions (26%DV), or natural history museum exhibitions (27%DV).[13]

[12] Note that only nine exhibitions in Serrell's database occupied 1,000 square feet or less. The average SRI for this subset of "small exhibitions" was 191.

[13] The %DV calculated for visitors to ***Every Body Eats*** was also much lower than the average %DV computed for the nine "very small" exhibitions included in Serrell's sample (i.e., exhibitions occupying 1,000 square feet or less).

Figure 5 plots the number of component stops made by visitors against the total time each visitor spent in ***Every Body Eats***. In general, the number of different components that visitors interacted with increased as they spent additional time in the gallery.[14]

Figure 5: Total component stops plotted against total exhibition time (N = 77)



A small number of visitors departed from this general trend. Two visitors (labeled "ID# 79" and "ID# 51" in Figure 5) spent approximately 20 minutes in the gallery, but stopped at only two different components. Both of these spent five minutes or more at one or more components.[15] At the opposite end of the spectrum, a third visitor (labeled "ID# 21" in Figure 5) spent only seven minutes in the gallery but stopped at 11 different components.

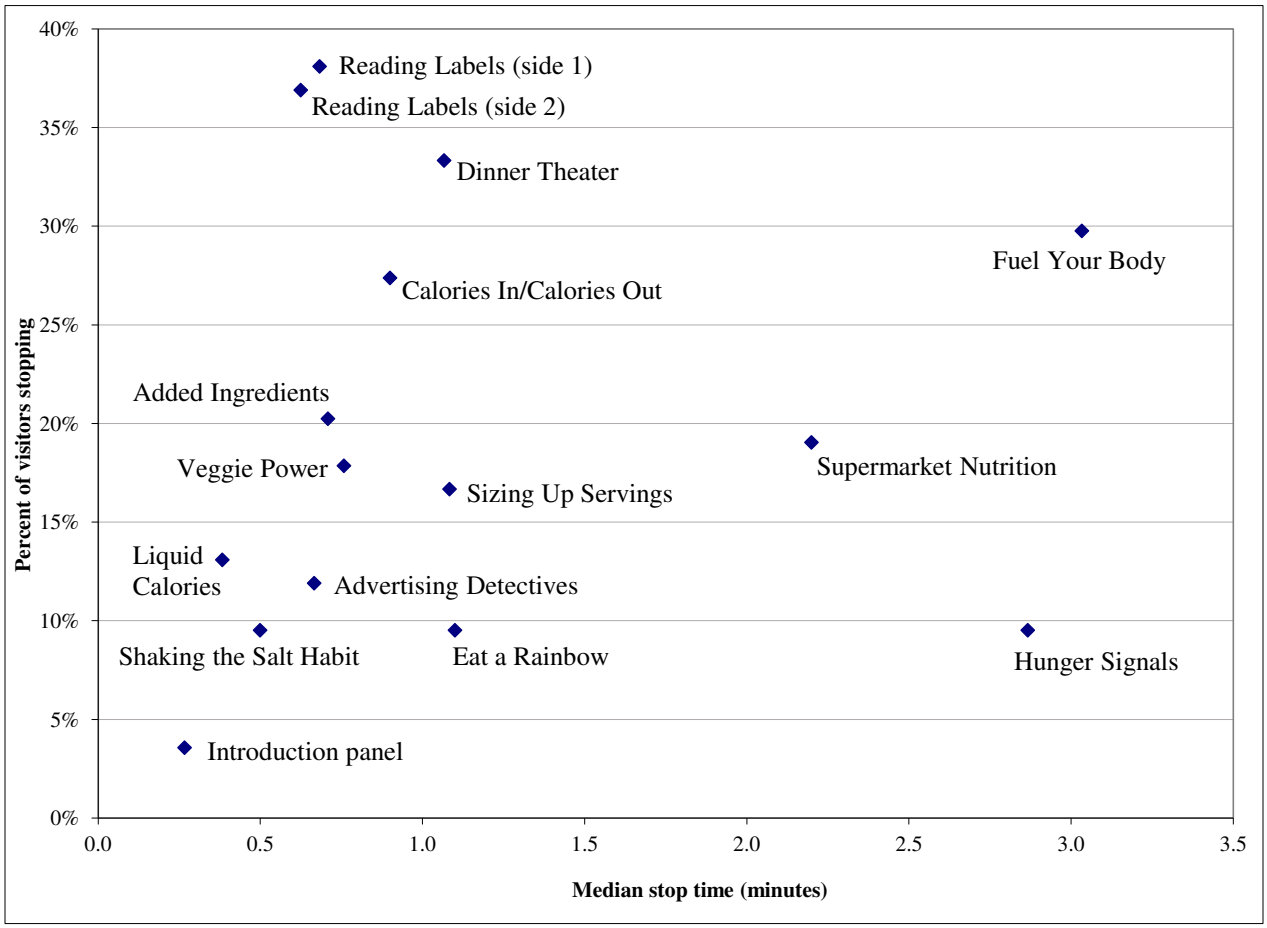
Visitor stops and time spent at individual components

Not surprisingly, individual elements differed with respect to their attractiveness (likelihood to prompt visitor stops) and their holding power (likelihood to promote sustained engagement). The attractiveness of a few elements also varied with the visitor's entry point.

[14]The correlation observed between these two measures was positive and statistically significant (r = .58, t = 6.17, p<.001).
[15] ID# 79 spent 5.2 minutes at *Dinner Theater* and 5.3 minutes at *Supermarket Nutrition*. ID# 51 spent 7.2 minutes at *Supermarket Nutrition*.

Figure 6 plots the percentage of visitors stopping at each element against the median time that visitors spent engaged with each of those elements. Only one component (*Fuel Your Body*) prompted stops from more than 25 percent of the visitor sample and supported relatively long engagement (approximately three minutes). The opposite was true for components appearing in the lower left quadrant of the scatter plot. See Appendix C for a full listing of the proportion of visitors stopping at each component and the associated median stop times.

*Figure 6: Components' relative attractiveness and holding power (***Every Body Eats***)*

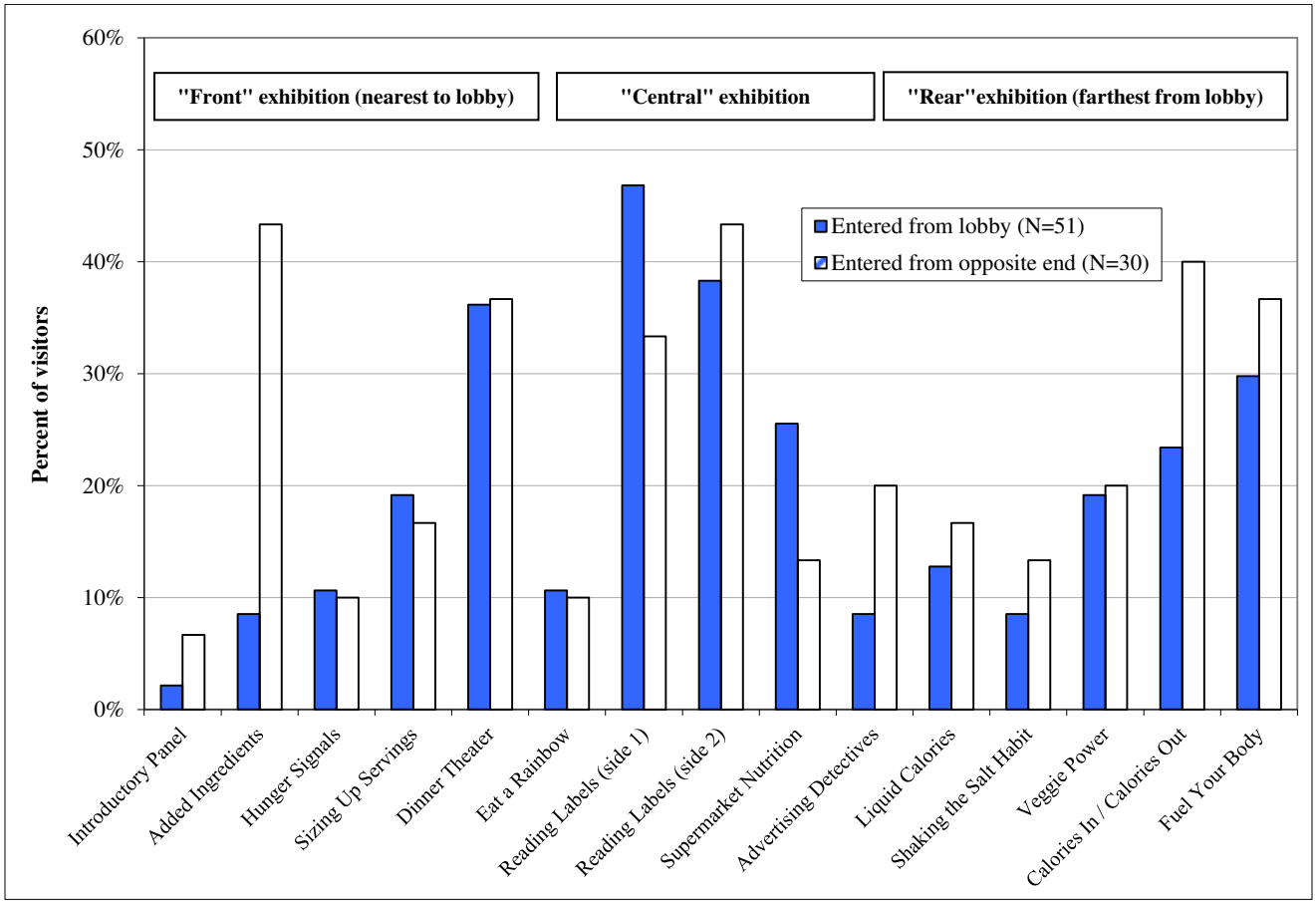


Four elements (*Reading Labels (side 1)*, *Reading Labels (side 2)*, *Dinner Theater*, and *Calories In/Calories Out*) were equally (or even more) likely to attract visitor stops, but those who did stop to interact spent relatively little time (i.e., one minute or less). *Hunger Signals*, one of three computer-mediated interactives in the exhibition, was unusual in that very few visitors stopped there, but one half of those who did spent nearly three minutes or longer. The second computer-mediated interactive (*Advertising Detectives*) attracted slightly more visitor stops, but did not sustain visitor involvement for nearly as long.

Visitors' likelihood to stop at particular components was influenced by their original entry point. Figure 7 compares stops at specific components made be visitors entering from opposite ends of the exhibition. Component data is grouped by the elements' approximate position in the gallery,

from those located nearest to the lobby (or front) entrance to those located nearer the opposite (or rear) end of the exhibition.

Figure 7: Stops at specific components made by visitors entering Every Body Eats via the lobby vs. those entering at the exhibition's opposite end



A few comparisons are especially noteworthy:

• Two of the three visitors who stopped to read the exhibition's *Introductory Panel* approached it from the rear, stopping to read it as they exited the exhibition.

• *Added Ingredients* was located immediately behind the introductory panel and faced the rear end of the gallery. As a result, nearly all of those visitors who stopped at this element approached it from the rear end of the exhibition.

• *Reading Labels (side 1)* and *Reading Labels (side 2)* were two closely related components placed back to back in the central area of the gallery. Visitors entering the exhibition from the lobby were more likely to stop at *Reading Labels (side 1)* (which faced in that direction), while those approaching from the opposite end were slightly more likely to stop at the rear-facing *Reading Labels (side 2)*. Note that approximately 30 percent of each sample stopped at both units.

• *Supermarket Nutrition* and *Advertising Detectives* were placed side by side against the gallery's south wall. In both cases, it seems that visitors were more likely to stop at the first of these two that they encountered (but not necessarily the one that was next to it).

• *Calories In/Calories Out*, located at the rear end of the gallery, attracted nearly twice as many stops from visitors who encountered it as they first entered the exhibition.

Visitor activity at individual Every Body Eats *components*

Even though the majority of these visitors stopped at relatively few components, they were clearly engaged by those elements that attracted their attention: nearly 90 percent of all component stops included some level of interaction. Visitors were also very likely to read labels and talk with each other about their experiences in ***Every Body Eats***.

In addition to recording and timing component stops, the observers noted occurrences of these specific component behaviors:[16]

Behavior code	**Description**
Look only	Target visitor looks at a component, but does not read any text or engage in any relevant interaction.
Read	Target visitor looks at text panel or computer screen displaying text for at least two seconds.
ROL	Target visitor reads text aloud to a companion.
Talk	Target visitor talks with a companion about the component or a related topic.
Use	Target visitor uses interactive appropriately him/herself.
Watch	Target visitor watches someone else use an interactive.

As Table 6 indicates, more than 90 percent of all visitors' component stops in ***Every Body Eats*** included relevant activity (e.g., reading labels, using interactives, talking with companions about the element).

[16] Unless otherwise noted, the observers noted only behaviors that were exhibited by the target visitor.

Table 6: Incidence of selected activities during visitor stops at **Every Body Eats** *components*

Activity	*Visitor stops that included specific activity* Average	Range
Looked only	8%	0 – 100%
Read any text	62%	0 – 100%
Physically interacted (or watched another person interact)	87%	0 – 100%
Used interactive oneself	*59%*	*0 – 100%*
Watched another	*52%*	*0 – 100%*
Talked with another about component	64%	0 – 100%

Although these adults made relatively few component stops in the gallery (the median number of stops was three), they were very likely to read exhibit text and engage in physical interaction during those stops.[17] Eighty-eight percent of visitor stops included some degree of interaction (either engaging in the activity themselves or watching another do so) and 62 percent included reading. Note that 29 visitors (38 percent of the sample) were observed to read text during every component stop, while 16 visitors were not observed to read any text during their time in the exhibition. Similarly, two thirds of the observed visitors interacted (or watched a companion's activity) during every component stop (while only one visitor was never observed to engage with any exhibition component).

Five components attracted relatively more visitor stops (i.e., from at least 25 percent of the sample) and were very likely to promote visitor interaction (these are highlighted in Table 7). For example, 38 percent of visitors stopped at *Reading Labels (side 1)*, and all but five of those either lifted a flip label to read the hidden "answer" or turned a wheel to read the nutrition label on the back of the food packages.

Table 7: Visitor stops at **Every Body Eats** *components that included any interaction, by component (N = 77)*

Component	Visitor stops with interaction	Visitors stopping
Fuel Your Body	***96%***	***30%***
Calories In/Calories Out	***96%***	***27%***
Reading Labels (side 1)	***94%***	***38%***
Added Ingredients	88%	20%
Hunger Signals	88%	10%
Supermarket Nutrition	88%	19%
Veggie Power	87%	18%
Reading Labels (side 2)	***84%***	***37%***
Dinner Theater	***82%***	***33%***

[17] With the exception of the *introduction panel*, all components offered an opportunity for some type of physical interaction. At three components, the potential interaction was limited to lifting a door to read hidden text.

Component	Visitor stops with interaction	Visitors stopping
Eat a Rainbow	63%	10%
Shaking the Salt Habit	63%	10%
Advertising Detectives	60%	12%
Liquid Calories	55%	13%

As noted earlier, relatively few visitors stopped at two of the touch-screen computers (*Hunger Signals* and *Advertising Detectives*). Only 10 percent of visitors stopped at *Hunger Signals*, a computer "game" that invited visitors to help a fictional character (either an adult or a child) navigate a week's worth of eating decisions. Nevertheless, that element did support a high level of interaction – 88 percent of those who did stop engaged with the game and spent a median time of three minutes. A similar proportion of visitors stopped at *Advertising Detectives*, but that activity (visitors were presented with a series of product advertisements and could push a button to reveal the "hidden messages") was less likely to invite interaction or encourage sustained engagement (the median time spent by visitors was 42 seconds).

Photograph by Laura Dempsey

Note that *Supermarket Nutrition*, where visitors also interacted with a touch-screen computer (pictured to the right), attracted approximately twice as many visitor stops, possibly because it offered additional manipulatives and activities.

Two components were specifically included to offer meaningful activities for families with small children. *Eat a Rainbow's* very small size and puzzle activity seemed to discourage stops or engagement in general. Only 10 percent of adults in this sample were observed to stop there (including just four of the 39 adults accompanied by pre-school-age children). Twenty-five percent of those visitors who did stop left that component without either reading text or engaging in any activity. *Dinner Theater*, similarly included to appeal to this audience, attracted greater interest and involvement (see the photograph to the left). It is possible that *Dinner Theater's* larger footprint and greater variety of activities encouraged interaction across a wider range of families. Nearly 50 percent of groups that included pre-school-age children (and 26 percent of those that did not) stopped to investigate *Dinner Theater* and all but two of those families engaged in appropriate interaction there (these visitors spent a median time of nearly two minutes; five visitor groups spent five minutes or more).


Photograph by Laura Dempsey

Two components that offered more limited opportunities for interaction than others in the gallery were among those that attracted fewer stops and less interaction. Both *Shaking the Salt Habit* and *Liquid Calories* featured flip panels and graphics that conveyed information about the health effects of salt and high fructose corn syrup respectively, illustrated typical consumption levels of those ingredients, and highlighted foods and beverages that contain especially high levels of those ingredients.

Finally, three components specifically encouraged visitors to seek out and read the nutritional information that is typically found on food packaging. At *Supermarket Nutrition* visitors assembled a meal by choosing among cards representing a variety of fruits, vegetables, and processed foods. Nutritional information (in the same format required on food packaging) was found on the back of each card. By scanning those cards, visitors could also get feedback about their meal's nutritional content and overall balance. Both *Reading Labels (side 1)* and *Reading Labels (side 2)* challenged visitors to identify packaged foods that contain high levels of particular ingredients or nutrients (e.g., trans fats, Vitamin C). By rotating a turntable, visitors could turn the packages around to see enlarged, color-coded versions of each product's nutritional labels. Between 31 and 44 percent of visitors who stopped at one or more of these three components turned the simulated food "packages" to find the products' nutritional content. Overall, 22 of the 77 visitors in this sample stopped at one or more of these components and also sought out and reviewed the nutritional information (visitors were most likely to do that at *Reading Labels (side 2)* and *Supermarket Nutrition*).

Cued Questionnaires

What did visitors say about their experiences in **Every Body Eats?**

As they described the exhibition's purpose and what they had learned from their experiences in **Every Body Eats***, both children and adults clearly addressed the exhibition's Big Idea and they often described the exhibition's impact in very personal terms. Three quarters or more mentioned ideas that reflected their interactions with specific* **Every Body Eats** *components.*

Visitors were randomly recruited to participate in this phase of the evaluation as they entered the exhibition from the CMNH lobby. When a target adult or child agreed to participate, the data collector pointed out the extent of the exhibition and encouraged that visitor and any companions to spend as much time in the gallery as they wished. Visitors returned to the museum lobby to answer questions about their experiences in ***Every Body Eats***. This "cuing" procedure was used to test the exhibition's communication potential in a situation where visitors would be motivated to use exhibition components and pay attention to their messages. A total of 61 questionnaires were completed by 41 adults and 20 children.

Of the 114 adults and children approached by a data collector, 46 percent (nine children and 44 adults) either refused to participate outright or initially agreed to participate but did not actually return to complete the questionnaire. Of those who declined to participate, females slightly outnumbered males among adults; boys outnumbered girls among the children.

Both adult and child versions of the questionnaire included open-ended items prompting respondents to describe the exhibition's purpose and relate new ideas that they encountered as

they interacted with components. Adults were also asked to suggest ways in which the exhibition could be improved. Copies of both questionnaires are included in Appendix E.

Visitor characteristics

Table 8 summarizes demographic and other background characteristics of the adults and children who completed questionnaires. Again, females dominated among the adults surveyed (accounting for 66 percent of the sample); the sample of children was more evenly divided among boys and girls (45 percent were girls). Adults were well educated: 66 percent had earned college or advanced degrees. Thirty percent described themselves as having special interest, knowledge, or training in nutrition or medicine. These included nurses or other medical professionals (six adults), those in a food-related business (two adults), two diabetics, and two adults who described a particular interest in food or healthy eating.

The questionnaire sample was evenly divided between those who had visited CMNH before (54 percent of adults and 55 percent of children) and those who were first-time visitors. Ninety percent of both adults and children were seeing ***Every Body Eats*** for the first time. Additional information about these visitors is tabulated below.[18]

Table 8: Characteristics of visitors who completed questionnaires about **Every Body Eats**

Characteristics		**Children** (N=20)	**Adults** (N=41)
Estimated age	younger than 8 years	5%	--
	8 – 10 years	50%	--
	11 – 13 years	40%	--
	14 – 17 years	5%	--
	18 – 24 years	--	5%
	25 – 34 years	--	20%
	35 – 44 years	--	41%
	45 – 54 years	--	15%
	65 – 74 years	--	5%
	75 years or older	--	2%
	No information	--	7%
Race and ethnicity[19]	African American (not Latino)	5%	5%
	Asian	0%	5%
	White (Latino)	10%	2%
	White (not Latino or no information)	75%	80%
	No information	10%	8%
Language spoken at home	English	90%	88%

[18] The demographic profiles of CMNH visitors included in this summative evaluation parallels that of CMNH's general visitor population (see Appendix B for a 2009 summary of visitor demographic characteristics).
[19] Visitors were asked to simply describe their race and ethnicity. Those tabulated as "white" included many who added additional qualifiers (e.g., "White Italian," "White American," and "Caucasian/flat-out hillbilly").

Characteristics		Children (N=20)	Adults (N=41)
	Spanish	0%	2%
	Other language	0%	2%
Household income	Less than $15,000	0%	5%
	$15,000 – 24,999	0%	5%
	$25,000 – 34,999	5%	5%
	$35,000 – 49,999	5%	5%
	$50,000 – 74,999	15%	10%
	$75,000 – 99,999	25%	20%
	$100,000 – 199,999	0%	17%
	$200,000 or more	5%	12%
	No response or rather not say	45%	22%

Tables 9 and 10 summarize group composition for these cued questionnaire samples. As was the case for the tracking-and-timing sample, only a small number of adults toured the exhibition by themselves; 98 percent of visitors were accompanied by at least one child or adult. Approximately 90 percent of adults who completed questionnaires were visiting with one or more children. All of the children were accompanied by at least one adult; 60 percent of them were part of a group that included two or more children (including the child who completed the questionnaire).

*Table 9: Group composition – adults returning questionnaires (***Every Body Eats***, N = 41)*

	Number of adults:				
Number of children:	**One**	**Two**	**Three or more**	**Unknown**	**Total**
None	2%	7%	0%	0%	**10%**
One	27%	7%	7%	0%	**41%**
Two	12%	20%	5%	0%	**37%**
Three or more	0%	5%	2%	0%	**7%**
Unknown	0%	0%	0%	5%	**5%**
Total	**41%**	**39%**	**15%**	**5%**	**100%**

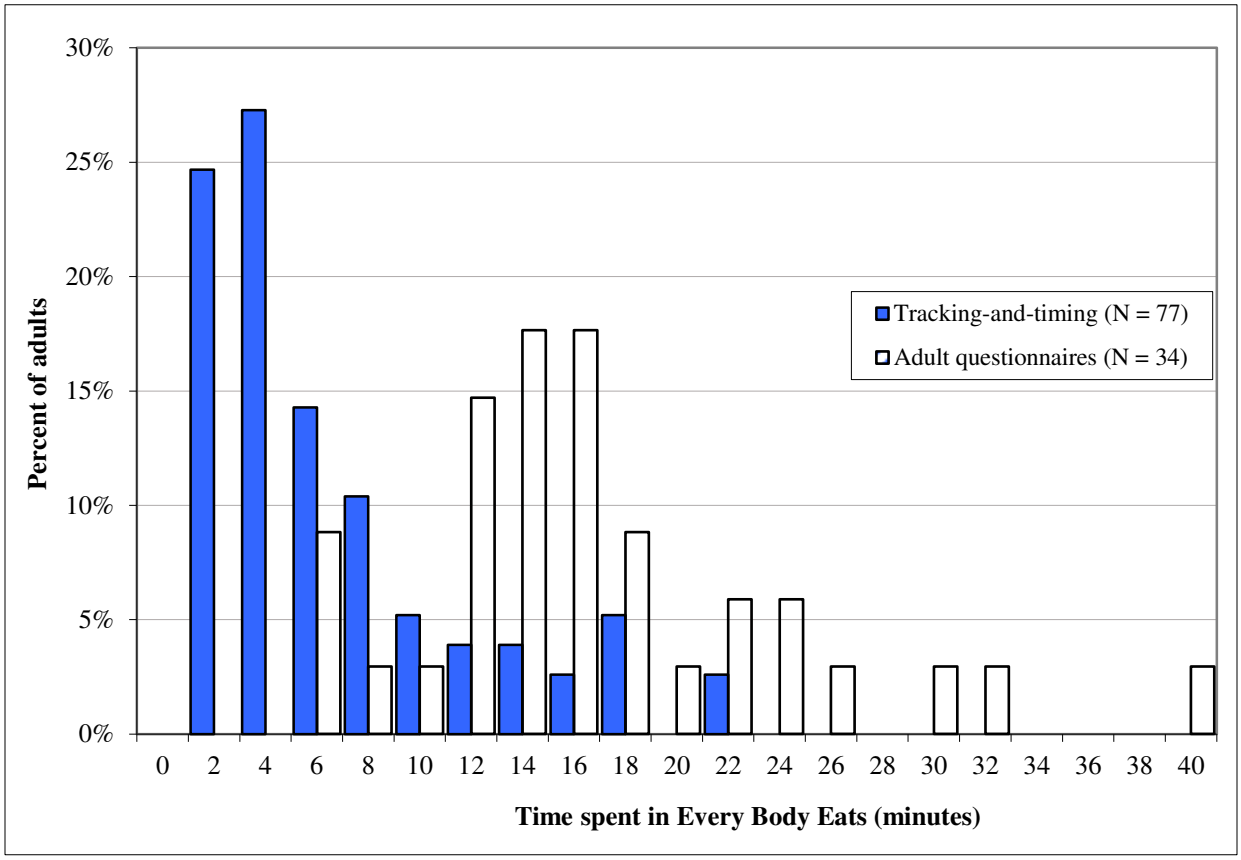
*Table 10: Group composition – children returning questionnaires (***Every Body Eats***, N = 20)*

	Number of adults:				
Number of children:	**One**	**Two**	**Three or more**	**Unknown**	**Total**
One	30%	0%	0%	0%	**30%**
Two	10%	15%	5%	0%	**30%**
Three or more	10%	15%	5%	0%	**30%**
Unknown	0%	0%	0%	10%	**10%**
Total	**50%**	**30%**	**10%**	**10%**	**100%**

Cued visitors' behavior in Every Body Eats

Figure 8 compares the time spent in ***Every Body Eats*** by adults completing questionnaires with the time spent by adults in the tracking-and-timing sample. The questionnaire's cuing procedure more than quadrupled the median time spent by adults in the exhibition, from 3 minutes (tracking-and-timing) to 14.5 minutes (cued questionnaires).

Figure 8: Total time spent in **Every Body Eats** *by adults (tracking-and-timing vs. cued questionnaires)*



The distributions of time spent by these two groups are also very different. The times spent by adults completing the questionnaires are more normally distributed and that distribution is much more symmetrical. Note that the median time spent by children was also 14.5 minutes and the distribution of their exhibition times closely resembles that of the adults.

Visitors' reflections on their experiences in Every Body Eats

Visitors described what they thought the exhibition was "about" and what they recalled about it by completing four open-ended statements:

Questions posed to adults:
What would you say is the main purpose of the displays in ***Every Body Eats***?
- To show people …
- To make people …
- I didn't know or never realized that …
- It reminded me that …

Questions posed to children:
If you were going to tell a friend what ***Every Body Eats*** is all about, what would you say?
- The museum made these exhibits to show people …
- The museum made these exhibits to make people …
- I didn't know that …
- It reminded me that …

Because many responses included more than one discrete idea, those ideas were isolated and grouped by similar concepts addressed.

When they considered what the overall purpose of ***Every Body Eats*** might be (i.e., what it was intended to "show people" or "make people do"), both adults and children most often mentioned showing people nutritious or healthy food choices or encouraging people to be more aware of or change their own eating habits (see Table 11).

Table 11: Visitor descriptions of the exhibition's purpose[20]

Idea mentioned	Adults (N=41)	Children (N=20)	Examples
Support healthier food choices; encourage people to be aware of/change eating habits	95%	85%	[To show] *People how to eat healthy. Show what is good for you.* [To make people] *Eat better & watch what is in foods we eat.* [ID# 19, Adult] [To show] *It tells you how to eat healthy. That pop is bad for you. Healthy food gives you more energy.* [To make people] *More aware of the calories you are eating.* [ID# 4, 9-year-old girl]
Help people understand more about/ be more aware of nutrition or the importance of healthy eating	29%	5%	[To show] *How nutrition affects your body & energy levels, health.* [ID# 25, Adult]
Inform people of the science behind nutrition & healthy eating	2%	5%	[To show] *The scientific basis for nutritional decisions.* [ID# 1, Adult]
Other - relevant to exhibition content	0%	20%	[To make people] *Learn about what can be effecting* [sic] *and causing these problems towards their bodys* [sic]. [ID# 8, 13-year-old girl]
Described exhibit experience	5%	10%	[To make people] *Especially my two children were interested in "Supermarket Nutrition" and "Fuel Your Body".* [ID# 38, Adult] [To show] *I would say to my friends that it is so cool.* [ID# 19, 10-year-old girl]
No response or not relevant to exhibition content	0%	15%	[To make people] *Learn more about history and our world.* [ID# 5, 11-year-old boy]

[20] Since a visitor's response could mention more than one idea, the total percentage may exceed 100 percent.

Additional items prompted visitors to relate new ideas that they encountered (e.g., "I never knew that …") and recall anything that they were reminded of during their visit to ***Every Body Eats***. When visitors discussed the exhibition's overall purpose and their experiences in ***Every Body Eats***, statements made by both adults and children echoed elements of the exhibition's central idea and the related messages originally defined by the project team. Approximately 65 percent of both adults and children addressed these general ideas in one or more of the questionnaire responses.

- **Healthy eating keeps your body strong, gives you energy, and helps you look and feel your best.** (10 percent of children, 7 percent of adults)

  [Show people] *It tells you how to eat healthy. … Healthy food gives you more energy.* [ID# 4, 9-year-old girl]

  [To show] *How eating fruits and vegetables helps your body function better.* [ID# 37, Adult]

- **I can look to science to get information that helps me make healthy choices.** (15 percent of children, 12 percent of adults)[21]

  [Show people] *The state of healthy eating in the U.S.* [Reminded me] *You need nine servings of vegies* [sic] *a day.* [ID# 15, 12-year-old boy]

  [Didn't know] *How much salt and sugar we consume daily. …* [ID# 17, Adult]

- **Scientific research can help me decipher messages about food and nutrition presented by media and advertisers.** (10 percent of children, 39 percent of adults)[22]

  [To make people] *Realize what's really in your food.* [Didn't know] *That some (so called) "healthy foods" could be more unhealthy than you know.* [ID# 20, 15-year-old girl]

  [To make people] *Take time to read labels.* [Didn't know] *How some supposedly nutritious foods aren't so nutritious.* [ID# 4, Adult]

  [Didn't know] *Looking at the packages of the food - one might look better for you but reading the labels, it is not.* [EBE ID# 39, Adult]

- **Small, simple changes can make a big difference.** (10 percent of children, 20 percent of adults)[23]

  [To make people] *Eat healthier, learn every day lessons.* [ID# 11, 8-year-old boy]

  [Didn't know] *Those Little Debbies are so dangerous! And we should eat more grains.* [ID# 25, Adult]

- **Healthy eating involves choosing whole (unprocessed) food and drinking water.** (25 percent of children, 10 percent of adults)

  [Didn't know] *Most of the sodium in our diets comes from the prosest* [sic] *food.* [Reminded me] *On trips I eat a lot of prosest* [sic] *food.* [ID# 1, 8-year-old girl]

[21] These include mentions of scientific research findings.
[22] These include responses that describe ways in which media/advertising can deceive people about "healthy food choices."
[23] These include responses that mention such small and simple changes.

[Didn't know] *There was so much sugar in Coke ...* [ID# 12, 9-year-old girl]

[Reminded me] *Grandma was right - whole grain is good - eat more cracked wheat!* [ID# 34, Adult]

- **A healthy lifestyle requires a balance of calories in and calories out.** (20 percent of children, no adults)[24]

  [Didn't know] *... that it would take a long time to burn off a chocolete* [sic] *bar.* [ID# 7, 11-year-old girl]

Both adults and children clearly personalized the exhibition's messages; 60 percent of children and 48 percent of adults mentioned what they had realized about their own (or their family's) eating habits, as well as specific changes that they could make. Many such comments were made in response to the prompt, "[***Every Body Eats***] reminded me that …," e.g.,

That I should not eat candy. [ID# 2, 9-year-old boy]

To eat better every day. Kid Cuisine© is not good for you. [ID# 11, 8-year-old boy]

I eat too much fat & salt, not enough vegetables & fruit. [ID# 2, Adult]

[Didn't know] *We actually do a pretty good job of nutritious meals, but portions are too big.* [ID# 5, Adult]

Even more striking was visitors' likelihood to mention content clearly related to their experiences with specific exhibit components. Eighty-five percent of adults and 75 percent of children referred to one or more ***Every Body Eats*** component (and approximately 30 percent of both groups mentioned content related to more than one component). Adults were most likely to mention ideas traceable to *Reading Labels (sides 1 and 2)*, while children were more likely to mention what they recalled from their interactions with *Calories In/Calories Out* or their stops at one or more of a trio of components that highlighted added sugar, salt and fats (*Added Ingredients*, *Liquid Calories*, *Shaking the Salt Habit*). A selection of component mentions are included here; see Appendix F for a compilation of all component-related questionnaire comments.

- ***Added Ingredients – Liquid Calories – Shaking the Salt Habit*** (40 percent of children, 20 percent of adults)

  [Didn't know] *That in one bottle of pop you can get 65 grams worth of sugar.* [Reminded me] *I should stop drinking so much pop.* [ID# 8, 13-year-old girl]

  [Didn't know] *There is a lot of fat in some foods that are bad for you.* [ID# 14, 12-year-old boy]

  [Didn't know] *When the sugar & fat is displayed out, it reveals it in an alarming way - this is good!* [ID# 34, Adult]

  [Didn't know] *... Americans drink 17 gallons of soda.* [ID# 41, Adult]

- ***Calories In/Calories Out*** (35 percent of children, 7 percent of adults)

  [Didn't know] *It took 40 minutes of cycleing* [sic] *just to burn off the calories in a bag of potato chips.* [ID# 15, 12-year-old boy]

[24] As this example suggests, no visitors explicitly related "balancing calories in and calories out" to a healthy lifestyle. Four children did mention both consuming and burning calories; two additional children and one adult mentioned either consuming or burning calories.

[Didn't know] *It takes a lot to burn off calories from candy.* [ID# 3, 9-year-old boy]

[Didn't know] *How hard it is to burn a calorie.* [ID# 22, Adult]

- ***Reading Labels (sides 1 and 2)*** (20 percent of children, 56 percent of adults)

  [Didn't know] *There was so much … vitamin C in potato chips.* [ID# 12, 9-year-old girl]

  [Didn't know] *Potatoes have excellent vitamin C.* [Reminded me] *All labels matter.* [ID# 6, Adult]

  [Didn't know] *Nutrigrain bars have a lot of sugar, food labels can be misleading.* [ID# 12, Adult]

- ***Sizing Up Servings*** (10 percent of children, 17 percent of adults)

  [Didn't know] *That one serving size of meat is as big as a deck of cards.* [ID# 16, 11-year-old boy]

  [Didn't know] *What I sometimes think of as one serving is actually 2 or 3 servings.* [ID# 30, Adult]

Adults who completed questionnaires were asked to suggest changes in ***Every Body Eats*** that would improve the experiences of other families. Sixty-three percent of them did not offer any suggestions or commented that no changes were necessary, e.g.,

Nothing - I think it was well designed & provided basic nutrition info for all. [ID# 35, Adult]

Nothing - visually appealing! [ID# 27, Adult]

Four adults felt that too much reading was required, or requested audio interpretation, e.g.,

A few stations seemed to have too much to read to hold folk's attention. [ID# 17, Adult]

Maybe have "talking" or headphones - I brought an autistic child who understands but doesn't read. [ID# 30, Adult]

Four visitors commented on the exhibition's "age appropriateness," e.g.,

Some of it was a little too advanced for my 3 year old - but some was appropriate & fun. [ID# 9, Adult]

Good as is. Perhaps more for young teens. [ID# 23, Adult]

An equal number identified issues or problems with specific components or suggested other specific changes, e.g.,

One of the stations at the end was not working (with string cheese facts) [Calories In/Calories Out] … [ID# 17, Adult]

Add bacon to Race Cars exhibit [Fuel Your Body]. *Add sweet potato to Supermarket exhibit.* [ID# 5, Adult]

The parts that show the negative parts of "good foods" might make kids lean to less healthy foods, like [Reading Label Help] *where the healthiest option was French fries.* [ID# 29, Adult]

My kids love it. The Calorie Burn [Calories In/Calories Out] *takes too long, although it's in real time. My daughter (6 yrs) would stay and pedal the whole day to burn off her choice.* [ID# 25, Adult]

One visitor offered a suggestion for the bilingual labels:

More universal variety of Spanish - NOT Mexican! Example: "frijoles" for "beans" instead of "habichuelas." [ID# 1, Adult]

Cued Interviews

How do visitors make healthy food choices and what do they understand about "calories" and "nutrition"?

A smaller sample of adults were interviewed to learn more about how their experiences in **Every Body Eats** *had influenced their eating choices. These visitors were much more likely to seek out nutritional information provided by package labels and their discussions of "healthy meal planning" were more likely to reflect exhibition themes.*

As noted earlier, the interview protocol used during the original front-end study covered a wider range of topics; only items included in both the front-end and summative interview protocols are reviewed here.

The front-end interview sample included both English- and Spanish-speaking adults and children interviewed at both OMSI and the SMRC partner sites. Since these interviews were conducted early in the exhibition's development phase, these front-end (PRE) interviewees had not seen ***Every Body Eats*** or any other similarly themed exhibition. A total of 139 adults were interviewed at the SMRC partner sites during March and April, 2006. Of those, 87 were interviewed in English and are included in the comparisons described here.[25]

The adults who completed the summative (POST) interviews at CMNH were randomly recruited to participate as they entered the exhibition from the CMNH lobby. The data collector pointed out the extent of the exhibition and encouraged the target visitor and any companions to spend as much time in the gallery as they wished. Again, this "cuing" procedure was used to test the exhibition's communication potential in a situation where visitors would be motivated to use exhibition components and pay attention to their messages. Twenty-three cued interviews were completed at CMNH between December 12, 2009 and January 10, 2010.

Of the 43 adults and children approached by a data collector, 46 percent (12 females and 8 males) either refused to participate outright or initially agreed to participate but did not actually return to complete the interview.

Visitor characteristics

The demographic profiles of the PRE and POST samples were similar. Females predominated in both cases. Approximately three quarters of the front-end interviewees were between 30 and 40 years old (compared with 57 percent of the adults interviewed at CMNH). At least 80 percent of both groups were white and not Latino. Table 12 compares the PRE and POST samples in more detail.

[25] Since no Spanish-speaking visitors were included among visitors recruited at CMNH, the decision was made to compare only responses of visitors interviewed in English.

Table 12: Characteristics of adults who completed interviews (PRE and POST)

Characteristics		PRE (N=87)	POST (N=23)
Gender	Female	69%	61%
	Male	26%	39%
	No information	5%	0%
Age	19 – 29 years	7%	13%
	30 – 39 years	37%	39%
	40 – 49 years	40%	22%
	50 – 59 years	9%	13%
	60 years and older	2%	13%
	No information	5%	0%
Race and ethnicity[26]	African American	0%	4%
	Asian	5%	0%
	White (Latino)	1%	0%
	White (not Latino or no information)	82%	91%
	Other	1%	0%
	More than one	6%	0%
	No information	6%	4%
Language spoken at home	English	97%	91%
	Spanish	1%	0%
	English and Spanish	1%	0%
	English and another language	0%	9%
	No information	1%	0%
Household income	Less than $15,000	3%	4%
	$15,000 – 24,999	5%	0%
	$25,000 – 34,999	12%	4%
	$35,000 – 49,999	17%	13%
	$50,000 – 74,999	17%	26%
	$75,000 – 99,999	16%	17%
	$100,000 – 150,000	9%	9%
	$150,000 – 199,999	3%	4%
	$200,000 or more	7%	13%
	No response or rather not say	10%	9%
Highest education[27]	High school		9%
	Some college		13%
	College degree		39%

[26] Visitors were asked to simply describe their race and ethnicity. Those tabulated as "white" included many who added additional qualifiers (e.g., "White Italian," "White American," and "Caucasian/flat-out hillbilly").
[27] This question was not asked of the PRE interviewees.

Characteristics		PRE (N=87)	POST (N=23)
	Graduate degree		39%
	No information	100%	0%

Unlike the PRE interviewees (who were recruited to participate only if they were accompanied by children), those recruited for the summative interviews at CMNH were recruited from the general visitor population without respect to their group composition. Table 13 summarizes the group composition of those POST interviewees. Again, 90 percent were accompanied by one or more children.

Table 13: Group composition – adult interviewees at CMNH (N = 41)

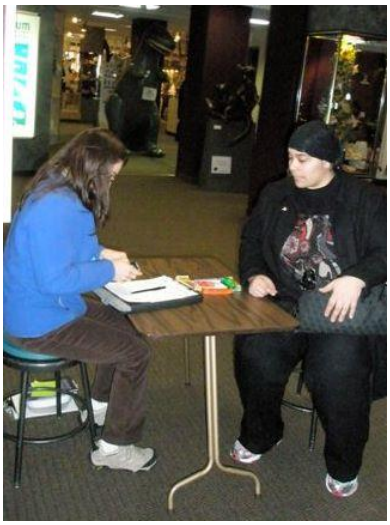
	Number of adults:				
Number of children:	**One**	**Two**	**Three or more**	**Unknown**	**Total**
None	4%	4%	0%	0%	**8%**
One	14%	14%	0%	0%	**28%**
Two	17%	22%	4%	0%	**43%**
Three or more	4%	9%	4%	0%	**17%**
Unknown	0%	0%	0%	4%	**4%**
Total	**39%**	**49%**	**8%**	**4%**	**100%**

Cued interviewees' behavior in Every Body Eats

The median time spent by cued interviewees at CMNH was 14 minutes, nearly identical to the time spent by those who completed the cued questionnaires. Again, this cuing procedure more than quadrupled the median time spent by adults in the exhibition when compared with the median time spent by those in the uncued tracking-and-timing sample (3 minutes).

What do interviewees understand about healthy eating and how do they make healthy choices for themselves and their families?

Three issues were addressed by both the PRE and POST interviews: how do participating adults use the nutritional information provided on packaged foods to make "healthy choices;" what do these adults think about when planning healthy meals for themselves and their families; and what do they understand about "calories" and "nutrition."



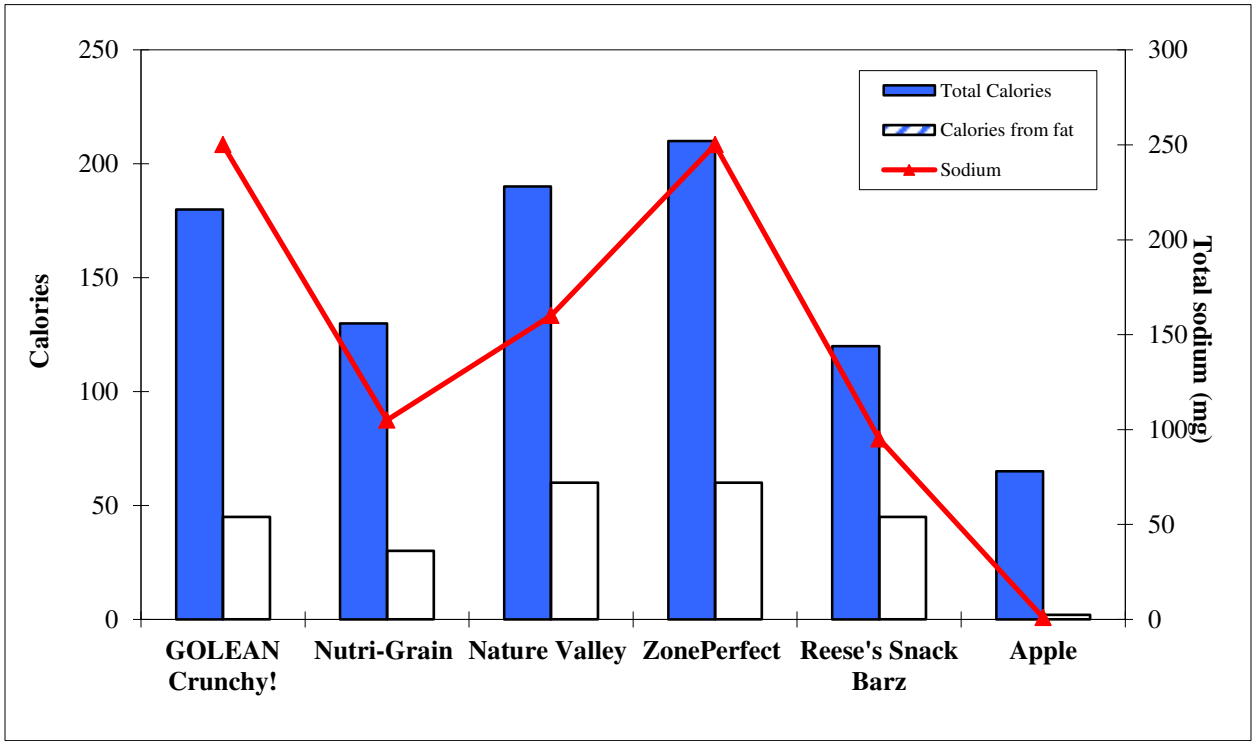
Photograph by Laura Dempsey

• *Imagine that you want to choose a healthy snack for yourself or your children … which one of these snack bars would you choose and what were you thinking about when you made that decision?*

Interviewees were asked to choose among five widely available snack bars: **GOLEAN**© Crunchy (chocolate peanut, 50 grams), **Nutri-Grain**© (blueberry, 37 grams), **Nature Valley**© (oats and honey, 42 grams), **ZonePerfect**© (chocolate almond raisin, 60 grams), and **Reese's SnackBarz**© (25 grams).[28] These bars varied widely in terms of ingredients, total calories, and nutrients. Visitors were shown the actual bars (in their original packaging) and could pick them up and handle them during the interview (see the photograph to the left).

Figure 9 compares these five bars in terms of three variables: total calories, total calories from fat, and amount of sodium.

Figure 9: Simplified "nutritional profile" of snack bars used during PRE and POST interviews[29]



[28] Note that a 50-gram Reese's SnackBarz© was used during the 2006 PRE interviews; only a 25-gram size was available in 2009.

[29] Ingredients and nutritional profiles of particular bars often changed slightly between 2006 and 2009; the most recent nutritional information is displayed here.

This comparison includes an apple to illustrate that none of these snack bars should probably be labeled a "healthy snack."[30] Considering just these three variables, however, the Nutri-Grain© bar might be considered the "best" choice – it is relatively low in sodium and it contains fewer total calories and calories from fat. Interestingly, the Reese's SnackBarz© has a very similar nutritional profile, but it is approximately 30 percent smaller than the Nutri-Grain© bar.

How these two groups of visitors made their choices is more informative than which bar they actually selected. Those interviewed after they had spent time in ***Every Body Eats*** were significantly more likely to review the bars' nutritional labels as they made and discussed their snack choice than were those in the front-end sample.[31] Sixty-one percent of the former looked at that information, compared with only 16 percent of the latter.

Even though the majority of those who had interacted with exhibition components did review the nutritional profiles of the different bars, the choices ultimately made by the PRE and POST interviewees were surprisingly similar (see Table 14).

Table 14: Comparison of snack bars chosen by the PRE and POST interviewees

Bar chosen	**PRE** (N=87)	**POST** (N=23)
GOLEAN© Crunchy	23%	22%
Nature Valley©	36%	39%
Nutri-Grain©	16%	17%
Reese's SnackBarz©	9%	13%
ZonePerfect©	7%	9%
Other[32]	3%	0%
None of them	6%	0%

As Table 15 indicates, the decisions of both PRE and POST interviewees were influenced by their familiarity with a particular bar, whether they like (or imagine that they would like) a bar's taste, and a bar's ingredients (often inferred from the bar's name or package graphics rather than from any review of actual ingredients).

Table 15: Factors or features mentioned by 10 percent or more of both PRE and POST interviewees

Factor/feature mentioned:	**PRE** (N=85)	**POST** (N=23)
Familiarity (e.g., "I've eaten this before")	36%	74%
I like/don't like the taste	20%	52%
Ingredients	28%	30%
Bar is "nutritious" or "healthy"	15%	17%

[30] The choice of an apple (or similarly healthier alternative) was not offered to interviewees, since it was assumed that many adults would feel pressured to choose the obviously "healthy" item even if they might have been more likely to choose one of the snack bars in a non-interview situation.
[31] Fisher Exact Probability Test, $p<.05$)
[32] Visitors at two SMCR sites were offered a slightly different selection of snack bars.

These comments illustrate the range of explanations offered by the POST interviewees:

> *Well, I just think that Kashi's healthy* [laughs]. *From the commercials. And I do like their stuff.* [Anything else?] *Well, I don't like blueberry anything, so I wouldn't pick* [Nutri-Grain] *just based on flavor.* [ID# 52 POST, did not review nutrition label]

> *See, I'm diabetic so this kind of puts a different spin on things. Cause I have to watch my carbs more than anything, carbs and fat. Umm … one of these would actually be healthier for you – the Oats and Honey. But for me, it would actually be better if I have* [the Reese's] *because there's less sugar in it.* [ID# 67 POST, reviewed nutrition label]

> *I've tasted almost all of these, except for the Reese's and I really enjoy that one* [GOLEAN], *plus I like the contents* [looking at nutritional info]. *Cholesterol, zero. …* [Anything else?] *No. I just … I eat these* [GOLEAN] *all the time and I do like them. Some of them … some of the ones that you eat, they're so pasty. You can't even swallow them.* [ID# 63 POST]

Three interviewees actually mentioned their experiences in ***Every Body Eats*** as they explained their snack choices, e.g.,

> *Well, after walking through the exhibit, I looked at some other things that I'd never really paid much attention to before, just to see what the total fat content was, whether or not it had trans fats – I thought that was really neat. What the protein level, volume, was in each of them, right? And sodium. This one had a lot less sodium than this one* [comparing GOLEAN to Nature Valley]. *This one has one more gram of fat than this one, but this one, the GOLEAN Crunchy, had more protein than the* [Nature Valley] *Oats and Honey. But, like I said, you eat what you're used to eating usually. So if I were going to, you know, if you handed me a bowl, just like you did, I'm going to go with what I know.* [Kashi GOLEAN] *has a lot more fiber, as well.* [Nature Valley] *only has 2 grams, whereas* [GOLEAN] *has 6, three times the fiber.* [ID# 45 POST]

Admittedly, the differences in the way that the PRE and POST interviewee responses were captured makes it difficult to compare the specific response content. During the front-end study, interviewers (often with only minimal training) made written notes during the interview, while conversations between interviewers and interviewees during the summative study were tape recorded and transcribed. It is possible that the PRE interviewees mentioned additional features or considerations that were not recorded by the interviewers. A closer examination of the POST interviewees' responses suggests, however, that the differences observed between the PRE and POST discussions of the different snack bars may indeed reflect underlying differences in their approach to this task (rather than simply differences in methodology).

As Table 16 demonstrates, the explanations offered by POST interviewees who did not review the bars' nutritional information were somewhat more likely to highlight factors also mentioned by PRE interviewees (i.e., familiarity and taste). On the other hand, POST interviewees who did examine the bars' nutrition labels were more likely to mention details included in those labels (e.g., total calories, specific nutrients, and amounts of fat, fiber, and sugars).

Table 16: Factors mentioned by POST interviewees when explaining their snack bar choices

Factor/feature mentioned:	POST interviewees who … Did read nutrition label (N=14)	Did NOT read nutrition label (N=9)	PRE interviewees (N=85)
Familiarity	64%	89%	36%
Taste	43%	67%	20%
One or more ingredients	29%	33%	28%
It's "nutritious" or "healthy"	21%	11%	15%
Calories	***36%***	***0%***	***4%***
Carbohydrates or sugar	***57%***	***11%***	***9%***
Fats	***43%***	***11%***	***6%***
Fiber	***21%***	***0%***	***0%***
Other nutrients (protein, vitamins, minerals)	***64%***	***11%***	***7%***

- *Imagine you are cooking dinner for your family and want to make healthy choices. What are some of the things you'll think about when you decide what to fix?*

Adults who were interviewed after interacting with ***Every Body Eats*** components were more likely to mention particular foods that they typically try to include or avoid, or overall strategies that they use to promote healthy eating in their households (such as avoiding processed food, watching portion sizes, balancing proteins, vegetables and grains). Like the PRE interviewees, they also described family circumstances and personal preferences that often directed their meal-planning decisions. Interviewees' responses to this question were assigned to one or more of five categories:[33]

- **Interviewees described an overall strategy** (e.g., including a variety of foods, eating more organic foods). (37% of PRE interviewees, 52 percent of POST interviewees)

  I think about the food groups - fresh, and whole grains - no frozen or processed [ID# K-8 PRE]

  My protein source is usually from a vegetable source, like lentils. Because vegetables, they don't concentrate the cholesterol as well as us animals do. … We don't keep sugar pop in our house. If you want a pop, you're allowed to have pop, but it's gotta be, you know, Diet Coke or Diet Pepsi. ... We don't buy any kind of bread other than the double fiber bread, that has … I think it's got 16 percent of your daily fiber, just from your bread that you make into toast in the morning. ... You know, I do read the labels and I think that's the most important thing that I do. I just find out what's in my food! Processed foods taste real good, but that they're not necessarily real good for you [laughs]. [ID# 57 POST]

  Well I'd definitely stay away from large portions, if I'm trying to stay, go with healthy. ... [ID# 47 POST]

  Healthy, I think about how can we get protein, how can we get fiber without a whole bunch of added fats? Do we have … if I wanted something like cheese or sour cream, do I have a lower fat choice

[33] Since interviewees often mentioned more than one approach to healthy meal planning, the total percentage exceeds 100 percent.

available? … How processed is it versus you know, is it all the ingredients are pure and we can throw it all together versus does it involve a mix, a powder, a box. [ID# 64 POST]

- **They include specific foods or food groups** (e.g., fruits, vegetables, proteins) **or avoid specific foods or ingredients** (e.g., fats, sodium). (38 percent of PRE interviewees, 74 percent of POST interviewees)

  Meat of some kind (chicken or salmon - boneless and skinless). Have steak once a week. Have low-fat stuff, vegetables. Don't use butter. Not a lot of oil. [ID# O-28 PRE]

  Make sure that I have a meat, a vegetable, and bread. [Anything else?] *Has to be quick. That's about it.* [ID# 46 POST]

  But as far as choosing the food, it'd probably be more … we're, just as a family, looking at cutting down a lot on the sodiums, a lot on the carbs … And we could definitely go along with a lot more fresh fruit, fresh veggies. … [ID# 54 POST]

  One thing that we've had is the frozen vegetables, which I think are still pretty good, like the steamed fresh vegetables, where you steam them in the microwave. It's been an easy choice for us and an easy way to get our vegetables in. … [ID# 60 POST]

- **They described personal/family/household issues** that influence their decisions (e.g., what's available at the moment, what family members like to eat, specific health concerns). (49 percent of PRE interviewees, 57 percent of POST interviewees)

  Since my kids are diabetic I'm thinking about carbohydrates - and what they like to eat - what's quick and healthy. Also thinking about vegetables, what green vegetables they will eat. [ID# K-9 PRE]

  Child is picky eater - fried chicken, salad, pizza, apples, bananas, pasta. [ID# S-6 PRE]

  And … how quickly I can make it [laughs]. Umm … And what the ingredients are because there's a lot of allergies in our family, so we're very concerned about the ingredients. And also concerned about whether it's kosher, so everything's gotta be kosher. And umm … How good it's going to taste. … [ID# 70 POST]

  I mean, the basics of what I would think about is how easy is it to prepare, do we have the ingredients at home or do we have to go buy them? Can I make one meal? I try to do that, but if it's something the kids absolutely would refuse … you know, so is it something that appeals to everybody? [Companion: And how easy is it …] *Yeah. … Is it something where it's all like a one-pot dish, or do I need to serve a separate vegetable? Do I have vegetables, do I have a way to prepare them where we'll want to eat them* [laughs]*? … I think that's most of it. …* [ID# 64 POST]

- **They mentioned relevant terms or concepts, but offered little additional detail** (e.g., "nutritious," "balanced," "healthy"). (28 percent of PRE interviewees, 13 percent of POST interviewees)

  Balanced meal. Nutritious. … [ID# O-5 PRE]

  Protein, balancing out the protein, carbs and vegetables. [ID# 67 POST]

  How healthy it is, you know, nutritionally. … [ID# 69 POST]

- *When you hear the word "calorie," what's the first thing that you think of? What does the word "calorie" actually mean?*

Interviewees' interactions with ***Every Body Eats*** did not seem to dramatically influence how they thought about calories. Approximately 50 percent of both samples were initially reminded of fattening foods, dieting, weight gain, or having too many, e.g.,

> *Starch food - food with no nutritional value like chips* [ID# K-4 PRE]
>
> *Too many. Again, sugars and fats.* [ID# P-3 PRE]
>
> *Ice cream* [laughs]. *That's literally the first thing that popped in my head. Unhealthy, fat, bad. Not all calories … I mean, not all calories are bad. 2,000 calories a day for a well-balanced diet. Isn't it? Yeah.* [ID# 62 POST]
>
> *Hmm … Like weight loss, dieting, weight loss kind of thing.* [Companion: Not the amount of energy required to heat water ..] *No, I don't think of like the official kilo cal definition* [laughs]. [ID# 64 POST]

On the other hand, those interviewees who had seen ***Every Body Eats*** were more likely to mention recommended daily caloric intake; 26 percent of POST interviewees made that connection versus only one percent of the PRE interviewees.

> *You can't exceed a certain amount of calories* [laughs]. *I know 3500 calories equals to one pound. The recommended calorie intake is anywhere from about 15 to 18, the highest, and this like what, 21? I know that you're not supposed to exceed more than that in a day.* [ID# 56 POST]

Approximately 30 percent of PRE interviewees (and 20 percent of those interviewed after spending time in the exhibition) did associate "calorie" with either "heat" or "energy." This visitor was one of three who saw ***Every Body Eats*** at CMNH who not only mentioned "energy" but were also reminded of the balance between calories consumed and burned:

> *Umm … you know, in the technical sense, energy that we're putting into our bodies, the number of calories and … so how many calories we're taking in in a day versus how many we're going to burn up in our daily exercise, or daily activities. Like Noah* [child], *I think you burn up a lot of calories when you swim, don't you?* [ID# 60 POST]

When interviewees were challenged to explain what "calorie" actually means, 60 percent of both groups offered a definition that was judged to reflect at least a basic understanding of that concept, i.e., the interviewee mentioned heat, energy or unit of energy without adding additional details (or related "calorie" to energy provided by food or used by the body).

> *It means unit of energy.* [ID# O-5 PRE]
>
> *Energy you gain from food* [ID# P-14 PRE]
>
> *So this is a quiz* [laughs]. *Umm … what does it mean? That's hard to describe. It's probably the amount of …* [pause] *… it's like the energy in food? I'm not sure how to … I don't know what word to put on it. But calories provide energy, 2,000 to 2,500 a day, something like that.* [ID# 46 POST]
>
> *I believe it is a measure of a unit of energy? I don't recall the exact technical term.* [ID# 60 POST]

As these examples indicate, visitors rarely seemed to draw on their very recent experiences in ***Every Body Eats*** as they struggled to explain what "calorie" means (see Table 17 for a summary

of specific ideas mentioned in interviewee responses). Both PRE and POST interviewees seemed to think back to high school and college science classes as they answered. These two CMNH visitors provided more detailed explanations than those judged as "basic," but they are clearly drawing on more distant experiences than their recent interactions in ***Every Body Eats***.

> *Oh, I can't remember what the actual definition is anyway. I used to know. It's an amount of energy, it's … they made us do metric in the Navy and talked about ergs instead of calories. So it's a unit of energy that's measurable. As to what it is … I don't remember what it is, I'm not going to say. It has to do with increasing the temperature of water 1 degree, or something like that.* [ID# 45, POST]

> *A calorie is the amount of …* [laughs] *the amount of energy it will take to raise one degree of water … or one ounce of water one degree. If we're talking little "c" or big "C," when I think back to my high school days. If we're talking actual calories that are in here* [pointing to snack bars]*, I think that's actually "K" calories, so a thousand little calories. So one "little calorie" is the amount of energy it takes to raise one … I think, it's one ounce of water one degree in Celcius* [sic]*? Is that correct? I don't know, something like that. So, yeah. I believe that's correct.* [laughs] [ID# 47 POST]

Table 17: Ideas mentioned in PRE and POST definitions of "calorie"[34]

Ideas	**PRE** (N=87)	**POST** (N=23)
Unit of energy	17%	17%
Unit of energy (heat water)	5%	13%
Unit of energy (burn/heat "something")	8%	0%
Energy/heat	11%	0%
Energy in food	8%	17%
Energy used/burned by body	5%	0%
Energy (other)	3%	13%
How body burns food/calories	2%	0%
Unit of food	6%	4%
Something in food	0%	13%
Other	8%	0%
Don't know (or too vague to categorize)	25%	26%

- *What do you think of when you hear the word "nutrition"?*

Approximately 60 percent of PRE interviewees and 40 percent of POST interviewees associated "nutrition" with health or healthy food, e.g.,

> *Healthy choices leading to healthy lifestyle* [ID# K-1 PRE]

> *Healthy. Yeah, that's the first word that comes to my mind, healthy.* [ID# 65 POST]

> *The first word that comes to mind is "health," but ahh … but in terms of … what, in terms of products? Or in terms of … just anything?* [Could be anything.] *… Initially I just think health, nutrition … huh! Ahh … I guess not a whole lot more than that. Umm … I might come up with something in a little bit, if it pops into my head.* [ID# 47 POST]

[34] Since interviewee responses could mention more than one idea, the total percentage exceeds 100 percent.

Thirty-one percent of visitors who had seen the exhibition (but only 16 percent of those who had not) were reminded of "things that your body needs to work" or mentioned specific nutrients (specific substances that support the body's functioning and growth, such as proteins, carbohydrates, fats, vitamins, and minerals).

> *Calories, nutrients, vitamins. Stuff you find at the store.* [ID# O-21 PRE]
>
> *Umm … eating right. Fueling the body so that I can do things that I want to do, or that you want to do.* [ID# 61 POST]
>
> *Oh, well something that's not too salty or sugary, something good for you, proteins, minerals, vitamins.* [ID# 59 POST]

Seventeen percent of the POST interviewees were reminded of eating certain foods (such as fruits and vegetables), as were 11 percent of those who had not seen the exhibition, e.g.,

> *Not high in fat, with fiber, fruits, and vegetables* [ID# B-8 PRE]
>
> *The word "nutrition" … hmm. That's a good one. …*[pause] *… I guess … umm … how many … what's the correct way to feed my kids a certain amount of vegetables and fruits and you know, carbs and things like that.* [ID# 56 POST]

Like the cued questionnaire respondents, POST interviewees also mentioned ideas that may have been prompted by their interactions with specific exhibition components. Since interviewees rarely made explicit connections, it was more difficult to unambiguously relate their comments to specific components. Nevertheless, a small number of interviewees did mention ideas that echoed key component messages, especially when describing how they plan healthy meals for themselves and their families, e.g.,

Eat a Rainbow	*Yeah, just what kind of things I'd put together to make it tasty and somewhat good for you.* [Child: You should make it colorful.] *Oh, yeah. I want it colorful. You can put that in. Cause aren't colors healthy? Natural colors?* [laughs] [ID# 62 POST]
Shaking the Salt Habit	*I think, as far as sodium goes, we don't get a lot of processed, you know, processed foods that are high in sodium, but I know that I think that we could all cut back on the table salt a little bit, too. And that comes up for discussion now and then at the dinner table.* [ID# 60 POST]
	I guess you'd be conscious of grams of carbohydrates and sodium. Cause a lot of your … especially your soups and your mixes, those all contain a lot of sodium. So you want to cook as naturally as you could, without a lot of sodium. [ID# 68 POST]
Sizing Up Servings	*Well I'd definitely stay away from large portions, if I'm trying to stay, go with healthy. …* [ID# 47 POST]

These two visitors did mention a specific ***Every Body Eats*** component during their interviews. As this interviewee discussed her snack bar choice, she recalled her interaction at *Reading Labels (side 1):*

Well, [Nutri-Grain] *is usually somewhat sweet, it's supposedly nutritious. Although I think it came in last in that one display over there. …* [ID# 61 POST]

This visitor recalled that she had read something about "calories" at *Calories In/Calories Out* (although she had difficulty remembering what that was as she tried to explain what a calorie really is):

[Visitor to child] *Do you want to go take a look? Was it the amount of … oh, what was it? One … how much that it takes to burn one unit of gas or something? It's right over there!* [pointing to exhibit] *Right on the side. Remember you were doing the pedaling?* [ID# 59 POST]

Principal Findings ✦ *Let's Get Active*

Tracking-and-timing observations

How did visitors spend their time in **Let's Get Active***?*

Observation data was collected at two very different venues: gallery configuration clearly affected visitors' behavior. At the mid-sized CMNH, visitors spent an average of seven minutes in **Let's Get Active** *and stopped at an average of four different components. Visitors who toured the exhibition at the much smaller Granville Museum, on the other hand, spent an average of 29 minutes in the exhibition, stopping at an average of 12 components. When CMNH visitors did stop at a component, however, they typically read exhibit text and engaged in some level of interaction. Compared with adults observed in* **Every Body Eats***, however, adults visiting* **Let's Get Active** *were more likely to watch other's interactions than interact with components themselves.*

As noted previously, tracking-and-timing observations were conducted at two ***Let's Get Active*** venues: Cleveland Museum of Natural History (CMNH) and Granville Museum (Granville). Significant differences in the exhibition installations, level of visitation at the sites, and the museums themselves make it difficult to meaningfully compare the two data sets:

- At CMNH, ***Let's Get Active*** was installed in a gallery that functioned as a wide hallway connecting the museum's entry lobby to other museum exhibition galleries and program areas. At Granville, the exhibition was installed in a more conventional gallery with a single entry/exit point.

- CMNH is a mid-sized urban museum with 40,000 square feet of exhibition galleries and program areas on two floors. The Granville Museum is housed in two adjacent buildings in Oxford, NC. Harris Hall includes a 1,000-square-foot gallery for temporary exhibits, a small gift shop, and administrative offices. A 1,200-square-foot permanent exhibition highlighting Granville County history fills an adjacent building, a nineteenth-century building that formerly served as the Oxford town jail.

- Given these differences in the two museums' size, character, and location, it is not surprising that the size of the audiences they draw (and the nature of their visitors' experiences) are also

very different. Approximately 1,000 adults and children toured Granville Museum during the three-month ***Let's Get Active*** venue. The exhibition area was rarely crowded; small groups of related visitors typically had the gallery to themselves. At CMNH, on the other hand, several much larger exhibitions and theater experiences compete for visitors' attention. Nearly 93,000 adults and children visited CMNH while ***Let's Get Active*** was on display. That gallery was often at least moderately crowded and casual visitors typically shared the exhibition with other families or organized groups.

The limited tracking-and-timing data collected at Granville does suggest how effective ***Let's Get Active*** might be in similar environments. However, the data sets from the two sites cannot be meaningfully combined. For these reasons, this report compares global measures of visitors' behavior at CMNH and Granville (i.e., total time spent by visitors and total number of component stops), but does not include a detailed analysis of observation data collected at Granville Museum.

Visitor characteristics

Eighty-nine visitors were unobtrusively observed as they spent time in ***Let's Get Active*** (69 of those were observed at CMNH; the remaining 20 observations were completed at Granville). Again, the observers estimated visitor ages, recorded the target visitor's apparent race and ethnicity, and how many other adults and children were accompanying the target visitor as they entered the exhibition. At CMNH, the observation sample was evenly divided between those who entered from the museum lobby and those who entered from the gallery's opposite end.

As was the case for ***Every Body Eats***, females predominated in both the CMNH and Granville samples (accounting for nearly 60 percent of observations at CMNH and 70 percent of those at Granville). Approximately one half of visitors observed at both sites were estimated to be between 30 and 49 years old. Eighty percent of adults observed at CMNH were categorized as white and not Latino (as were 75 percent of adults observed at Granville).

Table 18: Demographic characteristics of visitors observed in **Let's Get Active**

Characteristic		**CMNH** (N=69)	**Granville** (N=20)
Gender	Female	57%	70%
	Male	43%	30%
Estimated age	18 – 29 years	25%	5%
	30 – 39 years	41%	40%
	40 – 49 years	13%	15%
	50 – 59 years	4%	0%
	60 years or older	14%	40%
Race and ethnicity	African American (not Latino)	4%	15%
	Asian (not Latino)	1%	0%
	White (not Latino)	83%	75%
	White (Latino)	1%	0%
	Other or unsure	0%	10%

Tables 19 and 20 summarize the group composition for adults observed at CMNH and Granville. Three Granville adults toured ***Let's Get Active*** on their own; all other adults were accompanied by one or more other visitors. All but three adults at Granville and two adults at CMNH were accompanied by at least one child. Fifty-six percent of groups observed at CNNH (and 65 percent of those at Granville) included children who appeared to be younger than six years of age.

Table 19: Group composition of adults observed at CMNH (N = 69)

	Number of adults:			
Number of children:	**One**	**Two**	**Three or more**	**Total**
None	0%	3%	0%	**3%**
One	19%	12%	0%	**30%**
Two	9%	26%	3%	**38%**
Three or more	6%	16%	7%	**29%**
Total	**33%**	**57%**	**10%**	**100%**

Table 20: Group composition of adults observed at Granville Museum (N = 20)

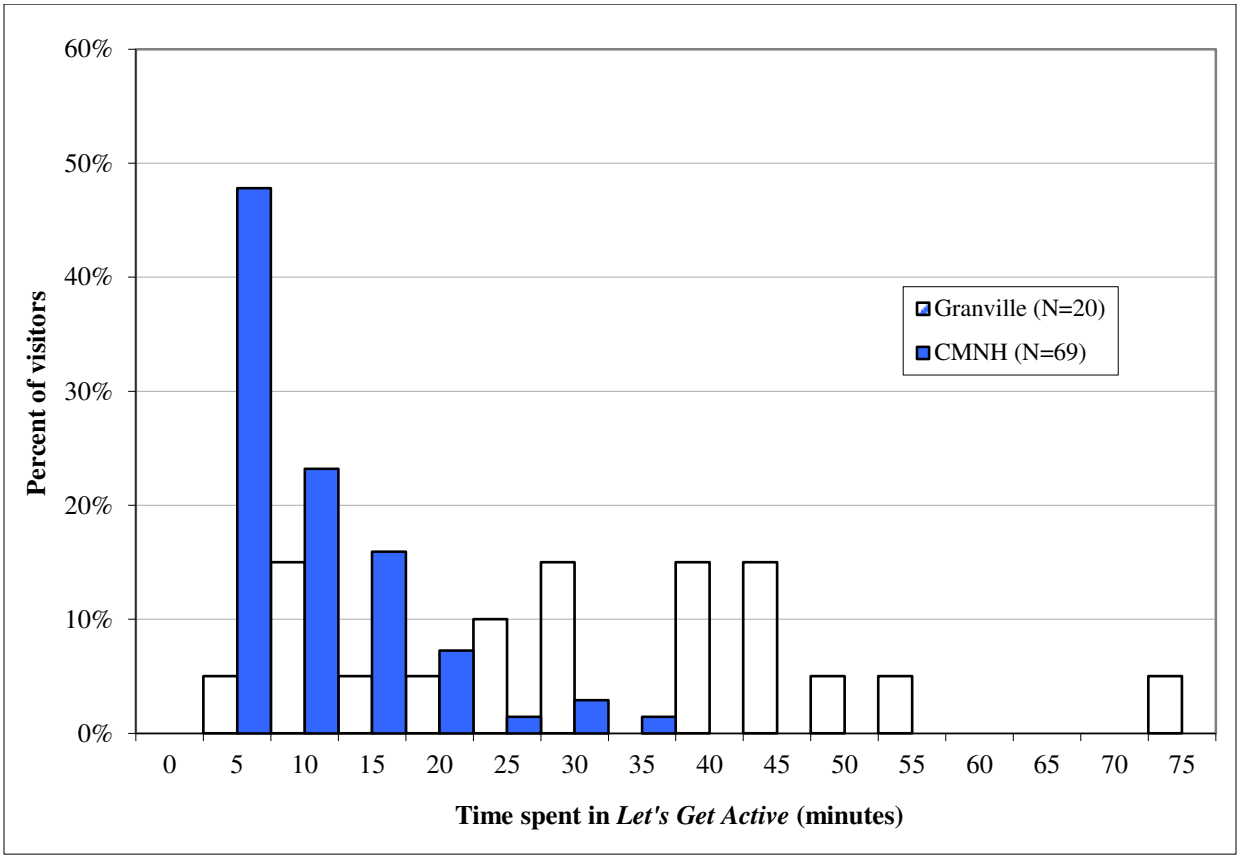
	Number of adults:			
Number of children:	**One**	**Two**	**Three or more**	**Total**
None	15%	0%	0%	**15%**
One	15%	0%	0%	**15%**
Two	5%	20%	0%	**25%**
Three or more	0%	0%	45%	**45%**
Total	**35%**	**20%**	**45%**	**100%**

How thoroughly did visitors use Let's Get Active*?*

As Figure 10 indicates, the total time spent by visitors at the two sites differed dramatically. At CMNH, visitors spent an average of seven minutes in ***Let's Get Active***; at Granville, the average time spent was 29 minutes.[35]

[35] Not surprisingly, this difference is statistically significant (two-sample t-test assuming unequal variances, $p<.0001$, $df = 21$).

Figure 10: Total time spent by visitors in **Let's Get Active** *at CMNH and Granville Museum*



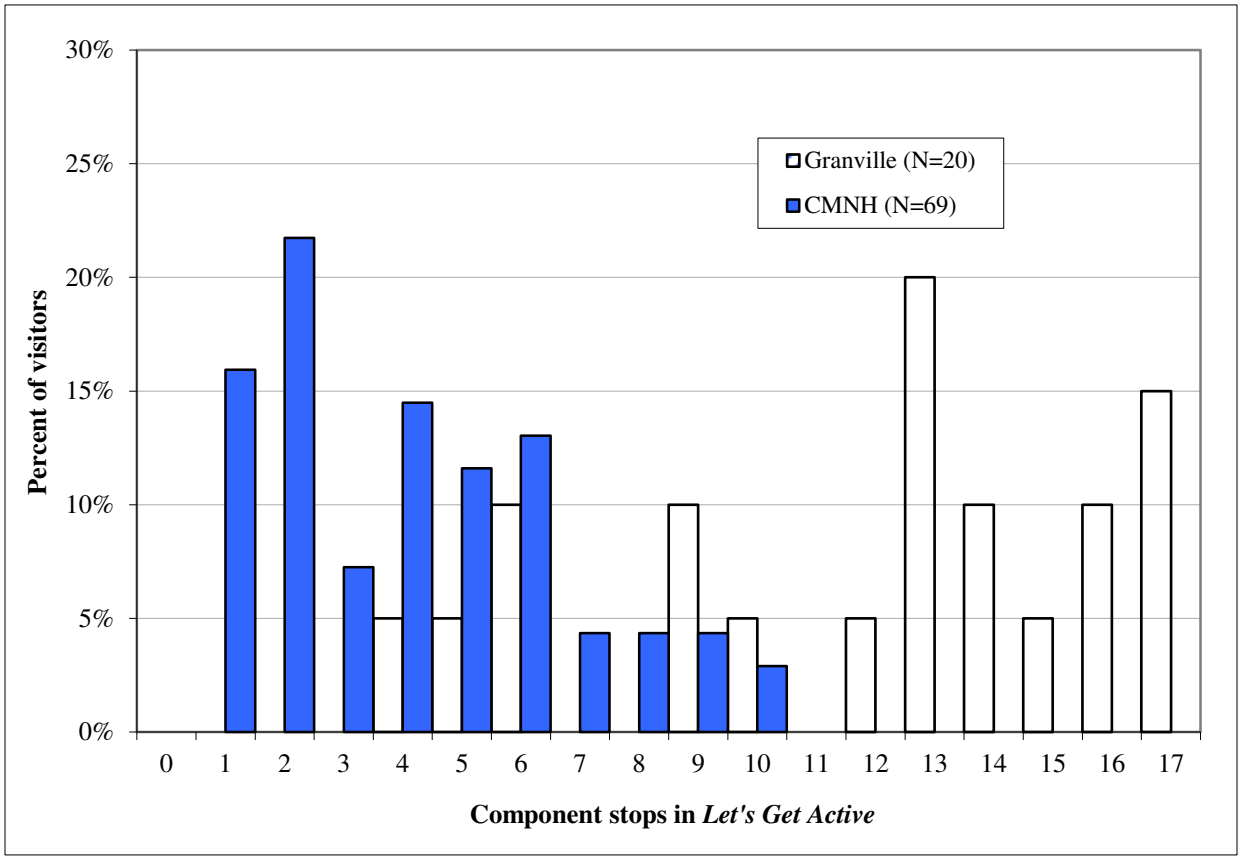
The distribution of visitor times at CMNH was markedly skewed to the right (as was the case for visitor times spent at ***Every Body Eats*** at that site), while visitor times at Granville are more normally distributed (approximately one half of times fall to either side of the distribution's peak). Note that the average time spent by visitors at CMNH more closely approximates the total time predicted by Serrell (1998) based on the exhibition's size; visitors at Granville spent more than three times as long as Serrell's equation predicts.[36]

As is typically the case, relatively few visitors in both of these samples spent the longest amounts of time. In those circumstances, the median is a more representative measure of visitors' observed behavior. The median time spent by visitors at CMNH was five minutes; at Granville, visitors' median time in ***Let's Get Active*** was 27 minutes.

Visitors at Granville also stopped at significantly more ***Let's Get Active*** components (making an average of 12 component stops) than did their counterparts at CMNH (who stopped at an average of four components).[37] Figure 11 compares the distributions of visitor times observed at the two sites. Again, the CMNH distribution is strongly skewed to the right.

[36] See page 9 of this report for additional information about Serrell's database of exhibitions.
[37] Again, this difference is highly significant (two-sample t-test assuming equal variances, p<.0001, df= 87)

Figure 11: Number of component stops made by visitors in **Let's Get Active** *at CMNH and Granville*



Serrell's (1998) measures of visitors' use of exhibitions – the sweep rate index (SRI) and percent diligent visitors (%DV) – are also very different for the two sites.[38] Comparing visitors' overall use of ***Let's Get Active*** with Serrell's sample of similarly sized and themed exhibitions (nondiorama exhibitions smaller than 3,900 square feet), visitors at both CMNH and Granville moved more slowly through ***Let's Get Active*** than was the case for the typical "small nondiorama exhibition."

The SRI computed for visitors touring ***Let's Get Active*** at CMNH (an 800-square-foot installation) was 108, i.e., visitors moved through that gallery at the rate of 108 square feet per minute (the average SRI reported for small museum exhibitions in Serrell's database was 244). The SRI computed for the exhibition's 1,200-square-foot installation at Granville Museum was only 41, indicating that those visitors moved through the exhibition nearly three times more slowly than their counterparts at CMNH.

A second of Serrell's global measure (%DV) indicates how thoroughly visitors use an exhibition (it equals the proportion of visitors stopping at more than 50 percent of an exhibition's components). Once again, the specific setting exerted a very powerful influence on visitors'

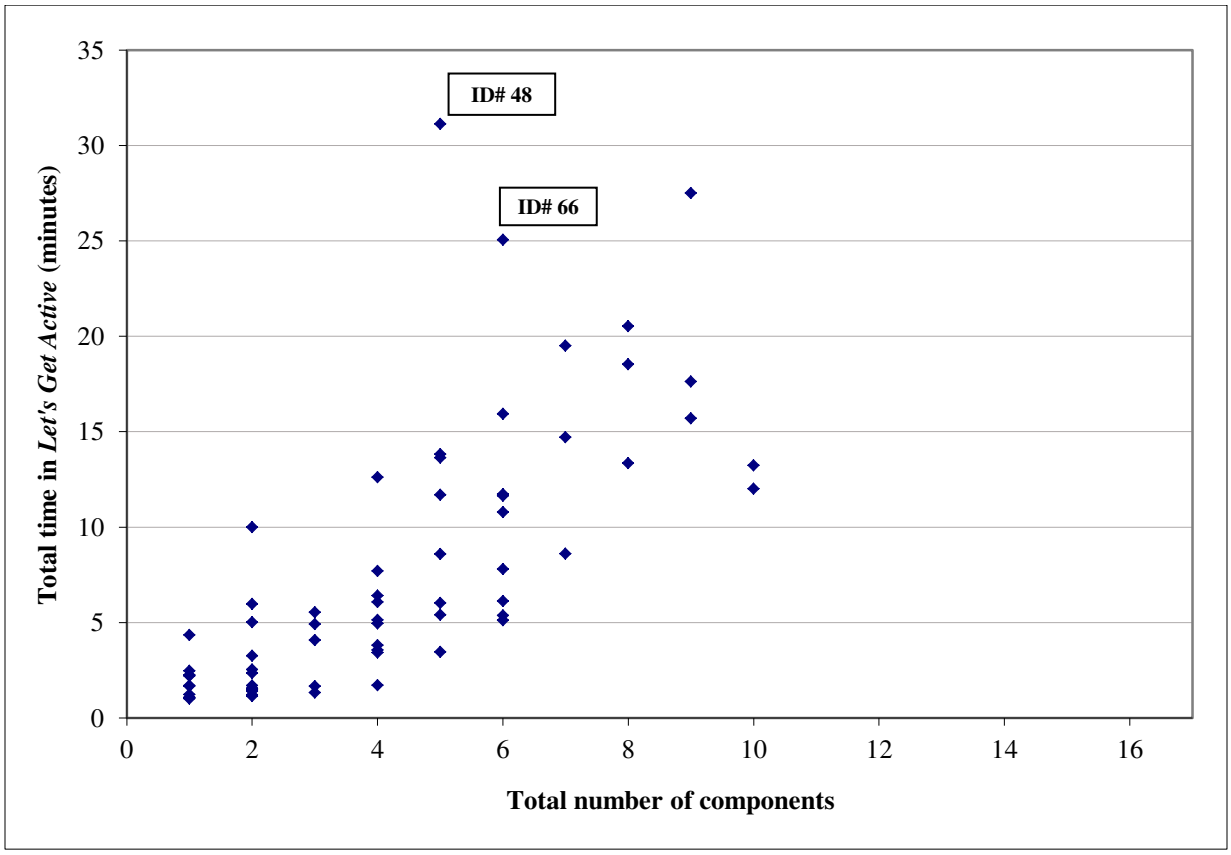
[38] See page __ of this report for additional information about how Serrell derived these statistics and how they are calculated.

behavior in ***Let's Get Active***. At CMNH, only five visitors met that criterion (corresponding to 7 %DV) while at Granville, the %DV was 80 (16 out of 20 visitors used more than 50 percent of the 17 ***Let's Get Active*** components). In fact, the ***Let's Get Active*** installation at Granville qualifies it as an "exceptionally thoroughly used" exhibition (one that achieves an SRI below 300 and a %DV greater than 51 percent.)[39]

The balance of this section will review only the observation data collected at CMNH. The appendices include additional information about visitors' use of individual ***Let's Get Active*** components at Granville Museum.

Figure 12 plots the number of component stops made by CMNH visitors against the total time each visitor spent in the exhibition. As visitors' time in the gallery increased, so too did their total component stops. Note that no visitors stopped at more than 10 of the exhibition's 17 components.

Figure 12: Total component stops in **Let's Get Active** *vs. total exhibition time (N = 69)*



Two visitors did depart somewhat from this general trend. One woman (labeled ID# 48 in Figure 12) spent 31 minutes in the gallery but stopped at only five components. This visitor's group (two adults and three children, including two who were younger than age six) returned to *Animal Motion* three different times, spending a total of 11 minutes at that one component. A second

[39] Ibid, p. 27.

female (labeled ID# 66 in Figure 12) spent slightly less time and stopped at just six components. This visitor was accompanied by three adults and five children and spent five minutes or more at each of three stations (*Balancing Act*, *Be Flexible*, and *Wall Squats*). At each of those components, she tested herself, watched her companions do so, and talked with them about their interactions.

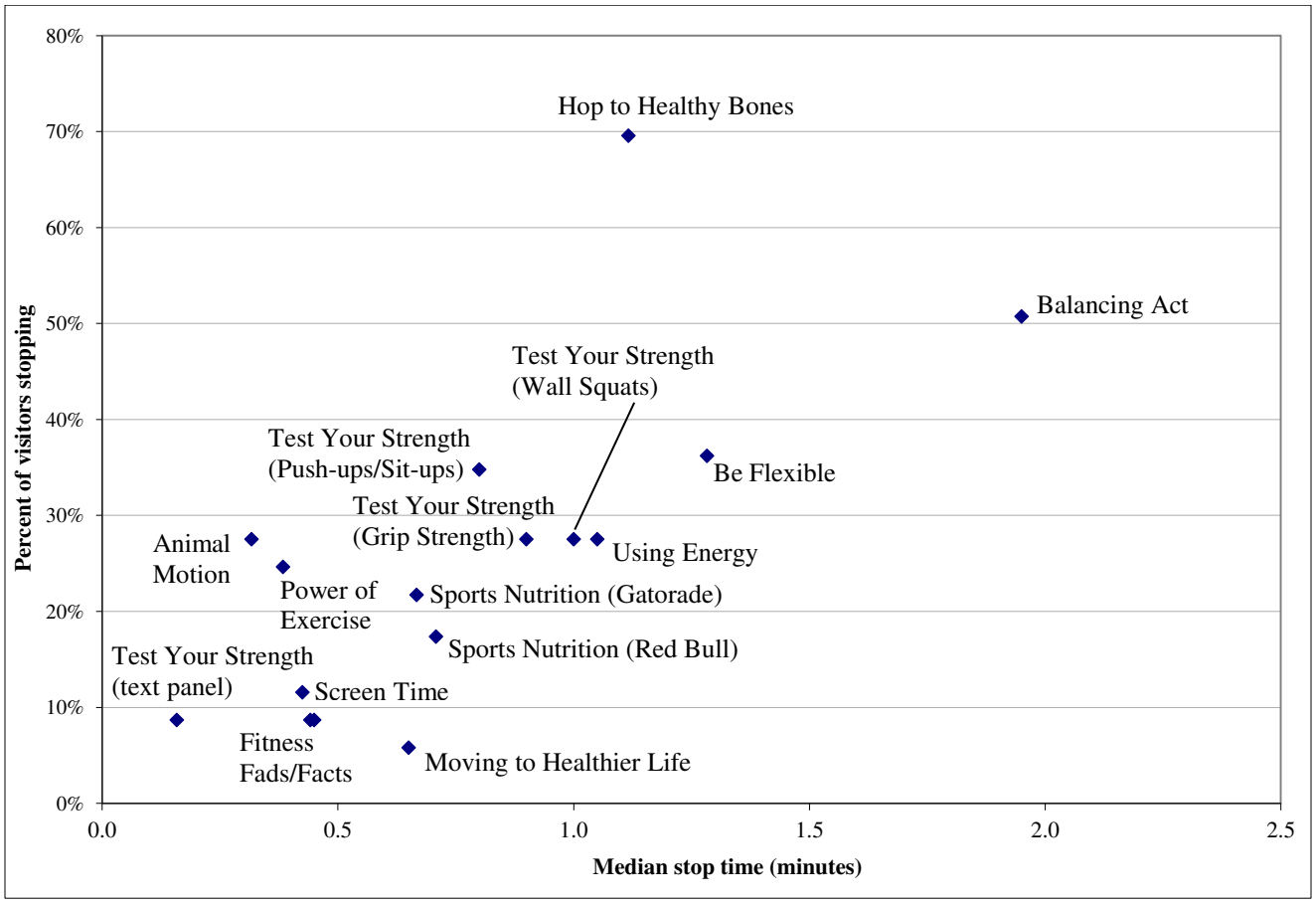
At CMNH, visitors could enter from either end of the gallery (see page 3 for a floor plan of the main level at CMNH). As was the case for ***Every Body Eats*** installation at CMNH, a visitor's entry point did not influence either the total time spent in the exhibition or the total number of component stops.

Visitor stops and time spent at individual components

Again, individual elements differed with respect to their attractiveness (likelihood to prompt visitor stops) and their holding power (likelihood to promote sustained engagement). The attractiveness of a few elements also varied with the visitor's entry point.

Figure 13 plots the percentage of visitors stopping at each element against the median time that visitors remained engaged with each of those elements. All but two of the ***Let's Get Active*** components are concentrated in the lower left quadrant of the scatter plot (attracting stops from 40 percent or fewer of the observed visitors and supporting median stop times of 1.5 minutes or less). See Appendix G for a full listing of the proportion of visitors stopping at each component and their associated median stop times.

*Figure 13: Components' relative attractiveness and holding power (***Let's Get Active***)*



Four of these components (*Test Your Strength text panel*, *Fitness Fads/Facts*, *Screen Time*, and *Moving to a Healthier Life*) attracted the fewest visitor stops and engaged visitors for the shortest period of time. *Test Your Strength* was one of two text-only panels in the exhibition (the other, *Physical Activity Basics,* served as the exhibition's introduction but attracted no visitor stops). *Moving to a Healthier Life* was the exhibition's only computer-mediated interactive. Unlike *Hunger Signals* (a very similar computer-based interactive in ***Every Body Eats*** that also attracted relatively few visitor stops) *Moving to a Healthier Life* supported a median stop time of only 42 seconds. By comparison, 10 percent of visitors to ***Every Body Eats*** stopped at *Hunger Signals*, but they spent a median time of three minutes.

Six elements offered visitors an opportunity to test their own fitness levels with respect to seven different measures of strength or flexibility:

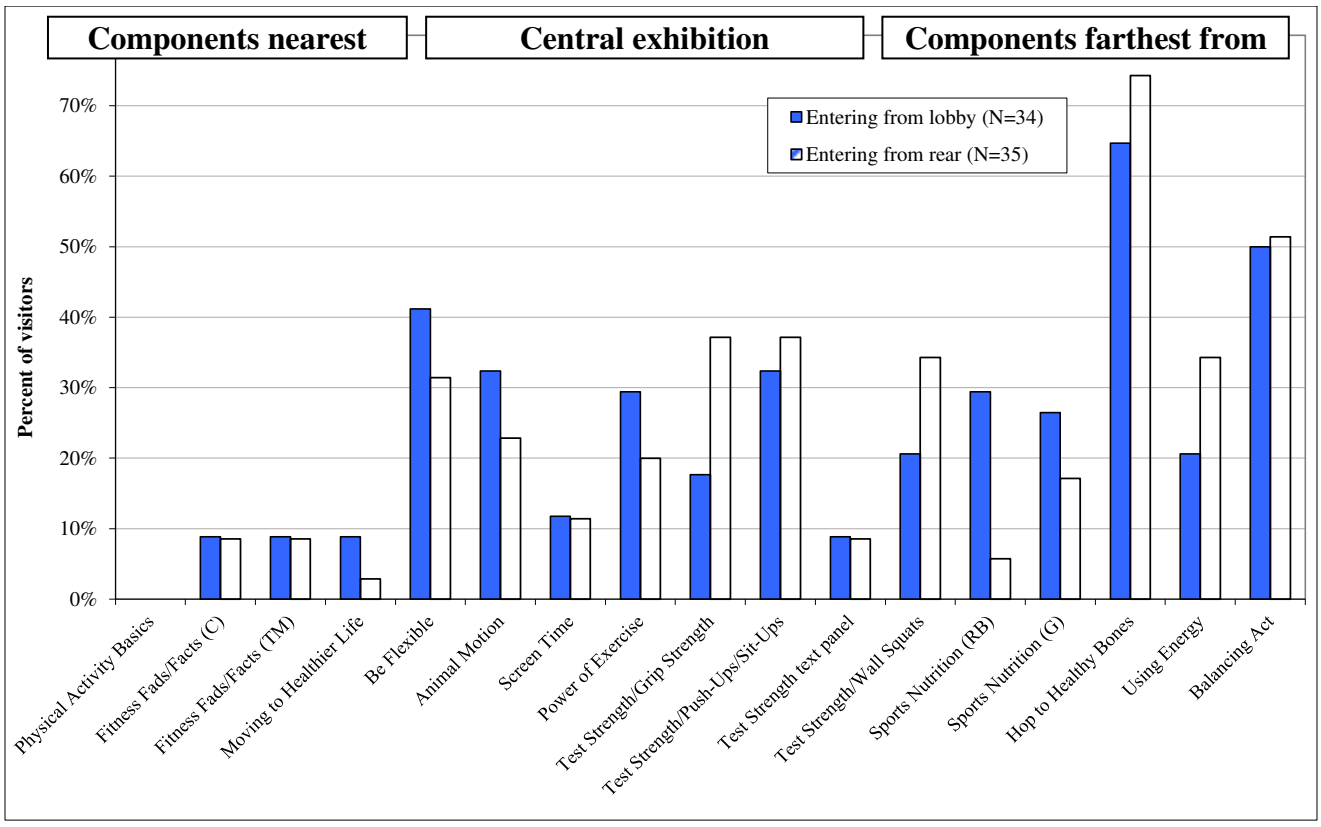
- how many sit-ups and push-ups they can do (*Test Your Strength/Push-Ups/Sit-Ups*);
- how strong their grip is (*Test Your Strength/Grip Strength*);
- how long they can hold the squat position (*Test Your Strength/Wall Squats*);
- how far they can bend forward from the waist when seated (*Be Flexible*);
- how long they can keep their balance on a balance board (*Balancing Act*); and
- how long they can jump rope (*Hop to Healthy Bones*).

As Figure 13 indicates (previous page), these components varied with respect to their attractiveness and holding power. *Balancing Act* attracted stops from 50 percent of visitors and one half of those who stopped spent two minutes or longer. *Hop to Healthy Bones*, on the other hand, prompted the highest proportion of stops (70 percent of visitors stopped there) but sustained shorter interactions (those who stopped spent a median time of one minute). *Push-Ups/Sit-Ups*, *Grip Strength*, and *Wall Squats* were grouped together in the central area of the exhibition. These three *Test Your Strength* components were similarly attractive to visitors (drawing stops from between 28 percent and 35 percent of visitors) and held visitors' attention for approximately one minute.

As was the case for ***Every Body Eats*** at CMNH, visitors' likelihood to stop at certain ***Let's Get Active*** components varied with visitors' entry point.

Figure 14 compares stops at specific components made by visitors entering from opposite ends of the exhibition. Component data is grouped by the elements' approximate position in the gallery, from those located nearest to the museum lobby (or front) entrance to those located nearer the opposite (or rear) end of the exhibition.

Figure 14: Stops at specific components made by visitors entering **Let's Get Active** *via the lobby vs. those entering at the exhibition's opposite end*



One pattern that characterized the ***Every Body Eats*** observations also emerged in this data set. Like *Reading Labels (sides 1 and 2)* in ***Every Body Eats***, *Sports Nutrition* in ***Let's Get Active***

consisted of two closely related elements placed back-to-back in the gallery.[40] Each of these two elements displayed three widely marketed sports beverages or energy/protein bars, along with information about healthier alternatives to these products. Nearly all of the visitors who stopped at the lobby-facing element ("Red Bull" or RB) approached it from the lobby. The majority of those visitors also continued to the rear-facing element ("Gatorade" or G). Visitors who approached the *Sports Nutrition* pair from the rear, however, were less likely to stop at either element.

As noted above, the three *Test Your Strength* components were grouped together in the center of the gallery (*Wall Squats*, *Push-Ups/Sit-Ups*, and *Grip Strength*). Each of these elements faced in a different direction (the *Test Your Strength text panel* was mounted on the fourth side of the cluster). Visitors entering from the lobby were generally less likely to stop and interact with any of the elements in this cluster. Interestingly, *Grip Strength* (which faced visitors who entered from the lobby) attracted more than twice as many stops from visitors who approached it from the gallery's rear entrance.

Visitor activity at individual Let's Get Active *components*

In addition to recording and timing component stops, the observers noted occurrences of four specific component behaviors: looking at an element (without any other activity), reading text, physical interaction (or watching interaction), and talking about a component.[41] As was the case for visitors touring ***Every Body Eats***, visitors who spent time in ***Let's Get Active*** at CMNH stopped at relatively few components (their median number of stops was four). Nevertheless, these visitors were very likely to read exhibit text and engage in physical interaction during their component stops (see Table 21).

Table 21: Activities observed during visitor stops at **Let's Get Active** *components (CMNH)*

	Visitor stops that included specific activity	
Activity	**Average**	**Range**
Looked only	11%	0 – 67%
Read any text	66%	0 – 100%
Physically interacted (or watched another person interact)	80%	0 – 100%
Used interactive oneself	*31%*	*0 – 100%*
Watched another	*70%*	*0 – 100%*
Talked with another about component	59%	0 – 100%

Eighty percent of visitor stops included some degree of interaction (visitors either engaged in an activity themselves or watched a companion do so) and 66 percent included reading. Twenty-two visitors (32 percent of the sample) were observed to read text at every stop, while only three

[40] These are differentiated in this report as Sports Nutrition (Red Bull) and Sports Nutrition (Gatorade); the letters in parentheses refer to a sports beverage featured in each unit.
[41] Unless otherwise noted, the observers noted only behaviors that were exhibited by the target visitor. See page 15 of this report for criteria defined for each behavior.

visitors did not seem to read any labels at all during their time in the exhibition. Note that approximately 40 percent of the visitors observed in ***Let's Get Active*** did engage in some level of interaction during every component stop; only two visitors were never observed to interact (or watch a companion do so) at any ***Let's Get Active*** component.

Nine components both attracted relatively more visitor stops (i.e., from at least 25 percent of the sample) and were more likely to promote visitor interaction. These are highlighted in Table 22.

Table 22: Visitor stops at **Let's Get Active** *components that included any interaction, by component (N = 69)*

Component	Visitor stops with interaction	Visitors stopping
Test Your Strength/Grip Strength	***100%***	***28%***
Moving to a Healthier Life	100%	6%
Test Your Strength/Wall Squats	***95%***	***28%***
Hop to Healthy Bones	***92%***	***70%***
Balancing Act	***89%***	***51%***
Be Flexible	***88%***	***36%***
Sports Nutrition (G)	80%	22%
Using Energy	***74%***	***28%***
Test Your Strength/Push-Ups/Sit-Ups	***71%***	***35%***
Fitness Fads/Facts[42]	67%	9%
Power of Exercise	***65%***	***25%***
Animal Motion	***63%***	***28%***
Sports Nutrition (RB)	58%	17%
Screen Time	25%	12%
Test Your Strength text panel	N/A	9%
Physical Fitness Basics	N/A	0%

Again, two of these components especially stand out. Both *Hop to Healthy Bones* and *Balancing Act* attracted the attention of 50 percent or more of all visitors observed at CMNH, and approximately 90 percent or more of those who stopped either engaged in appropriate interaction themselves or watched a companion "jump rope" or balance on a balance board. Other components supported similarly high levels of interaction but prompted fewer visitor stops (e.g., *Test Your Strength/Grip Strength*, *Test Your Strength/Wall Squats*, and *Be Flexible*).

Two components (*Moving to a Healthier Life* and *Screen Time*) attracted stops from fewer than 10 percent of visitors observed at CMNH. Like similar components in ***Every Body Eats***, *Moving to a Healthier Life* was a computer-mediated interactive that prompted very few stops and only limited engagement (the four visitors who stopped there used the touch-screen computer to engage with the activity, but spent an average time of only 42 seconds).

[42] *Fitness Fads/Facts* was a second exhibit pair that included two back-to-back units, each addressing the same topic but displaying different fitness-related artifacts. Although visitor stops at each unit were recorded separately, data for the pair are combined in this table (percent interacting and percent stopping for the two were identical).

At *Screen Time*, visitors were directed to turn a large wheel (marked to indicate hours spent watching television, playing video games, and recreational use of a computer) and then lift a panel to see corresponding "screen time" computed for an entire year. As visitors passed this component, it's possible that they may not have noticed its interactive elements; only eight visitors were observed to stop for more than two seconds and only two of those actually turned the wheel and lifted the panel to check their annual viewing time (see photographs below).

Photograph by Laura Dempsey

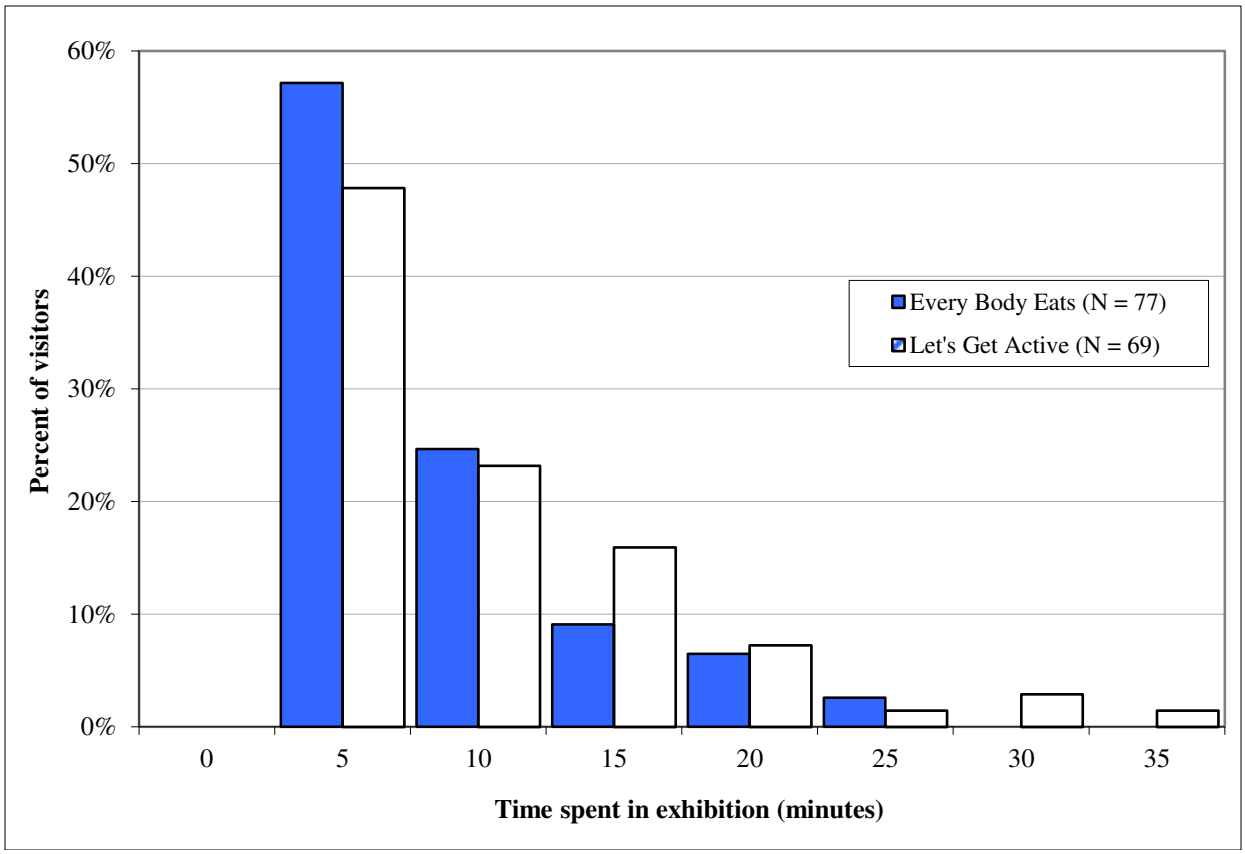
Like *Eat a Rainbow* and *Dinner Theater* in ***Every Body Eats***, ***Let's Get Active*** included one component especially designed for families with young children. At *Animal Motion* (pictured on page 2), recorded music encouraged small children to don animal costumes and dance in front of a mirror while their parents read about the importance of active play. Approximately one third of families that included young children (and 20 percent of those that did not) stopped at *Animal Motion* and approximately 70 percent of those engaged in appropriate interaction (the median time that they spent there was only 25 seconds, however).

A comparison of visitors' activity in *Every Body Eats* and *Let's Get Active*

Since CMNH hosted both of these exhibitions, it is possible to directly compare visitors' activity in ***Every Body Eats*** with that of visitors who were unobtrusively observed in ***Let's Get Active***.

Although visitors to ***Let's Get Active*** spent slightly longer in the exhibition (an average time of 7.4 minutes versus 5.8 minutes spent by visitors observed in ***Every Body Eats***), that difference was not statistically significant (see Figure 15 for a comparison of these two distributions).

Figure 15: Time spent by unobtrusively observed visitors to **Every Body Eats** *and* **Let's Get Active**



During the time that visitors to ***Let's Get Active*** spent in that exhibition, however, they did stop at more components than their counterparts in the ***Every Body Eats*** sample (an average of 4.1 components for the former versus 3.2 stops for the latter).[43] In fact, only 14 percent of adults visiting ***Every Body Eats*** stopped at more than four exhibit components (compared with 40 percent of those in the ***Let's Get Active*** sample who met that criterion).

Once they paused to interact with components, approximately 60 percent of both samples read exhibit text and engaged in component-related conversations with companions. At least 80 percent also interacted during their component stops. Interestingly, however, the majority of adults observed in ***Every Body Eats*** engaged in appropriate interaction themselves, while their counterparts in ***Let's Get Active*** were more likely to watch others interact rather than use interactives themselves.

[43] Two-sample t-test assuming equal variances, $p < .05$, 144 df.

Cued Questionnaires

What did visitors say about their experiences in **Let's Get Active?**

When visitors described the exhibition's "purpose," both adults and children took their cue from the exhibition's title, often mentioning that **Let's Get Active** *encourages visitors to be more aware of their own level of fitness, be more active, and know how to exercise properly. Approximately one half of visitors' questionnaire responses addresses one or more of the exhibition's key messages and at least three quarters of adults and children mentioned ideas obviously suggested by their interactions with specific exhibition components (especially* Sports Nutrition Foods*).*

Visitors were randomly recruited to participate in this phase of the evaluation as they entered the exhibition from the CMNH lobby. When a target adult or child agreed to participate, the data collector pointed out the extent of the exhibition and encouraged that visitor and any companions to spend as much time in the gallery as they wished. Visitors returned to the museum lobby to answer questions about their experiences in ***Let's Get Active***. This "cuing" procedure was used to test the exhibition's communication potential in a situation where visitors would be motivated to use exhibition components and pay attention to their messages. A total of 91 questionnaires were completed by 61 adults and 30 children.

Of the 146 adults and children approached by a data collector, 38 percent (10 children and 45 adults) either refused to participate outright or initially agreed to participate but did not actually return to complete the questionnaire. Of those who declined to participate, females outnumbered males among adults; girls slightly outnumbered boys among the children.

The adult and child versions of the questionnaires were nearly identical to those used with ***Every Body Eats*** (i.e., they included open-ended items prompting respondents to describe the exhibition's purpose and relate new ideas that they encountered as they interacted with components). Both versions of the ***Let's Get Active*** questionnaires also included an item asking visitors to estimate the amount of daily exercise recommended for individuals like themselves (i.e., adults or children). Copies of both questionnaires are included in Appendix E.

Visitor characteristics

Table 23 summarizes demographic and other characteristics of the adults and children who completed questionnaires. Again, females predominated among the adults surveyed (accounting for 64 percent of adults questioned about ***Let's Get Active***); the sample of children was more evenly divided among girls and boys (53 percent were girls). Adults were well educated: 64 percent had earned college or advanced degrees. Twenty-eight percent described themselves as having special interest, knowledge, or training in health or fitness. These included those in a fitness-related occupation (e.g., physical education instructor, personal trainer; four adults), medical professionals (e.g., nurse, physical therapist; six adults), and seven "fitness enthusiasts."

The questionnaire sample was evenly divided between those who had visited CMNH before (60 percent of both adults and children) and those who were first-time visitors. Ninety percent of

both adults and children were seeing ***Let's Get Active*** for the first time. Additional information about these visitors is tabulated below.

Table 23: Characteristics of visitors who completed questionnaires about **Let's Get Active**

Characteristics		**Children** (N=30)	**Adults** (N=61)
Estimated age	younger than 8 years	3%	--
	8 – 10 years	43%	--
	11 – 13 years	47%	--
	14 – 17 years	7%	--
	18 – 24 years	--	10%
	25 – 34 years	--	23%
	35 – 44 years	--	48%
	45 – 54 years	--	13%
	65 – 74 years	--	2%
	75 years or older	--	5%
	No information	--	0%
Race and ethnicity[44]	African American (Latino)	3%	0%
	African American (not Latino)	0%	7%
	Asian	3%	3%
	White (Latino)	3%	2%
	White (not Latino or no information)	83%	82%
	More than one	3%	2%
	No information	3%	5%
Language spoken at home	English	92%	97%
	Spanish	2%	3%
	English and Spanish	2%	0%
	English and other language	3%	0%
Household income	Less than $15,000	0%	8%
	$15,000 – 24,999	0%	5%
	$25,000 – 34,999	10%	7%
	$35,000 – 49,999	10%	5%
	$50,000 – 74,999	17%	25%
	$75,000 – 99,999	23%	10%
	$100,000 – 199,999	10%	31%
	$200,000 or more	0%	2%
	No response or rather not say	30%	8%

[44] Visitors were asked to simply describe their race and ethnicity. Those tabulated as "white" included many who added additional qualifiers (e.g., "White Italian," "White American," and "Caucasian/flat-out hillbilly").

Tables 24 and 25 summarize group composition for those who completed the ***Let's Get Active*** questionnaires. All of these visitors were accompanied by one or more other adults or children. Ninety-five percent of adults were visiting with one or more children. All of the children were accompanied by at least one adult; 90 percent of them were part of a group that included two or more children (including the child who completed the questionnaire).

*Table 24: Group composition – adults returning questionnaires (***Let's Get Active***, N = 61)*

	Number of adults:			
Number of children:	**One**	**Two**	**Three or more**	**Total**
None	0%	5%	0%	**5%**
One	13%	15%	3%	**31%**
Two	11%	23%	5%	**39%**
Three or more	10%	8%	7%	**25%**
Total	**34%**	**51%**	**15%**	**100%**

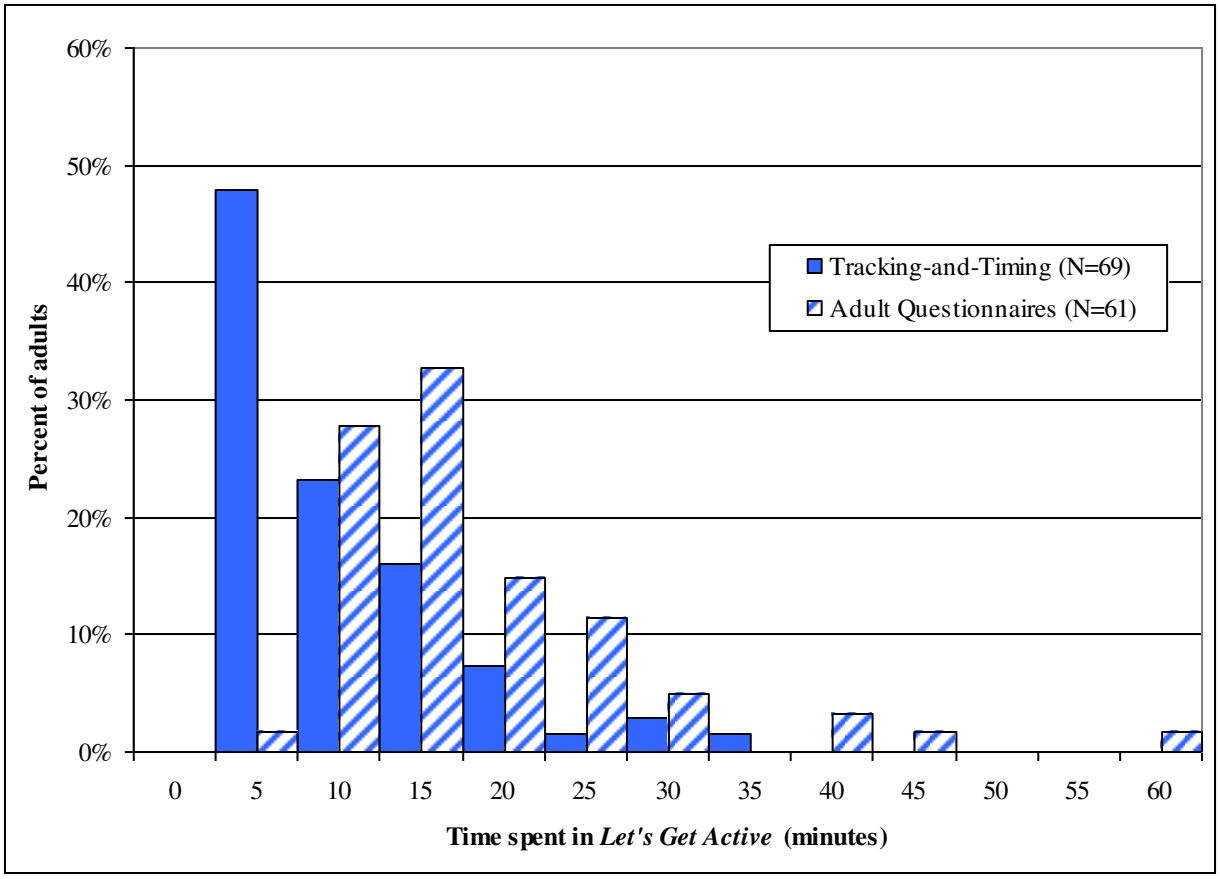
*Table 25: Group composition – children returning questionnaires (***Let's Get Active***, N = 30)*

	Number of adults:			
Number of children:	**One**	**Two**	**Three or more**	**Total**
One	7%	0%	3%	**10%**
Two	23%	17%	3%	**43%**
Three or more	10%	30%	7%	**47%**
Total	**40%**	**47%**	**13%**	**100%**

Cued visitors' behavior in Let's Get Active

Figure 16 compares the time spent in ***Let's Get Active*** by adults completing questionnaires with that spent by adults observed in the tracking-and-timing sample. Again, the questionnaire's cuing procedure dramatically increased the median time spent by adults in the exhibition, from 5 minutes (tracking-and-timing) to 14 minutes (cued questionnaires).

Figure 16: Total time spent in **Let's Get Active** *by adults (tracking-and-timing vs. cued questionnaires)*



Although both of these distributions are skewed to the right, that is more strongly the case for those visitors who were unobtrusively observed in the gallery. Note that the median time spent by children in the questionnaire sample was 15.5 minutes; the distribution of children's time closely resembles that of the adults depicted in Figure 16.

Visitors' reflections on their experiences in Let's Get Active

Like the children and adults who completed questionnaires about their experiences in ***Every Body Eats***, these visitors also described what they though ***Let's Get Active*** was "about" and what they recalled about it by completing four open-ended statements:

Questions posed to adults:
What would you say is the main purpose of the displays in ***Let's Get Active***?
- To show people …
- To make people …
- I didn't know or never realized that …
- It reminded me that …

Questions posed to children:
If you were going to tell a friend what ***Let's Get Active*** is all about, what would you say?
- The museum made these exhibits to show people …
- The museum made these exhibits to make people …
- I didn't know that …
- It reminded me that …

Two additional questions included on the ***Let's Get Active*** questionnaires addressed recommended daily activity levels for adults and children.

Again, since many respondents mentioned more than one discrete idea, those mentions were isolated and grouped by similar concepts addressed.

When they described what the overall purpose of ***Let's Get Active*** might be (i.e., what it was intended to "show people" or "make people do"), both adults and children most often mentioned encouraging visitors to get more active themselves, know how to exercise properly, or be more aware of their own level of physical fitness (see Table 26). Both children and adults often discussed "health" and "healthy habits" without necessarily mentioning physical activity, and 15 percent of adults specifically highlighted the importance of "healthy eating."

Table 26: Visitor descriptions of the exhibitions' purpose[45]

Idea mentioned	**Adults** (N=61)	**Children** (N=30)	**Examples**
Encourage increased activity; show how to exercise properly; increase awareness of physical fitness.	66%	83%	[To show] … *Isolate areas of strengths & weakness of physical abilities.* [Make people] *Exercise.* [ID# 18 Adult] [To show] *Increase the activities of children & adults for better overall fitness.* [Make people] *More active & aware of being physically fit.* [ID# 19 Adult] [Make people] *To think about changing the way they exerise* [sic]. [ID# 26, 9-year-old girl] [To show] *Exerciseing* [sic] *can be fun and easy to do.* [Make people] *Want to exercise more often.* [ID# 18, 10-year-old boy]
Help people understand more about/be more aware of the importance and benefits of physical fitness and the relationship between fitness and health.	41%	20%	[To show] *Activity is important to fitness.* [Make people] *Aware of our lack of physical activity and play.* [ID# 1 Adult] [To show] *Children the importance of being active & eating healthy.* [ID# 13 Adult] [Make people] *Realize that exsirsie* [sic] *and eating heathy* [sic] *is very important.* [ID# 23, 10-year-old girl]
Emphasized the importance of healthy habits, learning about health, or making healthy choices.	28%	40%	[Make people] *Think about health choices.* [ID# 34 Adult] [Make people] *To get healthier, pretty much they want people to realize which foods can make you healthier.* [ID# 20, 13-year-old boy]
Described exhibit experience	0%	10%	[To show] *Lots of fun & great workout.* [ID# 25, 9-year-old girl]
No response or not relevant to exhibition content	5%	0%	

[45] Since a visitor's response could mention more than one idea, the total percentage may exceed 100 percent.

Additional items prompted visitors to relate new ideas that they encountered (e.g., "I never knew that …") and recall anything that they were reminded of during their visit to ***Let's Get Active***. When visitors discussed the exhibition's overall purpose and their experiences in the gallery, 53 percent of adults and 46 percent of children made reference to elements of the exhibition's central idea and the related messages originally defined by the project team.

- **I can look to science to get information that helps me make healthy choices.** (7 percent of children, 15 percent of adults)[46]

  [Didn't know] *the more you exersize* [sic]*, the better your chances not to get ill.* [Reminded me] *Staying fit helps prevent cancer.* [ID# 2, 13-year-old boy]

  [To show] *Help participants understand how physical activity in its various forms impacts health …* [Didn't know] *Strength in smaller muscles - hand strength predicts overall health. …* [ID# 51 Adult]

  [Didn't know] *Kids have problem sleeping if they have too much screen time.* [ID# 54 Adult]

- **Scientific research can help me decipher messages about food and nutrition presented by media and advertisers.** (23 percent of children, 8 percent of adults)[47]

  [Didn't know] *Smoking was thought to make you healthier.* [Reminded me] *It's important to not belive* [sic] *everything people tell me.* [ID# 12, 12-year-old boy]

  [Didn't know] *"Power energy" bars weren't as good as they're advertised to be.* [ID# 14, 16-year-old girl]

- **Small, simple changes can make a big difference.** (no children, 15 percent of adults)[48]

  [Didn't know] *A little activity is so much better than no activity.* [Reminded me] *Small efforts make a big difference.* [ID# 51 Adult]

  [Reminded me] *Simple walking (and not let the weather stop you) can be a big help. Or jumping and stretching.* [ID# 56, Adult]

- **There are many ways to be active and fit physical activity into the day.** (7 percent of children, 15 percent of adults)

  [To show] *Educate public on ways to be more active.* [Didn't know] *Walking @ lunch; play @ park instead of home…* [ID# 53 Adult]

  [Didn't know] *You burn less calories playing sports than you do playing active* [sic]. [ID# 18, 10-year-old boy]

- **Limiting screen time can create more time for physical activity.** (7 percent of children, 15 percent of adults)

  [Didn't know] *That all the time you spend playing video games it all adds up to a lot of wasted time.* [ID# 1, 11-year-old boy]

  [To show] *Advantages of physical activity over video games & computer time.* [Reminded me] *It is important to control "screen time" for kids. Physical activities are important.* [ID# 54 Adult]

[46] These include mentions of scientific research findings.
[47] These include responses that describe ways in which media/advertising can deceive people about "healthy food choices."
[48] These include responses that mention such small and simple changes.

Three elements of the central idea supporting the development of ***Let's Get Active*** were not mentioned in any questionnaire responses:

- Physical activity keeps your body strong, gives you energy, and helps you look and feel your best.
- Healthy living is a family responsibility.
- A healthy lifestyle requires a balance of calories in and calories out.[49]

Let's Get Active had personal relevance for many adults and children. Forty-three percent of adults and 30 percent of children mentioned what they had realized about their own (or their family's) fitness or learned about specific ways to get more fit themselves. As these examples illustrate, children were especially likely to mention something that they had learned about their own strength, balance, or flexibility at one or more stations.

[Didn't know] *I was able to balance steadily for so long and that I had a strong grip.* [ID# 3, 10-year-old girl]

[Didn't know] *I didn't know that I could stay in a squat for 200.1* [seconds]. [ID# 7, 12-year-old girl]

[Didn't know] *My kids should jump rope.* [ID# 14 Adult]

As was true of visitors to ***Every Body Eats***, those who spent time in ***Let's Get Active*** were very likely to mention content obviously related to their experiences with specific exhibit components. Three quarters of the adults and all but one of the children referred to one or more exhibit elements. Both adults and children were most likely to relate ideas suggested by their interactions with *Sports Nutrition Foods*. A selection of visitors' component mentions are included below; see Appendix H for a compilation of all component-related questionnaire comments.

- ***Balancing Act*** (8 percent of children, 10 percent of adults)

  [Didn't know] *I have really good balance.* [ID# 5, 10-year-old girl]

  [Didn't know] *Children have better balance than adults.* [ID# 15 Adult]

- ***Be Flexible*** (11 percent of children, 10 percent of adults)

  [Reminded me] *Doing strecthes* [sic] *in gym.* [ID# 27, 12-year-old boy]

  [Didn't know] *That my son is not very flexible.* [Reminded me] *Stretching is important for children as well as adults.* [ID# 40 Adult]

- ***Grip Strength*** (7 percent of both children and adults)

  [Didn't know] *I could grip 147 lbs.* [ID# 4, 12-year-old boy]

  [Didn't know] *Finger push-ups increase hand strength.* [ID# 48 Adult]

[49] Note that two adults and two children did mention either "burning calories" or "consuming calories."

- ***Power of Exercise*** (8 percent of children, 7 percent of adults)

  [Didn't know] … *how long we have to work out which is an hour a day.* [ID# 17, 10-year-old girl]

  [Didn't know] *Exercise can decrease potential for Alzheimer's.* [ID# 38 Adult]

- ***Screen Time*** (15 percent of children, 10 percent of adults)

  [Didn't know] *That all the time you spend playing video games it all adds up to a lot of wasted time.* [ID# 1, 11-year-old boy]

  [Didn't know] *Too much TV could cause attention problems.* [Reminded me] *Pay attention to how much* [my child] *watches, even though it's winter time, try and find more active things to do.* [ID# 61 Adult]

- ***Sports Nutrition Foods*** (28 percent of children, 30 percent of adults)

  [Didn't know] *The energy bar had a lot of sugar in it and you can make different choices.* [ID# 13, 12-year-old girl]

  [Show people] ... *which foods are healthier than others.* [Make people] *To get healthier, pretty much they want people to realize which foods can make you healthier.* [Didn't know] *Powerade and Gatorade aren't that good for you. I thought they were healthier.* [ID# 20, 13-year-old boy]

  [Didn't know] *Different so called healthy drinks/food had contents which were unhealthy.* … [Reminded me] *We want to stick with fresh/basic foods for our family.* [ID# 45 Adult]

  [Didn't know] *Coffee is better than Red Bull, chocolate milk better than Gatorade.* [Make people] *Think about eating and exercise habits.* [ID# 29 Adult]

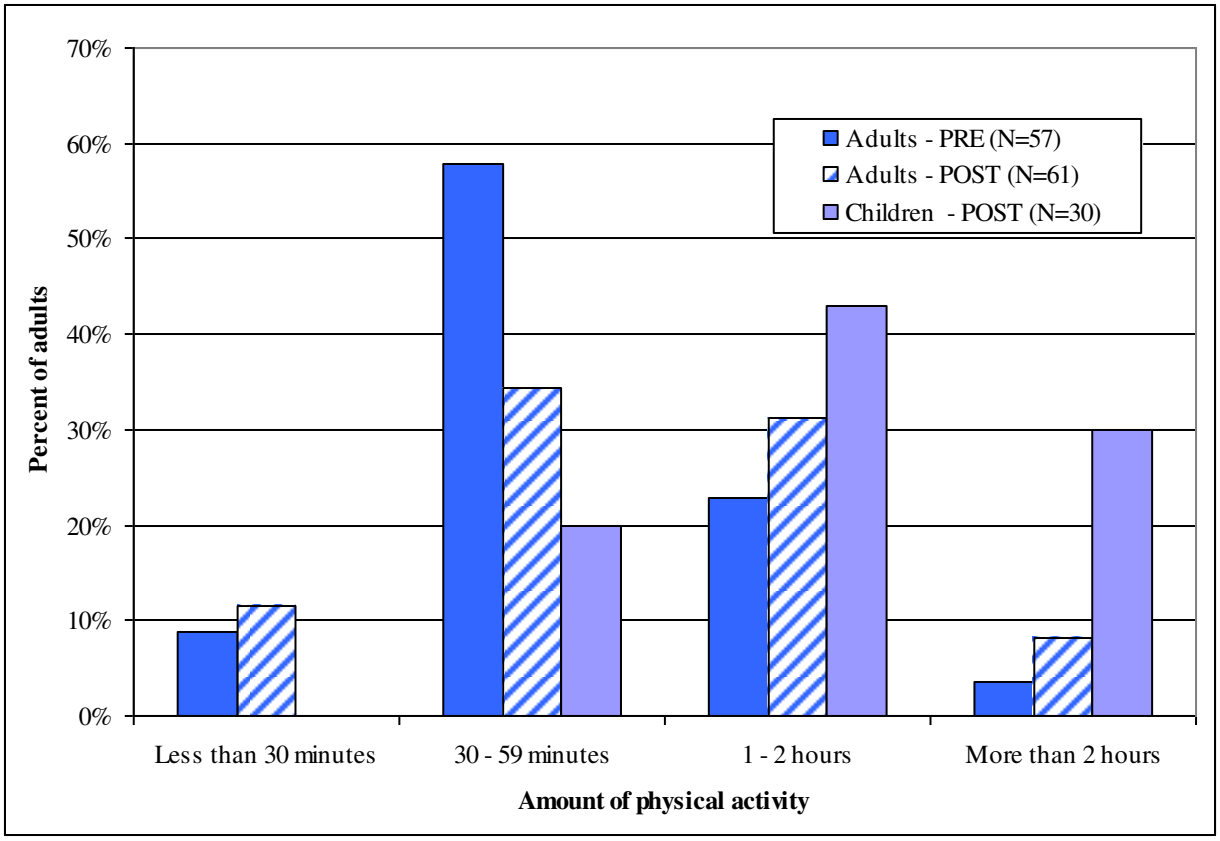
These questionnaires also included an item addressing levels of physical activity recommended for children and adults. This particular item was drawn from front-end interviews conducted with a sample of adults during the project's development phase.

Adults completing cued questionnaires about ***Let's Get Active*** were asked to estimate the daily amount of physical activity that an adult needs to stay healthy and fit (and a follow-up question prompted them to describe the kind of activity they were thinking of). Children were asked to answer those same questions for themselves. Note that the front-end interviews were conducted at the partner sites with adults only, who were asked to estimate levels of daily activity recommended for both adults and children.

Figure 17 compares the recommended time estimates offered by all three samples: adults interviewed in the earlier front-end study (PRE), adults completing cued questionnaires after spending time in ***Let's Get Active*** (POST), and children who returned the cued questionnaires. Note that the Centers for Disease Control and Prevention (CDC) currently recommends that adults (age 18 to 64) exercise vigorously for at least 30 minutes per day (or 150 minutes per week). Children are advised to engage in vigorous activity for at least one hour a day.[50]

[50] http://www.cdc.gov/physicalactivity/everyone/guidelines/index.html (June 30, 2011)

Figure 17: Adult and child estimations of recommended levels of physical activity for themselves[51]



Although estimates offered by both samples of adults generally conform to CDC recommendations, adults' experiences in ***Let's Get Active*** seemed to convince them that they should be even more physically active than the baseline CDC recommendations. That was even more the case for children: 30 percent of the children who had spent time in ***Let's Get Active*** offered activity estimates of 2 hours or more.

All adults and children were also asked to describe the kind of physical activity that they had in mind when making their time estimates. Table 27 highlights the specific activities that they mentioned.

Table 27: Physical activities mentioned by adults (PRE and POST) and children (POST only)

Activity mentioned	**Adults – PRE** (N=57)	**Adults – POST** (N=61)	**Children** (N=30)
"Aerobic/cardiovascular" (but provided no specific examples)	49%	18%	0%
Everyday activities (e.g., cleaning house, gardening)	11%	12%	0%

[51] Adult PRE interviews were originally conducted in both English and Spanish. Only adults interviewed in English are included in this comparison.

Activity mentioned	Adults – PRE (N=57)	Adults – POST (N=61)	Children (N=30)
Playing or playing with children	2%	0%	7%
Walking	40%	50%	0%
Other specific aerobic activity (e.g., biking, swimming, running, jumping rope)	30%	44%	47%
Strength training (e.g., push-ups, squats)	11%	11%	7%
Sports (any)	5%	2%	50%
Other	9%	16%	23%
No response (or too vague)	14%	15%	0%

Although the responses of all three groups do follow similar patterns (e.g., both adult samples were likely to mention walking, both adults and children were likely to include specific aerobic activities), at least two interesting differences did emerge from this analysis.

- Approximately 50 percent of adults who had not seen ***Let's Get Active*** (PRE) described the activity they were thinking of as simply "aerobic" or "cardiovascular" (and approximately one half of their responses listed no other specific activity). On the other hand, 85 percent of the adults and children who spent time in ***Let's Get Active*** included examples of specific physical activities in their responses.
- Perhaps not surprisingly, children were much more likely than either group of adults to include "sports" in their descriptions of physical activities.
- Although not specifically called out in Table 27, "jumping rope" was mentioned in 30 percent of the children's responses (only two adults included that activity among their examples of "specific aerobic activities").

Finally, adults who completed the questionnaires were asked to suggest changes in ***Let's Get Active*** that would improve the experiences of other families. Sixty-two percent of them offered no suggestions or commented that they had really enjoyed their experience in the exhibition, e.g.,

> *It's one of the best I've seen due to the interaction.* [ID# 4 Adult]
>
> *I think it was right on getting people active.* [ID# 21 Adult]
>
> *I actually enjoyed the exhibit and don't have any recommended changes.* [ID# 42 Adult]

Testifying to their enjoyment of ***Let's Get Active*** components, four additional visitors requested "more of the same," e.g.,

> *A few more hands-on activities would be great, ... (the kids really liked). Thanks.* [ID# 60 Adult]

Five visitors felt that too much reading was required, or requested either audio interpretation or simplified directions, e.g.,

> *Maybe audio info while participating - lot of reading for smaller children, especially w/ directions.* [ID# 51 Adult]
>
> *Better directions for those who are learning to read.* [6-yr-old daughter suggested more pictures of what to do.] [ID# 5 Adult]

Five adults commented on the exhibition's "age appropriateness." These included both those who requested additional activities for young children and those who felt that the ***Let's Get Active*** activities were very appropriate for their children, e.g.,

Activities for smaller children ages 2 - 4. [ID# 11 Adult]
It is very kid friendly and there are a lot of different activities to look at. [ID# 26 LGA, Adult]

Eight visitors identified issues or problems with specific components or suggested other specific changes, e.g.,

Flexibility exhibit is not sized for kids. [ID# 48 Adult]

Something to wipe down your gear. [ID# 1 LGA, Adult]

Food samples of great tasting healthy food. Bright attractive colors. [ID# 30 Adult]

More brochures on each exhibit explaining healthier choices. [ID# 46 Adult]

Three adults commented on the exhibition's installation at CMNH, noting that there seemed to be too many components for the available space, e.g.,

More space - exhibit is in a tight area. [ID# 16 LGA, Adult]

Discussion and Recommendations

*Study findings demonstrate that, under the right circumstances, both **Every Body Eats** and **Let's Get Active** are very engaging and effective exhibitions. At the same time, the differences in visitor behavior observed in two very different gallery settings underscore how powerfully site characteristics can limit (or enhance) the effectiveness of traveling exhibitions such as these.*

At CMNH, adult visitors spent little time in either exhibition, while the opposite was true for Let's Get Active *at Granville Museum.*

On their own, CMNH visitors typically spent less than five minutes in either ***Every Body Eats*** or ***Let's Get Active***. When adults and children were asked to spend time in these exhibitions and then answer questions about their experiences, their median time increased to 14 minutes. In contrast, uncued visitors who toured ***Let's Get Active*** at Granville Museum spent a median time of 27 minutes in that exhibition (or nearly twice as long as the cued visitors at CMNH). It is likely that a variety of circumstances account for these dramatic difference in observed behavior.

- The open "hallway" configuration of the Special Exhibition gallery at CMNH seemed to encourage visitors to keep moving rather than to spend time with exhibitions displayed in that gallery. Not surprisingly, many visitors were observed to use this area as a passageway between the lobby (at its east end) and the gift shop, restrooms, and the larger exhibition galleries at its west end. The photograph to the right was taken from the lobby; the entrance to a larger and more well publicized temporary exhibition featuring dinosaurs can be seen at the far end of the gallery (it's title signage is in red). Moreover, at CMNH many other exhibitions, programs, and activities competed for visitors' attention.

- The situation at the Granville Museum was very different. ***Let's Get Active*** was installed in a more conventional gallery with a single entry/exit point, and it was the only exhibition on display in the museum's Harris Hall. The Granville Museum's only permanent exhibition is housed in a second and smaller building adjacent to Harris Hall. At Granville Museum, ***Let's Get Active*** was a destination experience and many of those in the tracking-and-timing sample were probably visiting the museum specifically to see it.

Nevertheless, when CMNH visitors were motivated to spend more time in these exhibitions, both adults and children were very receptive to the exhibitions' messages.

When cued visitors were asked to describe what these exhibitions were "about" in their own words and reflect on their experiences, nearly 60 percent of the adults (and 40 percent of the children) addressed one or more of the key ideas that guided the exhibitions' development. Visitors' conceptualization of exhibition messages were firmly grounded in their exhibition experiences, however. Unlike the exhibit developers, who tended to formulate the exhibitions' key messages in terms of more abstract generalizations (e.g., "I can look to science to get information that helps me make healthy choices"), visitors were more likely to recall the specific details or examples that exhibit developers included to support the more general message. For example, 40 percent of the adults who answered questions about ***Every Body Eats*** (and 23 percent of the children who answered questions about ***Let's Get Active***) recalled specific examples of how advertisers use images and language to promote the health and nutritional benefits of products that may actually offer few such advantages, but did not mention the role that scientific research plays in unmasking those deceptions, e.g.,

> [***Every Body Eats*** shows] *How easy it is to be "tricked" by the food companies.* [ID# 34, Adult]
>
> [Didn't know] *Nutrigrain bars have a lot of sugar, food labels can be misleading.* [ID# 12, Adult]
>
> [Didn't know] *"Power energy" bars weren't as good as they're advertised to be.* [ID# 14, 15-year-old girl]

Findings from the visitor interviews underscore how challenging it is for people to make healthy food choices in everyday life.

Every Body Eats clearly motivated cued interviewees to seek out and review nutritional information on packaged food. When asked to choose from an assortment of snack bars, interviewees who had seen ***Every Body Eats*** were nearly four times as likely to read nutritional labels while making and discussing their decision than were adults who had not seen that exhibition. In both cases, however, the visitors' decision were influenced more by their level of familiarity with various bars, whether they liked (or imagined that they would like) a bar's taste, or by what they inferred about a bar's ingredients or "nutritiousness" from the product's name or packaging. Even with the standardization of nutrition information provided by packaging, interpreting that information and comparing the relative merits of different products is a skill that obviously requires instruction and practice.

Individual components differed considerably with respect to their overall effectiveness.

Elements that attracted and maintained the attention of uncued visitors in the tracking-and-timing sample were not necessarily those mentioned by the cued visitors who completed questionnaires (and vice versa). Table 28 compares tracking-and-timing data with visitors' mentions of specific component content on questionnaires. Only components mentioned by at least 10 percent of either adults or children are included in this comparison.

*Table 28: Components' relative attractiveness, holding power, and likelihood to be mentioned on cued questionnaires (***Every Body Eats** *and* **Let's Get Active***)*

		Cued Questionnaires – Percent mentioning related ideas		***Tracking-and-timing***	
		Children	**Adults**	**Percent stopping**	**Median time spent**
Every Body Eats	Reading Labels (side 1)	20%	56%	38%	41 seconds
	Reading Labels (side 2)	20%	56%	37%	37 seconds
	Liquid Calories	25%	14%	13%	23 seconds
	Calories In/Calories Out	***35%***	***7%***	***27%***	***54 seconds***
	Fuel Your Body	***35%***	***7%***	***30%***	***3.0 minutes***
	Sizing Up Servings	10%	17%	17%	1.1 minutes
	Shaking the Salt Habit	10%	12%	10%	30 seconds
	Added Ingredients	15%	14%	20%	42 seconds
Let's Get Active	Sports Nutrition Foods (G)	30%	28%	22%	40 seconds
	Sports Nutrition Foods (RB)	30%	28%	17%	42 seconds
	Screen Time	10%	15%	12%	25 seconds
	Be Flexible	***10%***	***11%***	***36%***	***1.3 minutes***
	Balancing Act	***10%***	***8%***	***51%***	***2.0 minutes***

Four components especially stand out: *Fuel Your Body*, *Calories In/Calories Out*, *Balancing Act*, and *Be Flexible* (these are highlighted in Table 28). All of these attracted stops from one third or more of all observed adults, supported interactions lasting approximately one minute or longer, and were mentioned by at least 10 percent of the children or adults completing questionnaires.

The component pair prompting the highest proportion of comments on visitor questionnaires (*Reading Labels (sides 1 and 2)*, mentioned by 56 percent of adults and 20 percent of children) attracted a relatively high proportion of stops from observed adults, but sustained relatively short interactions (36 seconds and 42 seconds respectively). Without the additional motivation provided by their participation in this study, it seems unlikely that the typical CMNH visitor interacted with a sufficient number of components or spent enough time in the exhibition to offer the detailed reflections that characterized the cued questionnaires completed by both adults and children.

On the other hand, the components that attracted the highest proportion of visitor stops overall and sustained relatively long interactions (*Hop to a Healthy Life*, prompting stops from 70 percent of adults, and *Balancing Act*, prompting stops from 51 percent of adults) were rarely mentioned on the cued questionnaires (e.g., the former was mentioned by only 5 adults and 2 children). It is possible that the components that made the most lasting impressions on the adults and children in the cued sample might not have attracted their attention and involvement if they had not been motivated to spend additional time in the exhibitions.

Of the three components developed specifically to appeal to young children (i.e., age five or younger), *Dinner Theater* was arguably the most successful. Even though it was rarely mentioned on visitor questionnaires, it especially encouraged stops from families with children in the target age range (but also appealed to other visitors as well) and supported relatively long

engagement. Although the component's table and chairs were obviously designed for young children, the furniture could easily accommodate older children or even adults (see the photograph to the right). Adults and children seemed to enjoy using the puppets and the availability of a variety of plastic fruits and vegetables (from apples to eggplants) supported similarly varied conversations about foods and food choices.

The study's "take-away" messages for OMSI exhibit developers

The nature of traveling exhibitions means that the OMSI development team has no control over the exhibition's installation at its host museums. As this study's findings testify, however, an exhibition that might be very engaging and effective at one site (e.g., the sort of small venue for which it was designed) might be significantly less effective at another (in this case, a larger venue with a variety of exhibits and programs competing for visitors' attention). As OMSI exhibit staff develop new traveling exhibitions intended for specific types of venues or audiences, they might brainstorm ways to encourage and support more effective installations at a variety of host sites and consider strategies for better capturing and directing visitor involvement when installations (or venues) are less than ideal.

As is often the case, the "text-only" components in these exhibitions (***Every Body Eats'*** *introduction panel*; *Physical Activity Basics* and *Test Your Strength* in ***Let's Get Active***) attracted very little visitor attention. Whenever possible, OMSI developers are encouraged to either integrate that background information with more engaging interactive activities or even add minimally interactive elements (e.g., the flip labels used elsewhere in these exhibitions) that might encourage visitors to stop and read.

Finally, the topics and issues addressed by these two exhibitions are ones that both interest and challenge the families who spent time in these two exhibitions. Visitors' difficulty in making "healthy food choices" in post-exhibition interviews suggests that exhibition experiences like ***Every Body Eats*** and ***Let's Get Active*** can increase visitor awareness of important issues (and changes that they could make to follow a healthier lifestyle), but that fundamental changes in eating and activity habits require more extended opportunities for learning and practice. The cued questionnaire responses of both adults and children suggest that these families might make use of such opportunities if they knew where to find them. In future exhibitions, OMSI staff might explore the practicality of using new and widely available cellular and wireless technology to offer interested visitors convenient access to additional resources, whether online or available in their own communities.

Acknowledgements

Several staff members and docents at the host museums contributed to the successful completion of this study.

At CMNH, both Joel Alpern (director of exhibits) and Nancy Howell (volunteer docent coordinator) made me feel very welcome and facilitated my contacts with other museum staff. I am especially grateful to Beth Gatchell, Laura Dempsey, and Lauren Matisoff, who completed the lion's share of tracking-and-timing observations, cued questionnaires, and cued interviews. Their efforts were supplemented by that of several docents (including Rita Atlagovich, Holly Wingert, Dave Mitchell, Carol Leininger, and Gretchen Witt). Marie Graf (director of marketing and communications) generously donated a variety of small thank-you gifts for the adults and children who completed the interviews and questionnaires. Laura Dempsey doubled as an on-site photographer; she took many of the photographs appearing in this report (including the two featured on the report cover).

At Granville Museum, Pam Thornton (museum director) helped me organize my visit and Valerie Heinssen (assistant director) assisted with the tracking-and-timing data collection.

Finally, I've enjoyed working with the OMSI project team over the course of this project and cannot begin to enumerate all of the contributions that they've made to this study.

Appendices

A. Photographs of bilingual labels

B. Demographic profile of CMNH visitors

C. Percent of visitor stops at *Every Body Eats* components and median stop time

D. Tracking-and-timing guidelines and forms

E. Copies of cued interview protocol (EBE only) and questionnaires

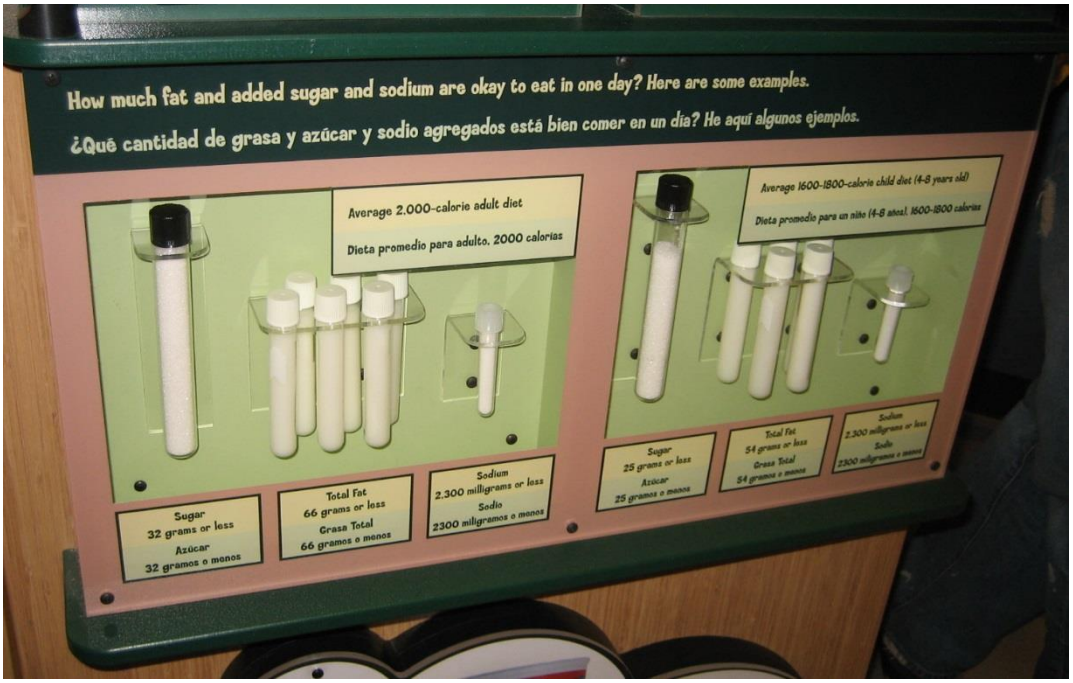
F. Visitor mentions of specific *Every Body Eats* components

G. Percent of visitor stops at *Let's Get Active* components and median stop time

H. Visitor mentions of specific *Let's Get Active* components

Appendix A: Photographs of bilingual labels

As these photographs illustrate, all exhibit text was displayed in both English and Spanish. In most cases, the English and Spanish versions were completely separated and displayed against a green (English) or a blue (Spanish) background (see upper photograph to left). Where graphic layouts did not permit such spatial differentiation, the two languages were graphically separated and identified as clearly as possible (see photograph below).



Appendix B: Demographic profile of CMNH visitors[52]

		Percent
Have you visited the museum before?	Yes	79.3%
	No	20.7%
Your gender	Male	36.9%
	Female	63.1%
Your age group	Under 25	4.5%
	25 – 34	19.7%
	35 – 44	33.9%
	45 – 54	16.0%
	55 – 64	15.2%
	65 – 74	10.1%
	75 and over	0.5%
Do you have any children?	Yes	81.2%
Please indicate their ages.	0 – 3 years old	30.2%
	4 – 7 years old	38.4%
	8 – 12 years old	24.9%
	13 – 17 years old	12.8%
	18 + living at home	4.9%
	18 + living away from home	32.5%
Your highest level of education completed:	high school/GED or less	9.9%
	some college	20.9%
	college degree	31.0%
	some graduate work	7.5%
	graduate/post-graduate degree	30.7%
Your household income:	under $25,000	5.7%
	$25,000 – 49,999	22.7%
	$50,000 – 74,999	23.6%
	$75,000 – 99,999	17.2%
	$100,000 – 149,999	16.9%
	$150,000 – 199,999	6.3%
	$200,000 or more	7.6%
Your ethnic origin or identity:	African American or Black	6.2%
	Asian or Pacific Islander	1.6%
	Caucasian or European-American	85.9%
	Latino or Hispanic	3.8%
	Native American	0.5%
	Other	1.9%

[52] This survey was conducted by CMNH staff between August and October, 2009. No information was available about the recruitment procedure or the total number of surveys returned.

Appendix C: Percent of visitor stops at *Every Body Eats* components and median stop time

Every Body Eats	Percent of adults stopping	Median time (minutes)
Added Ingredients	20%	0.7
Advertising Detectives	12%	0.7
Calories In / Calories Out	27%	0.9
Dinner Theater	33%	1.1
Eat a Rainbow	10%	1.1
Fuel Your Body	30%	3.0
Hunger Signals	10%	2.9
Introduction panel	4%	0.3
Liquid Calories	13%	0.4
Reading Labels (side 1)	38%	0.7
Reading Labels (side 2)	37%	0.6
Shaking the Salt Habit	10%	0.5
Sizing Up Servings	17%	1.1
Supermarket Nutrition	19%	2.2
Veggie Power	18%	0.8

Appendix D: Tracking-and-timing guidelines and forms

Every Body Eats Tracking-and-timing form
Tracking-and-timing guidelines

Let's Get Active Tracking-and-timing form
Tracking-and-timing guidelines

Date: _____ **Log #**: _____ **Observer:** _____ **FRONT** **REAR**

Group: _____ **Adults** _____ **Teens**_____ **Youth** _____ **Pre-school** **Ethnicity:** **Latino** **Non-L** **NS**
18+ yrs 12-16 6 - 11 6 or younger

Total time (min:sec) _____ **Target**: _____ **M** **F** **Race:** **W** **B** **Asian** **NatAm** **Other**
from Stopwatch **Age**

Stop #	Exhibit Component	Start	Stop	Read	ROL	Use	Wa	Ta	L only	Total Time (sec)	Notes/Problems (record additl stop times here if necessary)
	Into Panel			R	ROL			Ta	L		
	Added Ingredients			R	ROL	Use	Wa	Ta	L		
	Advertising Detectives			R	ROL	Use	Wa	Ta	L		
	Calories In, Calories Out			R	ROL	Use	Wa	Ta	L		
	Dinner Theater			R	ROL	Use	Wa	Ta	L		
	Eat A Rainbow			R	ROL	Use	Wa	Ta	L		
	Fuel Your Body			R	ROL	Use	Wa	Ta	L		
	Hunger Signals				ROL	Use	Wa	Ta	L		
	Liquid Calories			R	ROL	Use	Wa	Ta	L		
	Reading Labels/side 1 (Irish Oats, Mini Oreos)			R	ROL	Use	Wa	Ta	L		Read back of package
	Reading Labels/side 2 (Oatmeal Cookies, Fruit Cocktail)			R	ROL	Use	Wa	Ta	L		Read back of package
	Shaking the Salt Habit			R	ROL	Use	Wa	Ta	L		
	Sizing Up Servings			R	ROL	Use	Wa	Ta	L		
	Supermarket Nutrition			Read back of card	ROL	Use	Wa	Ta	L		
	Veggie Power			R	ROL	Use	Wa	Ta	L		

Every Body Eats: **Additional notes about component codes**

Exhibit Component	Read	Use	Other Notes
Into Panel	Any text	N/A	
Added Ingredients	Sign	Opens "door" and reads	
Advertising Detectives	Sign	Uses computer	
Calories In, Calories Out	Signs	Presses button for snack, pedals	
Dinner Theater	"Placemats", sign on table	Uses puppets ("Watch" if target is watching someone else use puppets)	
Eat A Rainbow	Sign on table	Uses puzzle	
Fuel Your Body	Signs	Chooses food, activates race cars	
Hunger Signals	N/A	Uses computer	
Liquid Calories	Signs (or reading under "flips" if target is not person actually lifting them)	Lifts labels and reads or lifts chart	
Reading Labels (side 1) (Irish Oats, Mini Oreos)	Signs (or reading under "flips" if target is not person actually lifting them)	Lifts labels and reads or turns turntable & reads	Circle "read back of package" if target visitor reads nutr. info
Reading Labels (side 2) (Oatmeal Cookies, Fruit Cocktail)	Signs (or reading under "flips" if target is not person actually lifting them)	Lifts labels and reads or turns turntable & reads	Circle "read back of package" if target visitor reads nutr. info
Shaking the Salt Habit	Read top of "flip"	Reads & lifts flip	
Sizing Up Servings	Signs	Sorts "cards" into slots & presses button	
Supermarket Nutrition	Backs of cards	Uses computer, puts cards into "reader"	
Veggie Power	Signs (or backlit copy if not person using lever)	Uses lever and reads backlit text	

Date: _____ **Log #**: _____ **Observer:** _____ **FRONT** **REAR**

Group: _____ **Adults** _____ **Teens**_____ **Youth** _____ **Pre-school** **Ethnicity:** **Latino** **Non-L** **NS**
18+ yrs 12-16 6 - 11 6 or younger

Total time (min:sec) _____ **Target**: _____ **M** **F** **Race:** **W** **B** **Asian** **NatAm** **Other**
from Stopwatch **Age**

Stop #	Exhibit Component	Start	Stop	Read	ROL	Use	Wa	Ta	L only	Total Time (sec)	Notes/Problems (record additl stop times here if necessary)
	Animal Motion			R	ROL	Use	Wa	Ta	L		
	Balancing Act			R	ROL	Use	Wa	Ta	L		
	Be Flexible			R	ROL	Use	Wa	Ta	L		
	Fitness Fads & Facts (Camels)			R	ROL	Use	Wa	Ta	L		USE = open to read
	Fitness Fads & Facts (Thigh Master)			R	ROL	Use	Wa	Ta	L		USE = open to read
	Grip Strength			R	ROL	Use	Wa	Ta	L		
	Hop to Healthy Bones			R	ROL	Use	Wa	Ta	L		
	Moving to Healthier Life			R	ROL	Use	Wa	Ta	L		
	Physical Activity Basics			R	ROL			Ta	L		Brochure
	Power of Exercise			R	ROL	Use	Wa	Ta	L		
	Push-Ups & Sit-Ups			R	ROL	Use	Wa	Ta	L		
	Screen Time			R	ROL	Use	Wa	Ta	L		
	Sports Nutrition Foods (Gatorade)			R	ROL	Use	Wa	Ta	L		Spin *any visitor in group*
	Sports Nutrition Foods (Red Bull.)			R	ROL	Use	Wa	Ta	L		Spin *any visitor in group*
	Test Your Strength (Text panel behind unit)			R	ROL			Ta	L		
	Using Energy			R	ROL	Use	Wa	Ta	L		
	Wall Squats			R	ROL	Use	Wa	Ta	L		

Let's Get Active: **Additional notes about component codes**

Exhibit Component	Read	Use	Other Notes
Animal Motion	Sign	Target visitor puts on costumes, dances in front of mirror, etc.	Note if music does NOT come on
Balancing Act	"Try This" or large panel to left	Tries to balance	
Be Flexible	Sign on exhibit or large panel on left	Tests flexibility	
Fitness Fads & Facts	Signs on text on exhibit	Opens panels to read text underneath (don't record reading separately)	
Grip Strength	Sign on left or chart on right	Tests grip	
Hop to Healthy Bones	"Try This" or large panel to left	Jumps rope	
Moving to Healthier Life	Text on computer screen	Interacts with computer	
Physical Activity Basics	Any text on panel	N/A	
Power of Exercise	"Try This" or large panel to left	Pushes button to read text (includes "reading" so don't record separately).	Note if visitor just pushes buttons without stopping to read
Push-Ups & Sit-Ups	Signs on front or large panel to left	Lays down, does either sit-ups or push-ups	
Screen Time	Signs on exhibit or on large panel to left	Turns wheel on left, lifts "screen" to read	Note if visitor can't figure out how to use or lifts screen but never turns wheel
Sports Nutrition Foods - Fact or Fiction (Red Bull or Gatorade)	Signs on exhibit or on large panel to right (Gatorade side only)	Turns cylinder and stops to read/look at pictures	Circle "spin" if visitor spins cylinder without reading
Squats	Any signs (including large panel on right)	Does squats	
Test Your Strength (text panel on back of Push-Up/Sit-Up unit)	Text	N/A	
Using Energy	Any signs (including large panel on left)	Puts cards in slots and pushes button to check sort	

Appendix E: Copies of cued interview protocol and questionnaires

Every Body Eats	**Adult questionnaire**
	Child questionnaire
	Adult interview protocol
Let's Get Active	**Adult questionnaire**
	Child questionnaire

Date: _____ **Time Recruited:** _____ **Time Exiting Exhibit:** _____

Data Collector: _____ **Log #:** _____

Gender: M F # Group: Adult only - # _____ **OR** _____ **A +** _____ **K**

a. Is this your first visit to CMNH? ❒ Yes
❒ No → Is this your first visit to EBE? ❒ Yes ❒ No

b. Do you have any special interest, knowledge or training in nutrition or medicine?

❒ No ❒ Yes – please describe: _____

1. What would you say is the main purpose of the displays in **Every Body Eats**?

To show: _____

_____

_____

To make people: _____

_____

_____

2. What new ideas are you taking away with you from **Every Body Eats**?

I didn't know, or I never realized that: _____

_____

_____

It reminded me that: _____

_____

_____

3. What changes could we make in **Every Body Eats** to improve the experiences that other people have in this exhibition?

Your answers to these questions will help us compare your responses to those of other visitors. All information will be kept anonymous and confidential.

4. Your Age *(check one):*

❍ under 25 years old
❍ 25 – 34
❍ 35 – 44
❍ 45 - 54
❍ 55 - 64
❍ 65 - 74
❍ 75 or older

5. Your gender: ❍ Female ❍ Male

6. Please describe your racial and ethnic background: _____

7. What language do you speak at home most often? _____

8. What is your zipcode? _____

9. What is the highest level of education that you have completed?

❒ Grade school
❒ High school
❒ Some college
❒ College degree
❒ Graduate degree

10. What is your total household income?

❒ less than $15,000
❒ $15,000 - $24,999
❒ $25,000 - $34, 999
❒ $35,000 – $49,999
❒ $50,000 – $74,999
❒ $75,000 - $99,999
❒ $100,000 - $149,999
❒ $150,000 - $199,999
❒ $200,000 or more
❒ I'd rather not say

Date: _____	**Time Recruited:** _____	**Time Exiting exhibit:** _____
Data Collector: _____	**Log #:** _____	
Gender: M F	**Age:** _____	**# Group:** _____ **A +** _____ **K**

a. Is this your first visit to CMNH? ❒ Yes
❒ No → Is this your first visit to EBE? ❒ Yes ❒ No

1. If you were going to tell a friend what these exhibits were about, what would you say?

The museum made these exhibits to show people: _____

_____

_____

The museum made these exhibits to make people: _____

_____

_____

2. What new ideas are you taking away with you from **Every Body Eats**?

I didn't know that: _____

_____

_____

It reminded me that: _____

_____

_____

Your answers to these questions will help us compare your child's responses to those of other children that we are talking to.. All information will be kept anonymous and confidential.

3. How old is your child? _____

4. Is your child a girl or boy? ❒ Girl ❒ Boy

5. Please describe your child's racial and ethnic background: _____

6. What language does your family you speak at home most often? _____

7. What is your zip code? _____

8. What is your family's total household income?
   - ❒ less than $15,000
   - ❒ $15,000 - $24,999
   - ❒ $25,000 - $34, 999
   - ❒ $35,000 - $49,999
   - ❒ $50,000 - $74,999
   - ❒ $75,000 - $99,999
   - ❒ $100,000 - $149,999
   - ❒ $150,000 - $199,999
   - ❒ $200,000 or more
   - ❒ I'd rather not say

Date: _____	**Time Recruited: _____**	**Time Exiting Exhibit: _____**
Data Collector: _____	**Log #: _____**	
Gender: M F	**# Group: Adult only - # _____**	**OR _____ A + _____ K**

Randomly arrange the snack bars on the table.
Imagine that you want to buy a snack bar for yourself …which of these would you choose? It's okay to pick them up and look at them. *Check their choice:*

❒ Go Lean
❒ Nature Valley Oats & Honey
❒ Nutri-Grain Blueberry
❒ Reese's Snack Barz
❒ Zone Perfect
❒ **looked at nutrition info**

Notes – Describe what they were doing in brackets [ ]. Record any comments they make as they choose a bar.

Tell me what you were thinking about when you made that decision. [Anything else?]

Which of these bars have you seen before?

❒ Go Lean
❒ Nature's Choice Blueberry
❒ Nature Valley Oats & Honey
❒ Reese's Snack Barz
❒ Zone Perfect
❒ **None of them**

Which of these bars have you <u>eaten</u> before??

❒ Go Lean
❒ Nature's Choice Blueberry
❒ Nature Valley Oats & Honey
❒ Reese's Snack Barz
❒ Zone Perfect
❒ **None of them**

Now I'd like you to imagine that you are cooking dinner tonight for yourself and your family and you want to make healthy choices about what to eat. What are some of the things that you'll probably think about when you're deciding what to fix or eat? [Anything else?]	
When you hear the word "nutrition," what does that make you think of?	
When you hear the word "calorie," what's the first thing that you think of?	
What does the word "calorie" actually mean?	
Do you have any particular background or training in health, nutrition or fitness? ❒ Yes ❒ No ❒ Not sure	***If yes,*** Tell me more about that.

There are a few questions on this sheet about you --- I appreciate your answering those for me. [Hand questionnaire to visitor]

Thanks for taking the time to talk with me today. All of the information that you provide about yourself will be kept anonymous and confidential.

Your Age *(check one):*

- ❒ under 25 years old
- ❒ 25 – 34
- ❒ 35 – 44
- ❒ 45 - 54
- ❒ 55 - 64
- ❒ 65 - 74
- ❒ 75 or older

Your gender: ❒ Female
❒ Male

How many children in your household are … younger than 6 years: _____
6 – 8 years old: _____
older than 8 years: _____

Your zip code: _____

Please describe your racial and ethnic background: _____

What language(s) do you speak at home most often? _____

What is the highest level of education that you have completed?

- ❒ Grade school
- ❒ High school
- ❒ Some college
- ❒ College degree
- ❒ Graduate degree

What is your total household income?

- ❒ less than $15,000
- ❒ $15,000 - $24,999
- ❒ $25,000 - $34, 999
- ❒ $35,000 – $49,999
- ❒ $50,000 – $74,999
- ❒ $75,000 - $99,999
- ❒ $100,000 - $149,999
- ❒ $150,000 - $199,999
- ❒ $200,000 or more
- ❒ I'd rather not say

Date: _____ **Time Recruited:** _____ **Time Exiting Exhibit:** _____

Data Collector: _____ **Log #:** _____

Gender: M F # Group: Adult only - # _____ **OR** _____ **Adults +** _____ **Kids**

a. Is this your first visit to CMNH? ❒ Yes
❒ No → Is this your first visit to LGA? ❒ Yes ❒ No

b. Do you have any special interest, knowledge or training in health or fitness?

❒ No ❒ Yes – please describe: _____

1. What would you say is the main purpose of the displays in **Let's Get Active**?

To show: _____

_____

_____

To make people: _____

_____

_____

2. What new ideas are you taking away with you from **Let's Get Active**?

I didn't know, or I never realized that: _____

_____

_____

It reminded me that: _____

_____

_____

3. In order to stay healthy and fit, how much physical activity should an adult get in a day?

_____ What kind of activity are you thinking of? _____

_____

4.. What changes could we make in **Let's Get Active** to improve the experiences that other people have in this exhibition?

Your answers to these questions will help us compare your responses to those of other visitors. All information will be kept anonymous and confidential.

4. Your Age *(check one):*

- ❍ under 25 years old
- ❍ 25 – 34
- ❍ 35 – 44
- ❍ 45 - 54
- ❍ 55 - 64
- ❍ 65 - 74
- ❍ 75 or older

5. Your gender: ❍ Female ❍ Male

6. Please describe your racial and ethnic background: _____

7. What language do you speak at home most often? _____

8. What is your zip code? _____

9. What is the highest level of education that you have completed?

- ❒ Grade school
- ❒ High school
- ❒ Some college
- ❒ College degree
- ❒ Graduate degree

10. What is your total household income?

- ❒ less than $15,000
- ❒ $15,000 - $24,999
- ❒ $25,000 - $34, 999
- ❒ $35,000 – $49,999
- ❒ $50,000 – $74,999
- ❒ $75,000 - $99,999
- ❒ $100,000 - $149,999
- ❒ $150,000 - $199,999
- ❒ $200,000 or more
- ❒ I'd rather not say

Date: _____ **Time Recruited:** _____ **Time Exiting exhibit:** _____

Data Collector: _____ **Log #:** _____

Gender: M F Age: _____ **# Group:** _____ **Adults +** _____ **Kids**

a. Is this your first visit to GCM? ❒ Yes
❒ No → Is this your first visit to LGA? ❒ Yes ❒ No

1. If you were going to tell a friend what these exhibits were about, what would you say?

The museum made these exhibits to show people: _____

_____

_____

The museum made these exhibits to make people: _____

_____

_____

2. What new ideas are you taking away with you from **Let's Get Active**?

I didn't know that: _____

_____

_____

It reminded me that: _____

_____

_____

Your answers to these questions will help us compare your child's responses to those of other children that we are talking to.. All information will be kept anonymous and confidential.

3. How old is your child? _____

4. Is your child a girl or boy? ❒ Girl ❒ Boy

5. Please describe your child's racial and ethnic background: _____

6. What language does your family you speak at home most often? _____

7. What is your zip code? _____

8. What is your family's total household income?
   - ❒ less than $15,000
   - ❒ $15,000 - $24,999
   - ❒ $25,000 - $34, 999
   - ❒ $35,000 - $49,999
   - ❒ $50,000 - $74,999
   - ❒ $75,000 - $99,999
   - ❒ $100,000 - $149,999
   - ❒ $150,000 - $199,999
   - ❒ $200,000 or more
   - ❒ I'd rather not say

Appendix F: Visitor mentions of specific exhibit components (*Every Body Eats*)

Added Ingredients
[Didn't know] There's a lot of additives in food. [EBE ID# 31, Adult]
[Didn't know] When the sugar & fat is displayed out, it reveals it in an alarming way - this is good! [EBE ID# 34, Adult]
[Didn't know] What really has bad things in them. [EBE ID# 40, Adult]
[Didn't know] There is a lot of fat in some foods that are bad for you. [EBE ID# 14, 12-year-old boy]

Added Ingredients – Shaking the Salt Habit
[Reminded me] I eat too much fat & salt, not enough vegetables & fruit. [EBE ID# 2, Adult]
[Didn't know] How much salt is in the foods we eat. [EBE ID# 18, Adult]
[Didn't know] There was a lot of sugar in foods. There is a lot of salt in foods we eat. [EBE ID# 4, 9-year-old girl]

Added Ingredients – Liquid Calories
[Didn't know] There was so much sugar in common foods. [EBE ID# 32, Adult]

Adding Ingredients – Liquid Calories – Shaking the Salt Habit
[Didn't know] How much salt and sugar we consume daily. [EBE ID# 17, Adult]
[To show] How much Americans consume unhealthy food that they probably eat and drink on a regular basis. [To make people] Cut down or eliminate certain food & drink that can be harmful to your body (so you won't develop health problems). [Reminded me] To watch how much I consume of certain foods and drinks. [EBE ID# 41, Adult]

Advertising Detectives
[To show] How easy it is to be "tricked" by the food companies. [EBE ID# 34, Adult]
[Reminded me] To eat better every day. Kid Cuisine is not good for you. [EBE ID# 11, 8-year-old boy]

Calories In/Calories Out
[To make people] Change the snacks that they eat & provide for their children. [EBE ID# 11, Adult]
[Reminded me] Vegetables & fruits are healthy snacks. [EBE ID# 15, Adult]
[Didn't know] How hard it is to burn a calorie. [EBE ID# 22, Adult]
[Reminded me] That I should not eat candy. [EBE ID# 2, 9-year-old boy]
[Didn't know] It takes a lot to burn off calories from candy. [EBE ID# 3, 9-year-old boy]
[To make people] More aware of the calories you are eating. [EBE ID# 4, 9-year-old girl]
[Didn't know] ... that it would take a long time to burn off a chocolete [sic] bar. [EBE ID# 7, 11-year-old girl]
[Didn't know] How many calories are in items. [EBE ID# 10, 10-year-old girl]
[Didn't know] How much energy it takes to burn off a snack. ... [EBE ID# 11, 8-year-old boy]
[Didn't know] It took 40 minutes of cycleing [sic] just to burn off the calories in a bag of potato chips. [EBE ID# 15, 12-year-old boy]

Dinner Theater
[To make people] Realize they may not have variety in their diet. [EBE ID# 36, Adult]

Fuel Your Body
[Didn't know] Fiber helps to keep hunger away longer. [EBE ID# 15, Adult]
[Show people] ... Healthy food gives you more energy. [EBE ID# 4, 9-year-old girl]
[To make people] What gives us fuel. [EBE ID# 17, 7-year-old boy]

Hunger Signals
[Didn't know] What to eat and when to eat. [EBE ID# 17, 7-year-old boy]

Liquid Calories
[Reminded me] Drink too much soda. [EBE ID# 7, Adult]
[Reminded me] Eat less high fructose corn syrup. [EBE ID# 12, Adult]
[Didn't know] … Americans drink 17 gallons of soda. [EBE ID# 41, Adult]
[Show people] It tells you how to eat healthy. That pop is bad for you. ... [EBE ID# 4, 9-year-old girl]
[Didn't know] The Coca Cola had so much sugar. [EBE ID# 6, 8-year-old girl]
[Didn't know] That in one bottle of pop you can get 65 grams worth of sugar. [Reminded me] I should stop drinking so much pop. [EBE ID# 8, 13-year-old girl]
[Didn't know] There was so much sugar in Coke ... [EBE ID# 12, 9-year-old girl]
[Show people] The state of healthy eating in the U.S. [EBE ID# 15, 12-year-old boy]

Reading Labels (sides 1 and 2)
[To make people] Healthy - through better food choices by reading labels. [Didn't know] Potatoes had vitamin C. [EBE ID# 2, Adult]
[To make people] Take time to read labels. [Didn't know] How some supposedly nutritious foods aren't so nutritious. [EBE ID# 4, Adult]
[Didn't know] Potatoes have excellent vitamin C. [Reminded me] All labels matter. [EBE ID# 6, Adult]
[Didn't know] Potatoes have vitamin C. [EBE ID# 7, Adult]
[Didn't know] Nutrigrain bars are so high in sugar & sodium! [EBE ID# 8, Adult]
[Didn't know] Potatoes had so much vit C. [EBE ID# 9, Adult]
[Didn't know] Nutrigrain bars have a lot of sugar, food labels can be misleading. [EBE ID# 12, Adult]
[Reminded me] I need to pay more attention to nutrition labels. [EBE ID# 17, Adult]
[Reminded me] I should check the labels. [EBE ID# 18, Adult]
[Didn't know] How bad trans fat really is. [EBE ID# 19, Adult]
[Didn't know] Packaged food can be good too! [Reminded me] Reading nutritional labels is important. [EBE ID# 21, Adult]
[Didn't know] Trans fats in Sweet Treat. [EBE ID# 23, Adult]
[Reminded me] I should check labels. [EBE ID# 24, Adult]
[Didn't know] Those Little Debbies are so dangerous! ... [EBE ID# 25, Adult]
[Didn't know] That potatoes have vitamin C. [EBE ID# 26, Adult]
[Didn't know] Nutrigrain bar has so much added sugar. [EBE ID# 27, Adult]
[Didn't know] Nutrigrain bars have so much sodium and added sugar. [EBE ID# 29, Adult]
[Reminded me] Read more labels! [EBE ID# 31, Adult]
[Reminded me] It's important to read labels. [EBE ID# 32, Adult]
[Didn't know] Swiss Cake Rolls contain a lot of trans fats. [EBE ID# 38, Adult]
[To make people] Look at the labels & make better choices. [Didn't know] Looking at the packages of the food - one might look better for you but reading the labels, it is not. [EBE ID# 39, Adult]
[Reminded me] You must look at all the labels. [EBE ID# 40, Adult]
[Didn't know] Alexia Yukon Gold fries with sea salt had more Vitamin C than fruit cocktail and tomato sauce. ... [EBE ID# 41, Adult]
[Didn't know] I did not know that potatos [sic] had Vit-C. [EBE ID# 2, 9-year-old boy]
[Didn't know] … Things that look healthy sometimes aren't. Reading labels. [EBE ID# 11, 8-year-old boy]
[Didn't know] There was so much … vitamin C in potato chips. [EBE ID# 12, 9-year-old girl]
[Didn't know] That some (so called) "healthy foods" could be more unhealthy than you know. [EBE ID# 20, 15-year-old girl]

Shaking the Salt Habit
[Reminded me] I need to watch how much processed foods I eat. [EBE ID# 3, Adult]
[Didn't know] Most of the sodium in our diets comes from the prosest [sic] food. [Reminded me] On trips I eat a lot of prosest [sic] food. [EBE ID# 1, 8-year-old girl]

Sizing up Servings
[Didn't know] Food portions should be smaller. [EBE ID# 3, Adult]
[Didn't know] We actually do a pretty good job of nutritious meals, but portions are too big. [Reminded me] Meat should be smaller portions. [EBE ID# 5, Adult]
[Didn't know] Various sizes of servings. [EBE ID# 14, Adult]
[Didn't know] Size serving. [Reminded me] I don't need to eat as much as I do. [EBE ID# 28, Adult]
[Didn't know] What I sometimes think of as one serving is actually 2 or 3 servings. [EBE ID# 30, Adult]
[To show] How to eat healthy foods & proper servings. [EBE ID# 33, Adult]
[Didn't know] The standards of portion size. [EBE ID# 36, Adult]
[Reminded me] It is easy to eat bad and be fat and how big the servings should be. [EBE ID# 12, 9-year-old girl]
[Didn't know] That one serving size of meat is as big as a deck of cards. [EBE ID# 16, 11-year-old boy]

Supermarket Nutrition
[Didn't know] … And we should eat more grains. [EBE ID# 25, Adult]
[Reminded me] Grandma was right - whole grain is good - eat more cracked wheat! [EBE ID# 34, Adult]
[To make people] Realize they may not have variety in their diet. [EBE ID# 36, Adult]
[Didn't know] Whole milk was bad for you ... [EBE ID# 7, 11-year-old girl]

Veggie Power
[Didn't know] I don't serve my family enough fruits & veggies a week. [EBE ID# 11, Adult]
[Reminded me] You need nine servings of vegies [sic] a day. [EBE ID# 15, 12-year-old boy]

Appendix G: Percent of visitor stops at *Let's Get Active* components and median stop time

Let's Get Active - CMNH	Percent of adults stopping	Median time (minutes)
Animal Motion	28%	0.3
Balancing Act	51%	2.0
Be Flexible	36%	1.3
Fitness Fads/Facts (Camels)	9%	0.4
Fitness Fads/Facts (Thigh Master)	9%	0.5
Test Your Strength/Grip Strength	28%	0.9
Hop to Healthy Bones	70%	1.1
Moving to Healthier Life	6%	0.7
Physical Activity Basics	0%	
Power of Exercise	25%	0.4
Test Your Strength/Push-Ups/Sit-Ups	35%	0.8
Screen Time	12%	0.4
Sports Nutrition (Gatorade)	22%	0.7
Sports Nutrition (Red Bull)	17%	0.7
Test Your Strength text panel	9%	0.2
Using Energy	28%	1.1
Test Your Strength/Wall Squats	28%	1.0

Let's Get Active - Granville	Percent of adults stopping	Median time (minutes)
Animal Motion	85%	1.4
Balancing Act	95%	3.2
Be Flexible	95%	2.1
Fitness Fads/Facts (Camels)	60%	2.1
Fitness Fads/Facts (Thigh Master)	60%	1.6
Test Your Strength/Grip Strength	75%	1.1
Hop to Healthy Bones	100%	2.7
Moving to Healthier Life	75%	2.2
Physical Activity Basics	35%	1.1
Power of Exercise	80%	1.6
Test Your Strength/Push-Ups/Sit-Ups	80%	2.4
Screen Time	75%	0.9
Sports Nutrition (Gatorade)	75%	0.8
Sports Nutrition (Red Bull)	70%	1.0
Test Your Strength text panel	25%	0.2
Using Energy	90%	1.9
Test Your Strength/Wall Squats	85%	1.9

Appendix H: Visitor mentions of specific *Let's Get Active* components

Animal Motion
[Didn't know] You should make exercise fun to keep kids engaged. [ID# 26 LGA, Adult]
[To show] ... the need for … balance [ID# 14 LGA, Adult]

Balancing Act
[Didn't know] Children have better balance than adults. [ID# 15 LGA, Adult]
[Didn't know] My balance isn't that great. ... [To show] adults and children about … balance … [ID# 18 LGA, Adult]
[Didn't know] That my balance is poor! [Reminded me] I need to work on my balance. [ID# 19 LGA, Adult]
[Didn't know] Balances … were so important. [ID# 39 LGA, Adult]
[Didn't know] I was able to balance steadily for so long ... [LGA ID# 3, 10-year-old girl]
[Didn't know] I have really good balance. [LGA ID# 5, 10-year-old girl]
[Didn't know] It was so difficult to balance. [LGA ID# 22, 9-year-old girl]

Be Flexible
[To show] ... the need for flexibility … [ID# 14 LGA, Adult]
[Didn't know] … That some items (flexibility & strength were not too bad). [sic] [ID# 17 LGA, Adult]
[Didn't know] ... stretching [was] so important. [ID# 39 LGA, Adult]
[Didn't know] That my son is not very flexible. [Reminded me] Stretching is important for children as well as adults. [ID# 40 LGA, Adult]
[Didn't know] How flexible I was. ... [ID# 42 LGA, Adult]
[Make people] Realize where they are with strength, flexibility. [ID# 47 LGA, Adult]
[Didn't know] Stretching is important. [LGA ID# 25, 9-year-old girl]
[Reminded me] Doing strecthes [sic] in gym. [LGA ID# 27, 12-year-old boy]
[Show people] How to test their … flexibility & to compare things. [Make people] Aware of what physical shape you're in with ... flexibility. [LGA ID# 29, 11-year-old boy]

Fitness Fads and Facts
[Reminded me] … jumping [can be a big help] ... [ID# 56 LGA, Adult]
[Didn't know] There were ever ads that smoking would make you healthier. [ID# 60 LGA, Adult]
[Didn't know] Smoking was thought to make you healthier. [LGA ID# 12, 12-year-old boy]

Hop to Healthy Bones
[Reminded me] Jumping rope reminded me of my childhood. [ID# 7 LGA, Adult]
[Didn't know] My kids should jump rope. [ID# 14 LGA, Adult]
[Didn't know] Jump roping is fun. [ID# 28 LGA, Adult]
[Reminded me] Jump roping is fun. [ID# 39 LGA, Adult]
[Reminded me] Or jumping … [can be a big help] [ID# 56 LGA, Adult]
[Reminded me] My school did jump rope for heart. [LGA ID# 8, 10-year-old boy]
[Didn't know] Jumping rope could be harder and fun at the same time. [LGA ID# 19, 12-year-old girl]

Moving to a Healthier Life
[Didn't know] Simple walking could improve so many things! [ID# 20 LGA, Adult]
[Didn't know] The small changes would be so easy to make. [ID# 27 LGA, Adult]
[To show] How to be healthier in everyday activities. [ID# 32 LGA, Adult]
[Didn't know] Walking @ lunch; play @ park instead of home ... [ID# 53 LGA, Adult]

[Reminded me] Simple walking (and not let the weather stop you) can be a big help. ... [ID# 56 LGA, Adult]

[Make people] Think about health in day to day activities. [ID# 57 LGA, Adult]

Power of Exercise

[Didn't know] The more you exercise the more it helps your lifespan. [ID# 24 LGA, Adult]

[To show] … How being active can prolong life. [ID# 30 LGA, Adult]

[Didn't know] Exercise can decrease potential for Alzheimers. [ID# 38 LGA, Adult]

[Didn't know] A little activity is so much better than no activity. [Reminded me] Small efforts make a big difference. [Make people] Aware of how physical activity impacts overall health. [ID# 51 LGA, Adult]

[To show] How an active & normal lifestyle can keep you healthier and live longer. [ID# 60 LGA, Adult]

[Didn't know] the more you exersize [sic], the better your chances not to get ill. [Reminded me] Staying fit helps prevent cancer. [LGA ID# 2, 13-year-old boy]

[Didn't know] … how long we have to work out which is an hour a day. [LGA ID# 17, 10-year-old girl]

Screen Time

[Didn't know] The amount of TV time or video game time was so great. [ID# 2 LGA, Adult]

[Reminded me] Less TV is critical. [ID# 10 LGA, Adult]

[Reminded me] My family watches too much TV. [ID# 14 LGA, Adult]

[Didn't know] How much TV we watch. ... [ID# 17 LGA, Adult]

[Didn't know] I look at a screen for more than 3,000 a year. [ID# 30 LGA, Adult]

[Reminded me] Watching TV is no good. [ID# 43 LGA, Adult]

[Didn't know] Kids have problem sleeping if they have too much screen time. [Reminded me] It is important to control "screen time" for kids. ... [To show] Advantages of physical activity over video games & computer time. [ID# 54 LGA, Adult]

[Reminded me] ... And less TV. [ID# 55 LGA, Adult]

[Didn't know] Too much TV could cause attention problems. [Reminded me] Pay attention to how much [my child] watches, even though it's winter time, try and find more active things to do. [ID# 61 LGA, Adult]

[Didn't know] That all the time you spend playing video games it all adds up to a lot of wasted time. [LGA ID# 1, 11-year-old boy]

[Didn't know] You had to have 2 hours of screen a day. [LGA ID# 15, 8-year-old boy]

[Didn't know] You play vido [sic] game so much. [LGA ID# 26, 9-year-old girl]

Sports Nutrition Foods

[Didn't know] Corn syrup reduce the rate of calories. [ID# 1 LGA, Adult]

[Make people] ... create better eating habits. [ID# 4 LGA, Adult]

[Didn't know] Energy bars could make your stomach hurt if eaten before exercising. [ID# 11 LGA, Adult]

[Didn't know] There were healthy caffeines. [ID# 12 LGA, Adult]

[Make people] … eat healthier. [ID# 13 LGA, Adult]

[Didn't know] Chocolate milk was a healthy choice! [ID# 23 LGA, Adult]

[Didn't know] What really is in power bars and what else I can eat before I run. [Make people] Think about what they put in their bodies ... [ID# 25 LGA, Adult]

[Didn't know] Coffee is better than Red Bull, chocolate milk better than Gatorade. [Make people] Think about eating … habits. [ID# 29 LGA, Adult]

[Make people] Eat healthier … [ID# 30 LGA, Adult]

[Didn't know] Different so called healthy drinks/food had contents which were unhealthy. … [Reminded me] We want to stick with fresh/basic foods for our family. [ID# 45 LGA, Adult]

[Didn't know] Protein bars are not as healthy for you. [Reminded me] I need to eat healthier. [Make people] Think about what they eat. [ID# 46 LGA, Adult]

[Reminded me] You should eat healthier food, not what commercials say is healthy for you. [ID# 52 LGA, Adult]

[Didn't know] ... how to choose healthier snacks. [ID# 53 LGA, Adult]

[Didn't know] Energy drinks/sports drinks were not healthy for you. [Reminded me] You can never believe anything on a label except the ingredients. [ID# 57 LGA, Adult]

[Reminded me] Processed foods are bad! [Make people] More aware of ... eating healthy. [ID# 58 LGA, Adult]

[Reminded me] You can't always believe what you see on TV. [ID# 60 LGA, Adult]

[Make people] Better choices for eating … [ID# 61 LGA, Adult]

[Didn't know] Energy bars give you energy from sugar. [LGA ID# 10, 9-year-old boy]

[Didn't know] Protein bars are not healthy. [LGA ID# 11, 12-year-old girl]

[Reminded me] It's important to not belive [sic] everything people tell me. [LGA ID# 12, 12-year-old boy]

[Didn't know] The energy bar had a lot of sugar in it and you can make different choices. [LGA ID# 13, 12-year-old girl]

[Didn't know] "Power energy" bars weren't as good as they're advertised to be. [LGA ID# 14, 17-year-old girl]

[Show people] ... which foods are healthier than others. [Make people] To get healthier, pretty much they want people to realize which foods can make you healthier. [Didn't know] Powerade and Gatorade aren't that good for you. I thought they were healthier. [LGA ID# 20, 13-year-old boy]

[Didn't know] Better stuff that [sic] energy drinks and energy bars. [LGA ID# 27, 12-year-old boy]

[Reminded me] There are much better food choices in the world. [LGA ID# 28, 10-year-old girl]

[Didn't know] String cheese was good for you. [LGA ID# 30, 9-year-old girl]

Test Your Strength/Grip Strength

[Reminded me] … I have a stronger grip than my friend. [ID# 30 LGA, Adult]

[Didn't know] Finger push-ups increase hand strength. [ID# 48 LGA, Adult]

[Didn't know] Strength in smaller muscles - hand strength predicts overall health. … [ID# 51 LGA, Adult]

[Didn't know] Grip strength can lead to a longer life. [ID# 58 LGA, Adult]

[Didn't know] … that I had a strong grip. [LGA ID# 3, 10-year-old girl]

[Didn't know] I could grip 147 lbs. [LGA ID# 4, 12-year-old boy]

Test Your Strength/Push-ups/Sit-ups

[Make people] Active. My kids loved timing how many push-ups/sit-ups they can do in a minute. [ID# 44 LGA, Adult]

[Didn't know] How to do sit ups. [LGA ID# 16, 7-year-old girl]

[Didn't know] How to do situps [sic] more often … [LGA ID# 17, 10-year-old girl]

[Show people] How fit a person is supposed to be and how many push-ups and sit-ups you should do. ... [LGA ID# 20, 13-year-old boy]

Test Your Strength/Wall Squats

[Didn't know] I didn't know that I could stay in a squat for 200.1 [seconds]. [LGA ID# 7, 12-year-old girl]

[Didn't know] What the average times and the above average times were for the squats was something I didn't know. [LGA ID# 21, 14-year-old boy]

[Didn't know] I am off the charts for how long I can hold a wall sit. [LGA ID# 23, 10-year-old girl]

Test Your Strength cluster (Push-ups and Sit-ups, Grip Strength, Wall Squats)

[Show people] How to test their strength ... & to compare things. [Make people] Aware of what physical shape you're in with strength … [Didn't know] It was so hard to use resistance when exercising. [Reminded me] Strength training is important. [LGA ID# 29, 11-year-old boy]

Using Energy

[Didn't know] That we burn calories with everyday activity. [ID# 33 LGA, Adult]

[Didn't know] They (children) burn more calories doing traditional play than playing sports. [ID# 56 LGA, Adult]

[Didn't know] Gardening burns 600 calories. [Reminded me] I burned more calories than I thought. [LGA ID# 9, 11-year-old boy]
[Didn't know] You burn less calories playing sports than you do playing active [sic]. [LGA ID# 18, 10-year-old boy]
[Didn't know] I didn't know how many calories you burn in different things. [LGA ID# 24, 11-year-old girl]

References to graphs comparing self to average for adults/children (several components)
[Didn't know] How I performed on a scale of average adults. [To show] … our current physical condition vs. average strength [ID# 4 LGA, Adult]
[To show] The average & where you are within the standards. [ID# 47 LGA, Adult]
[Didn't know] Statistical info regarding fitness. [ID# 50 LGA, Adult]
[To show] … provide an opportunity for self assessment. [ID# 51 LGA, Adult]