



iSaveSpecies—Sustaining Life Summative Evaluation Report

Oregon Zoo

July 2016

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This project was completed with support from NSF DRL-1010938

Executive Summary

The iSaveSpecies project, created by Project Dragonfly at Miami University and a consortium of zoos and aquariums, designed and implemented a socially-networked exhibit system to engage family visitors to zoos and aquariums in inquiry and conservation. The second wave of the iSaveSpecies exhibit stations focused on Sustaining Life, allowing families to conduct research and learn about conservation efforts. Participating zoos incorporated up to three touchscreen-based research and/or action kiosks in an exhibition area.

To support these efforts, the Lifelong Learning Group conducted a summative evaluation to determine the effectiveness of the iSaveSpecies electronic interactive kiosks at engaging families in inquiry, STEM, and conservation actions. The study was designed to answer the question: Do the iSaveSpecies kiosks achieve their desired (collective) outcomes?

Data for this study were collected at four different zoos. This report focuses on the Oregon Zoo; data were collected onsite at the Zoo from adult visitors (N=233) in the Predators of Serengeti area. Two types of participants were sought—those who used the iSaveSpecies kiosk and those who did not—to complete a questionnaire or an interview.

The study found that visitors who engaged with the iSaveSpecies kiosks reported they were somewhat more likely to use basic science inquiry skills during their zoo visit. Visitors who interacted with a kiosk reported they were more likely to talk with others in their group about what they observed or did, listen to calls made by lions, and think of questions regarding cat behavior. There were statistically significant positive differences for four inquiry skills: listening to different calls lions make, comparing myself to a cat, talking with others in my group about what I observed or did, and learning that I'm like a wild cat.

An essential inquiry skill is the ability to ask questions that lead to investigations. Participants were unlikely to share a question they had about the wild cats in response to an open-ended question during an interview. The low number of responses may be due to lack of time at this exhibit or the pressing need to keep an eye on young children in their group. Additionally, respondents might not have found the environment conducive to pondering a question and/or investigation scenario.

Visitors who interacted with the iSaveSpecies kiosks reported they felt they were slightly more knowledgeable about wild cats than visitors who did not interact with the kiosks, specifically regarding how to study lions and investigate animal behavior. Additionally, interviewed visitors who explored the Roar Like a Lion kiosk discovered the meaning behind the sounds the lion makes and visitors who interacted with the Which Are You? kiosk learned that animals have different personalities.

Oregon Zoo visitors interacting with the iSaveSpecies poster kiosk were more likely to report they understood conservation efforts to protect the predators of the Serengeti than visitors who did not use the iSaveSpecies poster kiosk. A specific conservation action influenced by the poster kiosks was purchasing products that use wildlife friendly palm oil. Interviewees interacting with the poster suggested “donating money to the change exhibit next to iSaveSpecies exhibits,” another

stated they could, “tell people more about cats.” Additionally, several interviewees thought it was “cool that you could e-mail/share a message.”

Visitors who engaged with the iSaveSpecies interactive kiosks felt it added value to their zoo visit. Mean scores for those who used the iSaveSpecies kiosks were all well above the midpoint. Respondents appeared to appreciate that the kiosk was an activity they could do with others in their group while getting new information. Two interviewees appreciated that they could share their poster or study results with someone via e-mail.

The key outcomes of this study include:

- Visitors who interacted with the iSaveSpecies kiosks felt it added value to their zoo visit. Visitors appreciated that the kiosk was an activity they could do with others in their group while getting new information and that they could share their poster or study results with someone via e-mail.
- Visitors who engaged with the iSaveSpecies kiosks reported they were somewhat more likely to use basic science inquiry skills during their zoo visit. Visitors who interacted with a kiosk reported they were more likely to talk with others in their group about what they observed or did, listen to calls made by lions, and think of questions regarding cat behavior. There were statistically significant positive differences for four inquiry skills: listening to different calls lions make, comparing myself to a cat, talking with others in my group about what I observed or did, and learning that I’m like a wild cat.
- Visitors who interacted with the iSaveSpecies kiosks reported they felt they were somewhat more knowledgeable about wild cats than visitors who did not interact with the kiosks, specifically regarding how to study lions and investigate animal behavior.

Visitors who interacted with the iSaveSpecies kiosks reported they felt they were more knowledgeable about elephants than visitors who did not interact with the kiosks.

Contents

| | |
|--|-----|
| Executive Summary..... | i |
| Contents..... | iii |
| Introduction..... | 1 |
| Methods..... | 2 |
| Findings..... | 3 |
| The Zoo..... | 3 |
| Participants..... | 3 |
| Inquiry Skills..... | 4 |
| STEM Content..... | 8 |
| Conservation Efforts..... | 9 |
| Value Added..... | 11 |
| Conclusions..... | 12 |
| Appendix A: Data Collection Instruments..... | 14 |
| Appendix B: Demographic Tables..... | 23 |

Introduction

The iSaveSpecies project, created by Project Dragonfly at Miami University and a consortium of zoos and aquariums, designed and implemented a socially-networked exhibit system to engage family visitors to zoos and aquariums in inquiry and conservation. The inquiry and action tools created by the iSaveSpecies team reside in an evolving library of exhibit interactives, modified by partner institutions to suit the particular needs of their visitors.

The first wave of the iSaveSpecies exhibit stations focused on *Great Apes*, the second wave focused on *Sustaining Life*. Both sets of exhibits allow families to conduct research on animals by joining the work of experienced field conservationists. The second wave of exhibits were placed in five partner institutions during 2015 — Boonshoft Museum, Chicago Zoological Society/Brookfield Zoo (Brookfield Zoo), Cleveland Metroparks Zoo (Cleveland Zoo), Oregon Zoo, and Toledo Zoo. These institutions incorporated up to three touchscreen-based research and/or action kiosks in an exhibition area. By building cross-institutional partnerships committed to sustaining life on our planet, the iSaveSpecies projects believes that the new tools for inquiry and public action will achieve broad national impact.

To support these efforts, a summative evaluation was conducted to determine the effectiveness of the iSaveSpecies electronic interactive kiosks at engaging families in inquiry, STEM, and conservation actions. This study built on the Great Apes Summative Evaluation (Wojton & Heimlich 2015) and a front end evaluation, which focused on visitor interactions in the Predators of the Serengeti exhibit. The front-end study found that visitors have a general understanding of predators and believe that it is difficult to be a predator, primarily due to the challenges of obtaining food. Additionally, visitors realize that the predators of the Serengeti are threatened due to shrinking habitat and humans hunting them. The first evaluation found visitors believe they can help the predators of the Serengeti by donating to organizations that help these animals and increase their awareness of the animals' plight by attending educational programs.

While the prior evaluation provided insight into visitor understanding of the animals in the exhibit before the iSaveSpecies exhibits were installed, this study focused on the efficacy of the iSaveSpecies interactive kiosks engaging visitors and delivering their messages, including encouraging visitors to develop inquiry skills, knowledge of pertinent STEM content, and engaging in specific conservation actions.

A summative design utilized questionnaires and interviews to gather data from zoo visitors. Questionnaire data were gathered from two types of visitors: those who used an iSaveSpecies kiosk and those who did not. Interviews were conducted with adult visitors seen interacting with at least one of the iSaveSpecies kiosks.

The overarching evaluation question for this summative evaluation was: Do the iSaveSpecies kiosks achieve their desired (collective) outcomes? To address this larger question, five sub-questions were asked:

1. Did visitors who engaged with the iSaveSpecies inquiry kiosks report they have used basic science inquiry skills during their zoo visit?

2. Did visitors who engaged with the iSaveSpecies interactive kiosks have a better understanding of the STEM content related to the iSave Species kiosks than those who did not engage with the kiosks?
3. Did visitors who engaged with the iSaveSpecies conservation poster kiosk understand conservation efforts geared toward the predators of the Serengeti?
4. Did visitors who engaged with the iSaveSpecies conservation poster kiosks report involvement in specific conservation actions?
5. Did visitors who engaged with the iSaveSpecies interactive kiosks feel it added value to their zoo visit?

Methods

The audience for this summative evaluation study was adult visitors to the Predators of the Serengeti area within the Oregon Zoo. Two types of participants were sought to better understand the impact of the iSaveSpecies interactives—those who used the iSaveSpecies kiosk and those who did not.

To answer the evaluation questions, two different methods were used; a structured, intercept interview and a questionnaire. Using a continuous ask format, visitors who interacted with one of the iSaveSpecies kiosks were invited to participate in the interview as they finished the interactive. The interviews asked adults to describe what they did at the kiosk (s), and what they gained from the interaction in regards to scientific inquiry and environmental conservation.

The second method was a questionnaire. Since each kiosk had different inquiry goals for participants, separate questionnaires were designed and administered for each of the kiosks. While each questionnaire used the same demographic, conservation, and affect questions; each kiosk questionnaire had different inquiry questions. To better understand the impact of the kiosks, data were collected from those who did and those who did not engage with the kiosk. Visitors were asked to complete the questionnaire after they had passed the iSaveSpecies kiosk. Interview scripts and questionnaires can be found in Appendix A.

All data for the two methods of the study were collected with different groups of visitors. Data gathering was impacted by the uniqueness of the zoo's exhibition area, including the placement of the kiosks within the viewing area.

Data were analyzed collectively. Interview responses were entered into an Excel spreadsheet and coded based on the question and the objectives of the interactive kiosks. During analysis, categories of visitor responses about their knowledge were developed inductively through the coding process (i.e., they emerged from the data itself rather than being prescribed). No demographic information was collected for visitors interviewed.

All questionnaire data were entered into an Excel spreadsheet. Quantitative data were transferred into SPSS for analysis. Open-ended data were coded using coding rubrics developed for this study. Quantitative data were analyzed descriptively and, where appropriate, inferential statistics were used to test specific questions or hypotheses about the data.

Findings

The Zoo

The Oregon Zoo, located in Portland, Oregon, consists of 64 acres that include five areas that range across different continents and ecosystems including Fragile Forests and Pacific Shores. Within each area visitors find the animals that inhabit that ecosystem. The three iSaveSpecies exhibits were located in the Predators of the Serengeti exhibit with the Africa area. The exhibition area includes static and interactive displays, as well as lions, caracals and African wild dogs. The five days of data collection coincided with a special event at the zoo to celebrate Halloween which brought out visitors; however, torrential rains kept visitors away from the zoo on other days. Visitor attendance at the zoo averaged 1,464 daily with a range of 763 (Monday, November 2, 2015) to 2865 (Halloween Day, Saturday, October 31, 2015).

Participants

Visitor participants in this study completed either an interview or a questionnaire. Those who completed interviews are referred to as “interviewees” throughout this report, those who completed questionnaires are referred to as “respondents.” Table 1 illustrates the visitors in each category.

Table 1. Visitor participants by study method

| Zoo | Number of Interviewees | Number of Respondents |
|--------|------------------------|-----------------------|
| Oregon | 16 | 217 |

Every effort was made to gather data for each interactive kiosk. Table 2 itemizes the frequency of visitors interviewed per kiosk. While visitors typically commented on only one kiosk, there were several visitors who commented on more than one. No demographic information was collected for visitors interviewed.

Table 2. Exit Interviews completed for each interactive kiosk*

| Interactive Kiosks | Number of Interviewees |
|---------------------|------------------------|
| Roar Like a Lion | 7 |
| Which Are You? | 11 |
| Conservation Poster | 7 |

N=16

*Several interviewees discussed multiple exhibits

Separate questionnaires were designed and administered for each of the kiosks. Table 3 has a breakdown of questionnaires completed by kiosk. During data collection every effort was made to collect data from a diverse sample; however, data indicate that respondents were likely to be white (87%) females (62%) traveling through the zoo with family (71%). Half of respondents (51%) and half of the interviewees (50% or 8 of 16) were exploring the zoo with children age five or younger.

Slightly more than one half of the respondents (54%) were frequent visitors, visiting two or more times each year; another one quarter were first time visitors (23%). More than half of the respondents (55%) spent 5 – 15 minutes in the Predators of the Serengeti exhibit. Almost half of the respondents were zoo members (43%). Appendix B contains tables for each of the demographic questions included in the questionnaire.

Table 3. Questionnaires completed for each interactive kiosk (n=220)

| Interactive Kiosks | Number of Respondents |
|---------------------|-----------------------|
| Roar Like a Lion | 71 |
| Which Are You? | 74 |
| Conservation Poster | 72 |

Inquiry Skills

Overall, visitors interacting with the iSaveSpecies kiosks reported using inquiry skills more often than those who did not interact with the iSaveSpecies kiosk during their visit to the Predators of the Serengeti exhibit at the Oregon Zoo. Inquiry skills most often used by visitors include talking with others about what was observed, listening to different calls lions make, and thinking of questions regarding cat behavior. Visitors who interacted with the Which Are You? kiosk were more likely to report using an inquiry skill than visitors to the other two kiosks. There were statistically significant positive differences for four inquiry skills: listening to different calls lions make, comparing myself to a cat, talking with others in my group about what I observed or did, and learning that I’m like a wild cat.

How We Know

Table 4 contains a list of inquiry skills divided by those who interacted with a kiosk (either on this visit or a prior visit) and those who did not interact with any of the kiosks. On a scale where 1 represents Definitely Not and 7 represents Absolutely Yes, questionnaire respondents who interacted with an iSaveSpecies kiosk were more likely to believe they had used inquiry skills than those who did not. Inquiry skills most often used by visitors include:

- Talking with others in my group about what was observed
- Listening to different calls lions make
- Thinking of questions regarding cat behavior.

Mean scores for those who interacted with the kiosk ranged from a slight negative $\bar{x} = 3.18$ to a positive $\bar{x} = 5.09$ on a 7 point scale. Two statements were slightly negative (\bar{x} scores of 3.18 and 3.40), three statements were neutral (\bar{x} scores of 3.65, 4.21, and 4.37) and two statements were slightly positive to positive (\bar{x} scores of 4.80 and 5.09). Those who engaged reported higher mean scores than those who did not. Items for those who did not interact ranged from negative ($\bar{x} = 2.42$) to neutral ($\bar{x} = 4.48$).

Using an independent samples t-test, a statistically significant positive difference was found with the following skills:

- Listened to different calls lions make
- Compared myself to a cat
- Talked with others in my group about what I observed or did
- Learned that I am like a wild cat

Table 4. Respondents' use of inquiry skills separated by interaction with kiosks

| Inquiry Skills | Interact Mean | No Interact Mean | Mean Difference | t | df | p |
|---|---------------|------------------|-----------------|-------|-----|--------|
| Listened to different calls lions make | 4.80 | 3.30 | 1.504 | 2.819 | 65 | .006** |
| Answered questions about what I like to do | 4.21 | 3.25 | .959 | 2.159 | 65 | .035* |
| Compared myself to a cat | 3.65 | 2.88 | 0.770 | 2.190 | 134 | .030* |
| Compared what I learned to what others learned about lions | 3.18 | 2.42 | .763 | 1.774 | 61 | .081 |
| Learned that I am like a wild cat | 3.40 | 2.69 | .714 | 2.261 | 129 | .025* |
| Talked with others in my group about what I observed or did | 5.09 | 4.48 | .606 | 2.261 | 201 | .025* |
| Thought of a question about the wild cat's behavior | 4.37 | 4.15 | .219 | .828 | 200 | .409 |

N varies from 64-203, depending on statement
n for Interaction ranges from 39-128
n for No Interaction ranges from 24-75

**statistically significant to .01

*statistically significant to .05

Tables 5 -7 examine the inquiry skills by kiosk. Comparing inquiry skill use among those who interacted with the three kiosks finds that the Which Are you? kiosk was more likely to nurture three of the inquiry skills and the Conservation Poster was more likely to nurture one of the inquiry skills.

Table 5 illustrates that respondents who interacted with the Roar Like a Lion kiosk were more likely to use inquiry skills than those who did not interact with the kiosk, with the exception of the inquiry skill "Thought of a question about the lions behavior." Mean scores for those who interacted ranged from negative ($\bar{x} = 2.89$) to positive ($\bar{x} = 5.05$). Two statements had slightly negative mean scores, one score was neutral ($\bar{x} = 4.13$), one score was slightly positive ($\bar{x} = 4.8$) and one was positive ($\bar{x} = 5.05$). Using a t-test, a statistically significant positive difference was found with one skill, "Listened to different calls lions make" ($p = .006$).

The data suggest the other kiosks are more likely to nurture inquiry skills. Table 8 compares the inquiry skills nurtured by the Roar like a Lion kiosk with the other kiosks; and the mean scores among those who interacted are lower.

Table 5. Roar Like a Lion respondents' use of inquiry skills separated by interaction

| Inquiry Skills | Interact | No Interact | Mean Difference | t | df | p |
|---|----------|-------------|-----------------|-------|----|--------|
| Compared myself to a lion | 3.28 | 2.77 | .506 | 1.003 | 64 | .320 |
| Listened to different calls lions make | 4.80 | 3.30 | 1.504 | 2.819 | 65 | .006** |
| Learned that I am like a lion | 2.89 | 2.68 | .215 | .537 | 61 | .593 |
| Compared what I learned to what others learned about lions | 3.18 | 2.42 | .763 | 1.774 | 61 | .081 |
| Thought of a question about the lions behavior | 4.13 | 4.50 | -.372 | -.795 | 61 | .430 |
| Talked with others in my group about what I observed or did | 5.05 | 4.72 | .330 | .701 | 63 | .486 |

N varies from 62-66, depending on statement
n for Interaction ranges from 42-44
n for No Interaction ranges from 24-26

**statistically significant to .01

Respondents who interacted with the Which Are You? kiosk were more likely to use inquiry skills than those who did not interact with the kiosk. Mean scores for those who interacted ranged from neutral ($\bar{x} = 3.86$) to positive ($\bar{x} = 5.07$). Using a t-test, a statistically significant positive difference was found for two inquiry skills:

- Compared myself to a wild cat ($p = .044$)
- Learned that I am like a wild cat ($p=.016$)

When compared to the other kiosks, the data suggests the Which Are You? kiosk was more likely to nurture inquiry skills. Table 8 compares the mean scores for each of the inquiry skills for those who interacted with the kiosks. Three of the four inquiry skills nurtured by the Which Are You? kiosk were higher when compared to the other kiosks.

Table 6. Which Are You? respondents' use of inquiry skills separated by interaction

| Inquiry Skills | Interact | No Interact | Mean Difference | t | df | p |
|---|----------|-------------|-----------------|-------|----|-------|
| Compared myself to a wild cat | 4.00 | 3.00 | 1.000 | 2.052 | 68 | .044* |
| Learned that I am like a wild cat | 3.86 | 2.69 | 1.165 | 2.475 | 66 | .016* |
| Talked with others in my group about what I observed or did | 5.07 | 4.42 | .647 | 1.345 | 67 | .183 |
| Thought of a question about the wild cat's behavior | 5.00 | 4.31 | .692 | 1.591 | 67 | .116 |

N varies from 67-69, depending on statement
n for Interaction ranges from 38-40
n for No Interaction ranges from 24-27

*statistically significant to .05

Inquiry skills fostered by the Poster kiosk are illustrated in Table 7. As was found with the other two kiosks, respondents who interacted with the Poster kiosk were more likely to use inquiry skills than those who did not interact with the kiosk. Mean scores for those who interacted ranged from neutral ($\bar{x} = 3.98$) to positive ($\bar{x} = 5.13$). Compared to the other kiosks, the Poster kiosk was more likely to encourage visitors to talk with others in their group about what they observed or did. See Table 8.

Table 7. Conservation Poster respondents' use of inquiry skills separated by interaction

| Inquiry Skills | Mean Interact | Mean No Interact | Mean Difference | t | df | p |
|---|---------------|------------------|-----------------|-------|----|------|
| Thought of a question about the cheetah's behavior | 3.98 | 3.63 | .353 | .793 | 68 | .430 |
| Talked with others in my group about what I observed or did | 5.13 | 4.29 | .842 | 1.863 | 67 | .067 |

N varies from 69 - 70 depending on statement
n for Interaction ranges from 45-46
n for No Interaction ranges from 24

Compared with all respondents who interacted with a kiosk, respondents who interacted with the Which Are You? kiosk were more likely to report they compared themselves to a wild cat, learned that they were like a wild cat or thought of a question about the animal's behavior. Those who interacted with the Poster kiosk were more likely to report they talked with others in their group about what they learned and were less likely report they thought of a question about the elephants' behavior.

Table 8. Respondents who interacted use of inquiry skills by kiosk

| Inquiry Skills | Roar Interact Mean | Which Interact Mean | Poster Interact Mean |
|---|--------------------|---------------------|----------------------|
| Listened to different calls lions make | 4.80 | n/a | n/a |
| Answered questions about what I like to do | n/a | n/a | n/a |
| Compared myself to a cat | 3.28 | 4.00 | n/a |
| Compared what I learned to what others learned about lions | 3.18 | n/a | n/a |
| Learned that I am like a wild cat | 2.89 | 3.86 | n/a |
| Talked with others in my group about what I observed or did | 5.05 | 5.07 | 5.13 |
| Thought of a question about the wild cat's behavior | 4.13 | 5.00 | 3.98 |

An essential inquiry skill is the ability to ask questions that lead to investigations. To get a sense of a visitor's ability to do this, interviewees were asked "Based on your viewing in the Predators of the Serengeti area, what questions do you have about the animals?" and "How could someone investigate this?" The majority of interviewees (12 out of 16) could not think of a question. These low numbers may be due to the high number of interviewees visiting with young children (50% or

8 of 16 visitors interviewed were with children 5 years of age or younger); travelling with young children may reduce an adult interviewee's ability to articulate a question or formulate an investigation because other members of their party desire to move to another exhibit. Respondents might not have found the environment conducive to thinking about a question and/or investigation scenario.

Four interviewees formulated a question and these questions were classified as simple or investigable. To determine if a question was simple or investigable, responses to the question and investigation were examined collectively. A question was considered simple if the interviewee suggested a keeper needed to answer the question or the answer could be found on the internet, i.e., What is the average age? or How many offspring do they have? A question was considered investigable if the visitor proposed to investigate their question by observing the animals. The only investigable question asked by an interviewee was "Are tigers lazy?" and the interviewee posited they could investigate that by looking at the tigers.

STEM Content

Visitors who interacted with the iSaveSpecies kiosks reported they felt they were more knowledgeable about how to study lions, understanding of cats, and more able to investigate animal behavior than visitors who did not interact with the kiosks. Interviewed visitors who explored the Roar Like a Lion kiosk discovered the meaning behind the sounds the lion makes and visitors who interacted with the Which Are You? kiosk learned that animals have different personalities.

How We Know

Respondents were asked questions regarding STEM content and asked to rate their agreement on a scale where 1 represents Strongly Disagree and 7 represents Strongly Agree. The data indicate respondents who interacted with an iSaveSpecies kiosk were more likely to agree with statements that they were more knowledgeable about cats than visitors who did not interact with the kiosks. As illustrated by Table 9, mean scores for those who interacted were slightly positive, ranging from $\bar{x} = 4.53$ to 4.90. Analyzing the data with an independent samples t-test, statistically significant differences were found with the following statements:

- I am more knowledgeable about how to study lions
- I understand cats better

Interviewed visitors who explored the Roar Like a Lion kiosk discovered the meaning behind the sounds the lion makes. One visitor shared, "What we thought they meant was different than what they really meant. Thought a moan was more ominous than it was." Another interviewee shared he "didn't realize that lions meowed." Visitors who interacted with the Which Are You? kiosk learned that "animals have different personalities." One interviewee shared, "Tigers must be lazy, I picked lazy answers and was compared to tiger."

Table 9. Respondents' feelings regarding STEM content separated by interaction with kiosks

| | Interaction | No Interaction | Mean Difference | T | df | P |
|---|-------------|----------------|-----------------|-------|-----|---------|
| I feel . . . | | | | | | |
| I might like to study cats (behavior, personality, etc.) | 4.53 | 4.08 | .450 | 1.777 | 212 | .077 |
| I understand cats better | 4.90 | 4.22 | .686 | 3.178 | 208 | .002** |
| I am more knowledgeable about how to study lions. | 4.63 | 3.59 | 1.039 | 4.162 | 140 | .000*** |
| I can investigate lion behavior through careful observation. | 4.80 | 4.66 | .139 | .562 | 139 | .575 |

N ranges from 140 - 213

n for No Interaction ranges from 56-83

n for Interaction ranges from 85-132

***statistically significant to .001

**statistically significant to .01

Conservation Efforts

Oregon Zoo visitors interacting with the iSaveSpecies poster kiosk were more likely to report they understood conservation efforts to protect the predators of the Serengeti than visitors who did not use the iSaveSpecies poster kiosk. Specific conservation actions promoted by the Oregon Zoo appear to be influenced by the poster kiosks, especially purchasing products that use wildlife friendly palm oil.

How We Know

When asked to rate their agreement with conservation-themed statements on a scale where 1 represents Strongly Disagree and 7 represents Strongly Agree; statistically significant differences were found between respondents who interacted with the iSaveSpecies poster kiosk and those who did not, using an independent samples t-test, for the following statements (See Table 10):

- Learned about an animal or conservation issue
- Shared what I learned with others

Table 10. Visitors' knowledge of conservation issues separated by interaction with kiosks

| | Poster | No Poster | Mean Difference | t | df | p |
|--|--------|-----------|-----------------|-------|----|--------|
| Learned about an animal or conservation issue | 4.78 | 3.38 | 1.408 | 3.403 | 68 | .001** |
| Shared what I learned with others | 3.77 | 2.54 | 1.231 | 2.484 | 66 | .016* |

N ranges from 67-69

n for No Interaction = 24

n for Interaction ranges from 44-46

***statistically significant to .001

*statistically significant to .05

Additionally, the majority of visitors who interacted with the poster kiosk had stronger feelings of agreement regarding conservation measures, compared to respondents who did not interact with the poster kiosk. See Table 11. The statement with the highest mean score for both groups (above 5.0) was “I am more aware that cats need to be protected,” indicating visitors understand that the cats need to be protected, either from this or prior zoo visits, or from messages received outside the zoo.

Table 11. Respondents’ feelings regarding conservation measures separated by interaction with the poster kiosk

| I feel . . . | Poster | No Poster | Mean Difference | T | df | p |
|---|--------|-----------|-----------------|-------|-----|------|
| I am more aware that cats need to be protected | 5.24 | 5.17 | .073 | .275 | 213 | .783 |
| I can help cats | 4.91 | 4.40 | .510 | .275 | 213 | .783 |
| I would like to work to help save cheetahs in the wild | 4.39 | 4.25 | .137 | .444 | 209 | .657 |
| I visit this zoo to learn and/or support conservation | 5.07 | 4.64 | .423 | 1.357 | 139 | .177 |

N ranges from 140-214

n for No Poster ranges from 95-169

n for Poster ranges from 45-46

Although the mean ratings for four of the five specific conservation actions are slightly negative to neutral (\bar{x} = 3.16 to 3.93), all of the conservation action statements were rated higher by those who interacted with the poster than those who did not. See Table 12. Additionally, the only statement with a positive mean score (\bar{x} = 5.36) was found to have a statistically significant difference between those who interacted and those who did not, as measured by a t-test:

- Purchase products that use wildlife friendly palm oil.

Table 12. Visitors’ likelihood of completing specific conservation actions

| | Poster | No Poster | Mean Difference | t | df | P |
|---|--------|-----------|-----------------|-------|-----|-------|
| Create a conservation poster and e-mail it to someone. | 3.16 | 2.56 | .593 | 1.810 | 203 | .072 |
| Donate to this zoo for wild cat conservation or ask others to do so. | 3.82 | 3.79 | .028 | .094 | 203 | .925 |
| Donate to organizations that support wild cat conservation or ask others to do so. | 3.93 | 3.75 | .183 | .593 | 203 | .554 |
| Purchase products that use wildlife friendly palm oil. | 5.36 | 4.56 | .799 | 2.488 | 201 | .014* |
| Write a company to ask them to use wildlife friendly palm oil | 3.24 | 3.08 | .168 | .514 | 201 | .608 |

N=220

n for No Poster ranges from 146-149

n for Poster ranges from 39-41

*statistically significant to .05

Oregon Zoo visitors interacting with the iSaveSpecies poster kiosk were more likely to report they understood conservation efforts to protect the predators of the Serengeti than visitors who did not use the iSaveSpecies poster kiosk. A specific conservation action influenced by the poster kiosks was purchasing products that use wildlife friendly palm oil. Interviewees interacting with the poster suggested “donating money to the change exhibit next to iSaveSpecies exhibits,” another stated they could, “tell people more about cats.” Additionally, several interviewees thought it was “cool that you could e-mail/share a message.”

Visitors who complete the poster interactive receive an e-mail prompt to view their poster online. This e-mail includes conservation actions they can take, including forwarding the conservation message poster they created. Data is currently unavailable to determine the percentage of visitors who took further action.

Value Added

Visitors who used the iSaveSpecies kiosks found that the kiosks added value to their visit.

How We Know

Respondents who indicated they interacted with a kiosk were asked to rate their level of agreement with a set of value-added statements, where 1 represents Strongly Disagree and 7 represents Strongly Agree, see Table 13. All statements were found to be above the midpoint, indicating visitors were generally pleased with the kiosks. Respondents appeared to appreciate that the kiosk was an activity they could do with others in their group while getting new information. Two interviewees appreciated that they could share their poster or study results with someone via e-mail.

Table 13. Respondents who interacted with a kiosk feelings regarding value added statements

| | Mean | Std. Deviation |
|--|------|----------------|
| The touchscreen interactive was appealing | 5.71 | 1.296 |
| I had fun with the touchscreen interactive activity. | 5.67 | 1.231 |
| The touchscreen interactive provided an activity I could do with others in my group | 5.57 | 1.340 |
| The touchscreen interactive provided me with new information | 5.56 | 1.270 |
| Stopping at the touchscreen interactive was worth my time | 5.51 | 1.371 |
| The touchscreen interactive activity provided me a different way to engage with the animals | 5.46 | 1.342 |
| I will look at cats differently because of the touchscreen interactive activity | 4.85 | 1.551 |

N ranges from 109-114

Conclusions

The overarching question for this summative evaluation was:

Do the iSaveSpecies kiosks achieve their desired (collective) outcomes?

To answer this question, five sub-questions were asked to allow for analysis of the impact of iSaveSpecies interactive kiosks on the different outcomes.

- Did visitors who engaged with the iSaveSpecies inquiry kiosks report they have used basic science inquiry skills during their zoo visit?

To some degree. Closed-ended questions indicate the kiosks appear to be effective in promoting basic inquiry skills and increasing visitors' knowledge of gorillas. Visitors who interacted with a kiosk were more likely to talk with others in their group about what they observed or did, listen to calls made by lions, and think of questions regarding cat behavior. There were statistically significant positive differences for four inquiry skills: listening to different calls lions make, comparing myself to a cat, talking with others in my group about what I observed or did, and learning that I'm like a wild cat.

An essential inquiry skill is the ability to ask questions that lead to investigations. While responses to a close-ended question indicated respondents asked questions about what they observed, they were less likely to share a question they had about the wild cats in response to an open-ended question during an interview. The low number of responses may be due to lack of time at this exhibit or the pressing need to keep an eye on young children in the party. Finally, respondents might not have found the environment conducive to pondering a question and/or investigation scenario.

- Did visitors who engaged with the iSaveSpecies interactive kiosks have a better understanding of the STEM content related to the iSave Species kiosks?

To some degree, visitors who interacted with the iSaveSpecies kiosks reported they felt they were slightly more knowledgeable about how to study lions, more understanding of cats, and more able to investigate animal behavior than visitors who did not interact with the kiosks. Interviewed visitors who explored the Roar Like a Lion kiosk discovered the meaning behind the sounds the lion makes and visitors who interacted with the Which Are You? kiosk learned that animals have different personalities.

- Did visitors who engaged with the iSaveSpecies conservation poster kiosk understand conservation efforts targeting the predators of the Serengeti?
- Did visitors who engaged with the iSaveSpecies conservation poster kiosks report involvement in specific conservation actions?

To some extent. Oregon Zoo visitors interacting with the iSaveSpecies poster kiosk were more likely to report they understood conservation efforts to protect the predators of the Serengeti than visitors who did not use the iSaveSpecies poster kiosk. However, the mean scores for specific

conservation actions were neutral to slightly negative; with the mean scores for the majority of statements rated below the midpoint; the notable exception being purchasing products that use wildlife friendly palm oil.

Interviewees interacting with the poster suggested “donating money to the change exhibit next to iSaveSpecies exhibits,” another stated they could, “tell people more about cats.” Several interviewees thought it was “cool that you could e-mail/share a message.”

- Did visitors who engaged with the iSaveSpecies interactive kiosks feel it added value to their zoo visit?

Yes, mean scores for those who used the iSaveSpecies kiosks were all well above the midpoint. Respondents appeared to appreciate that the kiosk was an activity they could do with others in their group while getting new information. Two interviewees appreciated that they could share their poster or study results with someone via e-mail.

Appendix A: Data Collection Instruments

Date:
Number:

Oregon Interview

This zoo has recently installed some new interactive touch screen kiosks in this area and we are trying to better understand who uses these and what visitors might gain from these experiences. I noticed you interacting with one and would like to ask you a few questions about the kiosk and your experience. It will take about five minutes and your participation is voluntary and your responses are completely confidential.

Which Exhibit: Poster Roar Which Are You?

I believe someone in your group explored the interactive touchscreen kiosk? Is that correct? Can you tell me who?

What did you[they] do with it?

What, if anything, did you[they] learn from this interactive touchscreen kiosk?

Talk to me about how this/these experiences [with the kiosks] helped you understand wild cats?

Based on your time in the Predators of the Serengeti, what questions do you have about a Wild Cat's behavior?

How could someone investigate this?

This zoo is committed to conserving animals in the wild. Did these experiences introduce you to or remind you of things you might do to help the wild cats?



Oregon Zoo Roar Questionnaire Fall 2015

This zoo has recently installed some new touch screen interactive kiosks in this area and we are trying to better understand who uses these kiosks and what visitors might gain from these experiences. The survey will take you about five minutes to complete. Your participation is voluntary and your responses are completely confidential.

During your visit today, about how much time did you spend in the Predators of the Serengeti?

- Less than 3 minutes
- 3 – 5 minutes
- 5 – 10 minutes
- 10 – 15minutes
- 15 + minutes



During your visit today, do you remember seeing this touch screen interactive kiosk?

- Yes
- No

Did you, or anyone in your group, interact with the touch screen interactive kiosk (push buttons, read information, etc.)?

- Yes
- No

Who in your group interacted with the touch screen interactive kiosk?

Check all that apply.

- Adult
- Youth

Did you or anyone from your group already interact with this touchscreen interactive kiosk on an earlier visit to this zoo?

- Yes
- No

To what degree do you believe you did any of the following during your visit to the Predators of the Serengeti area?

| | Definitely Not | Absolutely Yes | | | | | |
|---|----------------|----------------|---|---|---|---|---|
| Compared myself to a lion | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Listened to different calls lions make | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Learned that I am like a lion | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Compared what I learned to what others learned about lions | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Thought of a question about the lions behavior | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Talked with others in my group about what I observed or did | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

How likely are you to participate in these conservation actions, where 1 represents very unlikely and 7 represents very likely.

| | Very Unlikely | Very Likely | | | | | |
|--|---------------|-------------|---|---|---|---|---|
| Create a conservation poster and e-mail it to someone. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Donate to this zoo for wild cat conservation or ask others to do so. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Donate to organizations that support wild cat conservation or ask others to do so. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Purchase products that use wildlife friendly palm oil. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Write a company to ask them to use wildlife friendly palm oil | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

We would like to know if that interaction changed the way you feel about science and conservation. Please rate the extent to which you agree with the following statements using a scale from 1 (strongly disagree) to 7 (strongly agree).

| I feel . . . | Strongly Disagree | Strongly Agree | | | | | |
|--|-------------------|----------------|---|---|---|---|---|
| I am more knowledgeable about how to study lions. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I can investigate lion behavior through careful observation. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I am more aware that lions need to be protected. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I can help lions. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I might like to study lions (behavior, personality, etc.) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I understand lions better | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I would like to work to help save lions in the wild | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I visit this zoo to learn and/or support conservation. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

If you used any of the touchscreen interactive kiosks today, please answer the next question. **If not, please skip to the “Tell me a little bit about yourself” section.**

We would like to know if the touchscreen interactive kiosks **added value** to your experience with the Predators of the Serengeti area. Please rate the extent to which you agree with the following statements using a scale from 1 (strongly disagree) to 7 (strongly agree).

| | Strongly Disagree | | | Strongly Agree | | | |
|---|-------------------|---|---|----------------|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Stopping at the touchscreen interactive was worth my time | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive was appealing | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive provided an activity I could do with others in my group | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I had fun with the touchscreen interactive activity. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive activity provided me a different way to engage with the animals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive provided me with new information | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I will look at lions differently because of the touchscreen interactive activity | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Please tell me a little about yourself.

Are you a member of this zoo? Yes No

Are you Male Female

About how often do you visit this zoo? (Select the one best answer)

- Today is my first visit
- I haven't visited for many years
- Once every few years
- About once a year
- 2-4 times per year
- 5+ times per year

Who are you visiting the zoo with today? (Please check all that apply)

- Alone
- Date
- Family
- Friends
- Organized Group (i.e., Scouts, Church, School, etc.)

What is your race/ethnicity? (Please check all that apply)

- African American/Black
- American Indian/Native Alaskan
- Asian/Asian American
- Latino(a) or Hispanic
- Native Hawaiian/Pacific Islander
- White, Non-Hispanic

What are the ages of the adults in your group? (Please check all that apply)

- 19-29
- 30-39
- 40-49
- 50-59
- 60+

What are the ages of the children in your group (if any)? (Please check all that apply)

- Infant – less than 2 years old
- 2 – 4 years old
- 5 – 7 years old
- 8 – 12 years old
- 13 – 17 years old



Oregon Zoo Which Are You Questionnaire Fall 2015

This zoo has recently installed some new touch screen interactive kiosks in this area and we are trying to better understand who uses these kiosks and what visitors might gain from these experiences. The survey will take you about five minutes to complete. Your participation is voluntary and your responses are completely confidential.

During your visit today, about how much time did you spend in the Predators of the Serengeti?

- Less than 3 minutes
- 3 – 5 minutes
- 5 – 10 minutes
- 10 – 15minutes
- 15 + minutes



During your visit today, do you remember seeing this touch screen interactive kiosk?

- Yes
- No

Did you, or anyone in your group, interact with the touch screen interactive kiosk (push buttons, read information, etc.)?

- Yes
- No

Who in your group interacted with the touch screen interactive kiosk?

Check all that apply.

- Adult
- Youth

Did you or anyone from your group already interact with this touchscreen interactive kiosk on an earlier visit to this zoo?

- Yes
- No

Next →

We would like to know if the touchscreen interactive kiosks **added value** to your experience with the Predators of the Serengeti area. Please rate the extent to which you agree with the following statements using a scale from 1 (strongly disagree) to 7 (strongly agree).

| | Strongly Disagree | | | | Strongly Agree | | |
|---|-------------------|---|---|---|----------------|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Stopping at the touchscreen interactive was worth my time | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive was appealing | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive provided an activity I could do with others in my group | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I had fun with the touchscreen interactive activity. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive activity provided me a different way to engage with the animals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive provided me with new information | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I will look at lions differently because of the touchscreen interactive activity | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Please tell me a little about yourself.

Are you a member of this zoo? Yes No

Are you Male Female

About how often do you visit this zoo? (Select the one best answer)

- Today is my first visit
- I haven't visited for many years
- Once every few years
- About once a year
- 2-4 times per year
- 5+ times per year

Who are you visiting the zoo with today? (Please check all that apply)

- Alone
- Date
- Family
- Friends
- Organized Group (i.e., Scouts, Church, School, etc.)

What is your race/ethnicity? (Please check all that apply)

- African American/Black
- American Indian/Native Alaskan
- Asian/Asian American
- Latino(a) or Hispanic
- Native Hawaiian/Pacific Islander
- White, Non-Hispanic

What are the ages of the adults in your group? (Please check all that apply)

- 19-29
- 30-39
- 40-49
- 50-59
- 60+

What are the ages of the children in your group (if any)? (Please check all that apply)

- Infant – less than 2 years old
- 2 – 4 years old
- 5 – 7 years old
- 8 – 12 years old
- 13 – 17 years old



Oregon Zoo Poster Questionnaire Fall 2015

This zoo has recently installed some new touch screen interactive kiosks in this area and we are trying to better understand who uses these kiosks and what visitors might gain from these experiences. The survey will take you about five minutes to complete. Your participation is voluntary and your responses are completely confidential.

During your visit today, about how much time did you spend in the Predators of the Serengeti area?

- Less than 3 minutes
- 3 – 5 minutes
- 5 – 10 minutes
- 10 – 15 minutes
- 15 + minutes



During your visit today, do you remember seeing this touch screen interactive kiosk?

- Yes No

Did you, or anyone in your group, interact with the touch screen interactive kiosk (push buttons, read information, etc.)?

- Yes No

Who in your group interacted with the touch screen interactive kiosk?

Check all that apply.

- Adult Youth

Did you or anyone from your group already interact with this touchscreen interactive kiosk on an earlier visit to this zoo?

- Yes No

To what degree do you believe you did any of the following during your visit to the Predators of the Serengeti?


| | Definitely Not | | | | | | Absolutely Yes |
|--|----------------|---|---|---|---|---|----------------|
| Learned about cheetahs and conservation issues | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Shared what I learned about cheetahs or conservation issues with others, either at the zoo or via e-mail | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Thought of a question about the cheetah's behavior | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Talked with others in my group about what I observed or did | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

How likely are you to participate in these conservation actions, where 1 represents very unlikely and 7 represents very likely.

| | Very Unlikely | | | | | | Very Likely |
|--|---------------|---|---|---|---|---|-------------|
| Create a conservation poster and e-mail it to someone. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Donate to this zoo for wild cat conservation or ask others to do so. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Donate to organizations that support wild cat conservation or ask others to do so. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Purchase products that use wildlife friendly palm oil. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Write a company to ask them to use wildlife friendly palm oil | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

We would like to know if that interaction changed the way you feel about science and conservation. Please rate the extent to which you agree with the following statements using a scale from 1 (strongly disagree) to 7 (strongly agree).

| I feel . . . | Strongly Disagree | | | | | | Strongly Agree |
|--|-------------------|---|---|---|---|---|----------------|
| I am more aware that cheetahs need to be protected | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I can help cheetahs | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I might like to study cheetahs (behavior, personality, etc.) | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I understand cheetahs better | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I would like to work to help save cheetahs in the wild | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I visit this zoo to learn and/or support conservation | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

If you used any of the touchscreen interactive kiosks today, please answer the next question. **If not, please skip to the "Tell me a little bit about yourself" section.** 

We would like to know if the touchscreen interactive kiosks **added value** to your experience at the zoo. Please rate the extent to which you agree with the following statements using a scale from 1 (strongly disagree) to 7 (strongly agree).

| | Strongly Disagree | | | Strongly Agree | | | |
|---|-------------------|---|---|----------------|---|---|---|
| Stopping at the touchscreen interactive was worth my time | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive was appealing | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive provided an activity I could do with others in my group | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I had fun with the touchscreen interactive activity | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive activity provided me a different way to engage with the animals | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The touchscreen interactive provided me with new information | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| I will look at cheetahs differently because of the touchscreen interactive activity | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Please tell me a little about yourself.

Are you a member of this zoo? Yes No

Are you Male Female

About how often do you visit this zoo? (Select the one best answer)

- Today is my first visit
- I haven't visited for many years
- Once every few years
- About once a year
- 2-4 times per year
- 5+ times per year

Who are you visiting the zoo with today? (Please check all that apply)

- Alone
- Date
- Family
- Friends
- Organized Group (i.e., Scouts, Church, School, etc.)

What is your race/ethnicity? (Please check all that apply)

- African American/Black
- American Indian/Native Alaskan
- Asian/Asian American
- Latino(a) or Hispanic
- Native Hawaiian/Pacific Islander
- White, Non-Hispanic

What are the ages of the adults in your group? (Please check all that apply)

- 19-29
- 30-39
- 40-49
- 50-59
- 60+

What are the ages of the children in your group (if any)? (Please check all that apply)

- Infant – less than 2 years old
- 2 – 4 years old
- 5 – 7 years old
- 8 – 12 years old
- 13 – 17 years old

Appendix B: Demographic Tables

Table 14. Amount of time spent in the Predators of the Serengeti Exhibit

| | Number | % |
|----------------------------|--------|----|
| Less than 3 minutes | 3 | 1 |
| – 5 minutes | 25 | 12 |
| 5 – 10 minutes | 57 | 28 |
| 10 – 15 minutes | 54 | 27 |
| 15 + minutes | 64 | 32 |

N = 203

Table 15. Zoo membership

| | Number | % |
|------------|--------|----|
| Yes | 87 | 43 |
| No | 115 | 57 |

N = 202

Table 16. Visit frequency

| | Number | % |
|---|--------|----|
| Today is my first visit | 45 | 23 |
| I haven't visited for many years | 12 | 6 |
| Once every few years | 14 | 7 |
| About once a year | 21 | 11 |
| 2-4 times per year | 41 | 21 |
| 5+ times per year | 66 | 33 |

N = 199

Table 17. Others in respondents' group*

| | Number | % |
|----------------|--------|----|
| Family | 150 | 71 |
| Friends | 35 | 17 |
| Date | 32 | 15 |
| Alone | 1 | 0 |
| Group | 4 | 2 |

N = 212

*Respondents were able to select all those that applied

Table 18. Ages of adults in respondents' group*

| | Number | % |
|--------------|--------|----|
| 18-29 | 91 | 43 |
| 30-39 | 92 | 44 |
| 40-49 | 55 | 26 |
| 50-59 | 22 | 10 |
| 60+ | 24 | 11 |

N = 211

*Respondents were able to select all those that applied

Table 19. Ages of children in respondents' group

| | Number | % |
|---------------------------------------|--------|----|
| Infant – less than 2 years old | 44 | 23 |
| 2 – 4 years old | 73 | 39 |
| 5 – 7 years old | 66 | 35 |
| 8 – 12 years old | 44 | 23 |
| 13 – 17 years old | 14 | 7 |

N = 189

*Respondents were able to select all those that applied

Table 20. Respondents' Gender

| | Number | % |
|---------------|--------|----|
| Male | 77 | 38 |
| Female | 125 | 62 |

N=202

Table 21. Respondents' Race/Ethnicity

| | Number | % |
|---|--------|----|
| African American/Black | 4 | 2 |
| American Indian/Native Alaskan | 8 | 4 |
| Asian/Asian American | 14 | 7 |
| Latino(a) or Hispanic | 18 | 9 |
| Native Hawaiian/Pacific Islander | 5 | 2 |
| White, Non-Hispanic | 184 | 87 |

N = 211