

Idaho Falls Zoo's Results on Using an Empathy-based Model to Measure Conservation Behavior in Guests

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Abstract

Empathy best practices offer a promising method for accredited zoos and aquariums to increase awareness and conservation efforts. Unfortunately, there is not a clear method or model on how to incorporate established empathy best practices within zoo exhibits and systems. The Idaho Falls Zoo (IFZ) has been implementing an innovative model for empathy development since 2021. The Inspiring Conservation through Empathy Model (ICE-M), establishes a way for zoos to develop empathy for general zoo visitors. The ICE-M relies on the iterative development of educational tools and messages that incorporate empathy best practices, thereby maximizing the connection of public audiences to conservation action. IFZ has been collecting data from zoo guests to evaluate the effectiveness of ICE-M by measuring changes in empathy development, knowledge, and conservation action.

Methods

IFZ has used the ICE-M along with extensive data analysis of facility and patrons' needs to design and offer a truly immersive empathy-based visit for all guests of the zoo. Important conservation topics have been woven into the infrastructure of the IFZ as well as the on-site education discussions in an effort to help visitors understand how the choices they make can affect local and global habitats. The following are examples of activities undertaken during the ICE-M project in 2024.

IFZ worked with their digital content/app partner, Viision, to revise content to further increase empathy-based outcomes. In previous analysis, digital content was a significant contributor to empathy outcomes. Based on reviews the CAB, staff, and the public content for the Animal Tracks games was shortened to maintain user engagement and additional conservation messages were added. Data and feedback was collected from guests about the revisions.

IFZ continued the following measures and tools during the 2024 season to measure changes in guest experiences related to empathy, knowledge gains, and conservation action: Semantic Differential Scale (SDS) [5], Expressions of Empathy and Related Emotions Towards Animals (i.e., observational tool) [6], IFZ Experience Survey, and 30-Day Follow Up Survey. [BW1]



Results

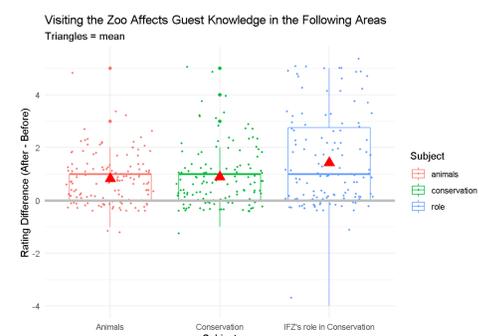
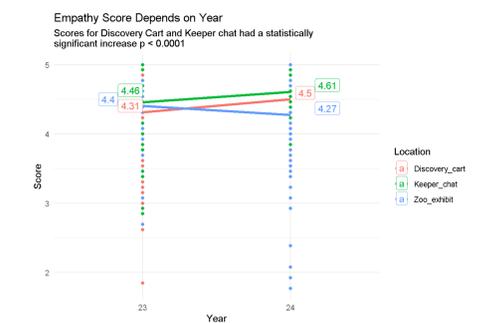
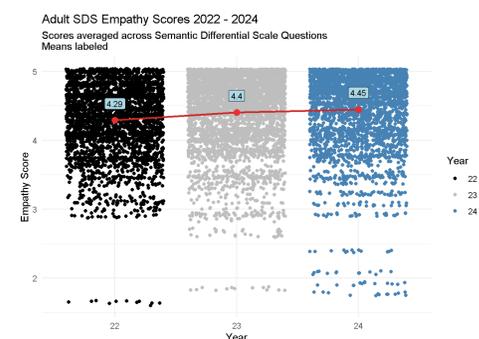
Comparing SDS data collected during the 2024 season with previous years, there is a statistically significant increase in empathy scores amongst teens and adults attending the IFZ.

From 2023 to 2024, the average empathy score increased by 0.56 points (2023: M = 57.24, SD = 7.178; 2024: M = 57.8, SD = 7.451): $t = -3.21, p < 0.01$. From 2022 to 2024, the average empathy score has increased by 19.9 points (2022: M = 37.9, SD = 4.911): $t = 127.6, p < 0.01$. In general, empathy experienced by IFZ guests has continued to increase as IFZ continued to implement new and on-going empathy best practices.

The data also showed evidence that empathy is more strongly influenced by certain experiences in the zoo. A comparison of three types of experiences, (i.e., discovery carts, keeper chats, and zoo exhibits) were examined. Discovery carts and keeper chats displayed statistically significant higher empathy scores than did zoo exhibits: $F = 125.6, p < 0.01$.

Using data from the Experience Survey, it is clear that a visit to the zoo increases knowledge and awareness about the animals, the message of conservation, and the conservation efforts of the IFZ. Specifically, evidence from an ANOVA F-test showed that the largest knowledge gains were about the role of the zoo in conservation ($F = 8.6, p < 0.01$). This was a statistically significant difference from the other two areas of knowledge.

On the 30-Day Follow Up Survey, zoo guests were asked to rate their level of agreement with the following statement on a scale from 0 = strongly disagree to 5 = strongly agree, 'Since my visit to the zoo I feel that my actions can make a difference for animals and their habitats.' The average level of agreement was $M = 4.0$ and $SD = 1.41$. Since their visit to IFZ, 82.6% of guests had shared what they learned about animals and their habitats with others. Further, 33.7% of zoo guests had taken action to help animals and their habitats.



Summary of Experience Survey 2024

Subject	Mean	SD
Animals	0.821	0.916
Conservation	0.888	1.122
Role	1.425	1.736

Conclusion and Next Steps

Overall, the data shows the IFZ has continued to increase empathy towards wildlife in guests. Guests are leaving the zoo with higher understanding of the zoo's role in conservation and are taking conservation action after their visit to the zoo. While, empathy scores overall have increased, discovery cart and keeper chats require more engagement between guest and staff, likely influencing empathy scores in the positive direction. The increases in empathy for 2024 are likely due to updated and improved digital content, increased training for staff and volunteers, and increase of staff/volunteer availability on grounds.

Physical signage has not changed, so the decrease in empathy at zoo exhibits is likely due to a change in methods. In 2023 surveys were collected in person at zoo exhibits creating a small level of guest/staff interaction. In 2024 IFZ used signs with QR codes to collect surveys without any interaction with staff to determine a more accurate baseline empathy level at zoo exhibits.

As IFZ moves forward, data collection and analysis of the ICE-M project will continue through the end of the 2024 season. To maintain the efforts related to empathy development and conservation change, IFZ will increase the tools available to staff and volunteers such as empathy focused animal fact sheets, rewrite programs with empathy best practices in place, offer more educational programs, support opportunities for guest and staff/volunteer engagement, and develop empathy focused signage for zoo exhibits.

Citations

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