

# Learning Group “ Influencing F... Literature Review Discussion

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## SUMMARY KEYWORDS

animal, exotic pet, zoo, conservation, people, pet, ownership, empathy, care, exotic, papers, providing, speaking, pet ownership, understand, ultimately, emerge, experiences, veterinary care, visitors

## SPEAKERS

Emily Bernhardt (Woodland Park Zoo)

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**E** Emily Bernhardt (Woodland Park Zoo) 00:00  
And then let everybody in and we can go ahead and get started.

 00:05  
Sounds good.

**E** Emily Bernhardt (Woodland Park Zoo) 00:06  
All right, let me share my screen here Hi everybody. Hello, hello. Welcome to our learning group today we'll go ahead and get started in like a minute or so just give some folks some time to pop in. But if while you are waiting, if you want to pop your name and where you are joining us from either your zoo whatever you want to put in the chat and just let us know kind of who's in the room that would be great Hi Andrea. Alright, see some more folks popping in? Awesome. We got some folks from San Diego, Minnesota Zoo. Welcome, everybody. All right. Hi, Tara. Nice to see you. Hi, Courtney. All right, um, looks like people entering have started to slow down a little bit. So I'll go ahead and get started. So I'm not taking up too much of the time because you're not here to listen to me talk. You're here to listen to Jeff. Um, so today is our influencing factors exotic pet ownership, literature review discussion. And before we go ahead and get started in case this is anybody's very first event with the ACE for Wildlife network, just wanted to go over quickly kind of who we are as a network, how we define empathy and what we do. So the advancing conservation through empathy for wildlife network is a learning network that creates and shares effective practices to foster empathy for wildlife, animals and people specifically, leading to conservation actions. So we are currently made up of 27 ACA accredited zoos and aquariums, also called partner organizations throughout the United States, and we have approximately 250 network members at those organizations. And we also have over 100 affiliates at 70 Plus organizations all over the world. So these can be folks at museums, nature centers, wildlife sanctuaries, anybody who's interested in empathy

and getting involved network. And speaking of empathy, the network defines empathy as a stimulated emotional state that relies on the ability to perceive, understand and care about the perspectives of another person or animal. It's usually at this point in doing the introduction of our slides that I realized I forgot to introduce myself. So hi, everybody, I'm Emily Bernhardt. I'm the empathy network specialist over at Woodland Park Zoo. And everything that I just read on that slide falls underneath my job description. So if you have any questions about the network, you have to shoot me an email. Now, before we begin, I do want to do our land acknowledgement. So across the region of the ACE for Wildlife network, we recognize that we are on the lands of tribal people. We acknowledge their stewardship of these places continues to this day and that it is our responsibility to join them to restore the relationship with the living world around us. I also wanted to add that empathy for wildlife is not a new idea. While conservation as many of us know, it stems from Eurocentric ideologies, empathetic mindsets for living with wildlife have existed for millennia and cultures worldwide, both as a worldview and or as a method for coexistence. Now, lastly, I just wanted to plug in some upcoming events that we have that may be of interest to everybody in the meeting. And you can find the registration for all of these events at our events, calendar links, I just dropped in the chat there. We have our empathy Summit coming up on February 6 and seventh at a pre session before that on the 30th. We also have a time to brainstorm some ideas for ACA on February 20. And then in March, we returned to our like regular scheduled learning groups with a event with accessibility consultant Elizabeth Ralston on March 7, and a learning group around applying empathy practices to bio fact collections and related programming on the 27th. So you can find the registration for all of those events on that Events Calendar link right there in the chat, and I will just drop it one more time. Right. Now that is everything that I have for you. If you have any questions about anything that I just talked about, you can go ahead and reach out to me at the email and the chat empathy@zoo.org And I'm going to go ahead and pass it over to Jeff.

 04:52

All right, well, thank you for that Emily and you do Since it's four o'clock here on the East Coast, I'm assuming everyone is in the afternoon. So good afternoon to everyone. Wherever you may be post shortly post lunch, hopefully will keep you awake if that's the case. All right, let me see if I can do this Hang on one second. So there okay. Is that is that showing I've lost my other screen and my chats. Emily, is that showing up for everybody? We

 Emily Bernhardt (Woodland Park Zoo) 05:38

see like the presenter view of it. So we see the tiny slide and then all the slides of the bottom. Oh, okay. Ah, okay. Let's do this.

 05:53

And that was? Oh, okay. You would think after all of the zooming, we wouldn't have this down, but stop sharing. I want to

 06:16

how's that? Perfect Okay Back in Business Well well thanks Thanks for coming Everyone

how's that? Perfect. Okay. Back in business. Well, well, thanks. Thanks for coming. Everyone. My name is Jeff Skibbins I'm a professor at East Carolina University, which is in Greenville, North Carolina. I'm still trying to figure that out. But there you have it east East Carolina in North Carolina. Today, what I want to do is briefly go over a literature review that myself and Kelly white singleton did for the for the Woodland Park Zoo regarding looking at data evidence support for or against, ultimately, what is the role of zoo experience in exotic pet ownership? So what's driving that? Why are people into this exotic pet thing in general? And what if any role does the zoo have in perhaps contributing to that, and if so, what might be some of those barriers? So, so we did a comprehensive literature review, which is essentially going looking for all the articles that fit within certain search parameters that we could find, reviewing all those articles, and basically putting it all together into one comprehensive synthesis of the data, even though it's coming from some different, different elements. And so, over the course of about 80 or so articles, we came up with, with 60, that really spoke to the topic and address some of the things that we were looking for. So we're gonna get into all of that. And I believe that that paper should be available too. If you want to contact Emily for that she's she's probably a good point of contact for that. So we're gonna look at what are the drivers of exotic pet ownership, and the role of the zoo experience and to start, and this is a zoo audience, I'm sure everybody's gonna get this one. But does everybody recognize the animal in the left hand picture with the little harness on kissing the face of that woman there? You want to hazard a guess or just put in the chat if you know what it is.



08:30

Yep, Nikki, correct. You get the prize. It's a coati or coatimundi, a South American relative of our raccoon. And then of course, we have the hedgehog next to it. But you know, I put these up there specifically, because they are pretty darn cute. I mean, it's kind of fun to have an interesting different animal, not your usual cat or dog, and be able to have a relationship with that. And I think that's, that's part of what we need to bear in mind as we as we talk about this topic is that these are very cute, attractive animals. They're expressive. And it stands to reason that people who in general, have empathy for wildlife, and animals would be drawn to experiences that would allow them to have these sorts of relationships. So that's what we're gonna we're gonna focus on. Can I move my slides? There we go. Okay, so why does this even matter though? Some of you may be wondering, what does exotic pet ownership have to do with with zoos in general? And what are some things that we're talking about? This is getting to be a growing point of intersection between the public and zoos and conservation. pet ownership in general is on the rise, and the accessibility and availability of exotic and tradition tunnel paths are growing. So this is this is something that that more and more people are getting exposed to. As zoo visitation continues to increase, we have a better and better opportunity to convey messaging that speaks to a zoo and pro conservation stance on this issue. So it's, it's becoming a key factor for public media. And speaking to our stakeholders. There's also very broad conservation impacts to this because of how the animals are collected, how people are caring for them, the role with zoos, and what happens to these animals, when people decide to give them up or realize, oh, maybe getting an alligator wasn't the best idea. And lastly, the key is to also understand that this is actually a very easy topic to interpret, there are going to be a lot of things that we're going to talk about here, that will be very custom made to best practices for interpretation, and allow us to create messaging that should resonate with large sections of the public in a very quick and meaningful way. So what we're going to look at today is some basic history and definitions of exotic pets, the drivers of that ownership, then what what's pushing people to get involved in owning exotic pets, how that will vary across different cultures and some of the conservation ethics involved. Then we'll look at

the role of mainstream or mass media as well as social media and how that's being presented to the public at large. And then the current and future role of zoos in this particular issue. See here. So also, I prefer to have a fairly interactive exchange. So there will be time set aside for questions at the end. But by all means, please, if you've got a question, go ahead and jump in, interrupt me that does not bother me at all, or try and put something in the chat. And I'll respond as quickly as I can. So So where did all this get started? At least to me, it was surprising that when we started doing the basic review of exotic pets in general, what we found is that there's historical evidence going back to 2500 BC, so we're talking far ancient Egyptian cultures. At the same time, Chinese cultures at that time, and then a little bit forward from that we also see ancient Rome, all being involved in beginning to keep fish in particular as a non food source. So we saw evidence for Egyptians and Romans using fish, or keeping them rather but not eating them. So it wasn't sort of a living refrigerator, but rather these became animals that were kept in homes and public areas for display and not for eating. And at the same point in time, again in about 2500 BC till now, we see various reports of Chinese communities breeding ornamental fish. If we jump forward to the US, what we see is really, around the late 1800s, is when we begin to see records and accounts of exotic pets emerging and primarily that was, again ornamental fish. So that's really where it kind of gets started. And then it really starts to take off after World War Two, where we see then post World War Two, the emergence of of reptiles as the next sort of big trend in the exotic pet ownership market, which again sort of stands to reason as we start to see a more global trade culture emerging across many of the main markets. So what what was happening if we look at post World War Two within the US, what we see is a broad diversification starting to happen in this loosely defined exotic pet slash traditional pet market. There really weren't those monikers put on it at that time. But but that's how we can think of it now. And where we saw things really start to grow was livestock became more common as a pet. As well as then a greater diversification efficient reptile species being kept in vertebrates make make a big splash on the market. And then of course, mammals start to come on, we see chinchillas and sugar gliders, Primates all start to emerge as something that people can have as a pet. And what happened in that in that big boom post World War Two, until probably the mid 70s, early 80s Was that this i idea of exotic or traditional pet. And what was a pet, especially with this idea of livestock and invertebrates was was really getting blurry. And it was very difficult for people to kind of get their hands around the idea. But one of the things that comes up again and again, and we're going to see this in a little bit is, is the role of veterinary care and local veterinarians. In general, people with exotic pets do tend to have higher levels of care for those pets, part of what they're doing is providing access to veterinary medicine. And ultimately, in response to that what we saw was, was that the veterinary discipline ultimately sort of became the arbiter of what constitutes exotic or not. And so for the purposes of the paper that we wrote, and then for this conversation, at least, we'll define exotic pet as follows any species other than domestic dogs, cats and equids. Julia, the question is, why did I classify livestock other than equids exotics, that that really wasn't me, that's just reporting how it's been referred to in the literature. But going forward, that is, that's how the American Veterinary Association defines an exotic pet. So anything other than domestic cat or dog, or equid. And it was it was interesting. And the reviews of the papers were going back and forth, Dr. Johnson, fortunately, caught equids in front of domestic cats and dogs. And she's like, well, a zebra could fall into that category too. And that's part of what we're talking about. So it was a good grammatical catch. So here's here's really kind of, as a result of that, this is this is where we've wound up as one of the key factors for understanding some of these conservation implications, and ultimately, what can go on with the zoo. And I kind of want to go over these directly, just so we're all on the same page. So the procurement of animals for the exotic pet trade is a rapidly growing business, no argument, there right or wrong. It's

growing rapidly. But here's one of the key takeaways. And if this was my class, and I was going to your all my students, I would tell you, this is going to be on the test. So this is a key point. And though some avenues of this trade are legal.



17:30

Not all exotic pet activity is illegal. Whether or not it's ethical conservation based that we can debate. But in many, many instances, people can obtain exotic pets through normal legal channels. And that's a key thing to remember, it's not all illegal. However, many times, animals are captured from the wild illegally, to supply legal demand. And it's oftentimes very difficult to get provenance and chain of custody understood for these animals to ensure they were they were collected in a legal fashion or not. Oftentimes, that's where the system breaks down a lot. So even if you're purchasing the animal, legally, it may have been obtained illegally. And this is where we get into that that really difficult, gray area of trying to disentangle these things and understand the broader impacts. So given this, the being the case, and the fact that many people do know the animals are obtained illegally and yet purchased them legally, which we're going to dive into now. Okay, what is driving people to do this knowing that there's a good likelihood they may be breaking the law or actively harming conservation efforts. So initially, what we see are there. So one group of factors that drives this are what we call psychosocial factors. In other words, these are values, attitudes, beliefs, personal motivations, ways of viewing the world, your psychological framework, as well as some of the social contexts in which those play out and occur. And far and away above everything else, the number one thing that's driving this and in all of the papers that we saw, was the desire for human animal bond or this companion relationship. Ultimately, that all falls under emotional fulfillment. And as we'll see in a little bit, because it does come back to bear on on why everyone's here today. It's empathy based, right? So there's this feeling that we have for animals, we want to have that relationship we want to have that bond, and we're starting to look outside of dogs and cats for that. In addition to that, status of owning such an exotic rare animal falls, it becomes a factor as well. And then also one that That's interesting, and I think gives us a lot of meat for interpretation and communicating with our audiences, our attitudes towards animal welfare. And in general, these are positive, and people feel they're doing a good thing by having these animals as pets. So let's take a look at the emotional connections and how this factors in whether you're talking exotic pet or traditional pet, in other words, traditional pet being domestic cat dog or equid, the number one driver for the reason anybody has these pets, if they're asked in a survey is this emotional bond that they can form with the animal. So that's consistent no matter what. So what we're going to try and do is understand a little if there are differences, or variances with exotic pets compared to traditional pets. And one of the things that that starts to emerge when we dig into this a little bit is that exotic pet owners are feeling or reporting rather stronger bonds with animals that are more expressive. And in general, within the exotic world, iguanas kind of come to the top for that as being one of the most expressive species, people typically have as a, quote unquote, exotic pet. Because they feel that this animal can convey emotions, and can respond to interactions with with the person. What's interesting, though, is that on the flip side of this study done of the of the public at large, and China found that the more expressive a species was, the less support there was for keeping that animal as a pet. Because you could perceive or project emotions onto that animal. And it didn't seem fair or right to keep an animal that was so expressive, so emotive as a pet. So again, we're seeing some some very different and opposite perspectives of viewing animals in general and their role as a pet, or how to form a relationship with them. Another big key for pet ownership, again, both both traditional and exotic are some health benefits. So the bond that you form with your animal can is documented as producing certain psychological and

physiological effects within the human body. Just like any positive, nurturing, loving relationship, you can have the positive hormones that are secreted in your body, you have decreased stress, better blood pressure, generally, you might be doing some more exercising or physical activities with the animal. So there are health benefits that have been documented for both as well. And again, it's this idea of companionship and empathy for the animal that is prevalent in both traditional and exotic in general, this is good news, not bad. Because if we're seeing an equivalency between traditional and exotic pet ownership, what's that what that's telling us, or at least my perspective is, there is not a differential advantage to exotic pet ownership, you're not getting more of that love more of that bond, more of those health benefits, they're all the same. So we can, if people are seeking that we can in good faith and conscious push them towards traditional pet ownership for the same benefits. You don't have to have an iguana or a spider monkey in your house to get this higher level of benefits. In fact, they're the same as having a dog you rescued from the welfare center. So this parity across the type of pet ownership could be a powerful mechanism and communication strategy to try to encourage traditional pet ownership over the exotics. The other one of the other psychosocial factors, as we mentioned was was status. So in other words, you gain a certain notoriety or increased social standing because of this animal. And what was interesting, from a couple of different papers is that they were commenting that in a lot of times, particularly within the US and North America, state fairs, provincial affairs, for our Canadian friends, pet shows agribusiness, all of that are key areas where people are where the exotic pet in field is really starting to grow. And one of the ways this is is because owners and breeders can come to these events and really showcase their collection, the breadth of inventory they have, as well as their skill and their care and their acumen around Caring for these animals, which again elevates them within that that particular culture and reference group. So gaining this sort of notoriety as being an individual who can take care of any animal can raise animals breed them, no matter what they are, you don't, it's not just cats and dogs and horses anymore can really lead to a an elevated social standing. So it becomes a mechanism for people who might be looking for something like that, beyond the the bond aspect with the animal. Again, this gets to be a little bit more self driven, as opposed to a more empathetic and conservation driven aspect. But but does emerge as one of the driving factors as well. And then interestingly, again, we you know, trying to give give everyone the benefit of the doubt on things is that attitudes towards welfare is becoming a really big factor in why people are seeking exotic pets.



26:02

Individuals who express a deep bond and relationship with the animal that they have, are also showing tremendous amounts of investment in veterinary care, as well as additional home maintenance costs and things like that for the animals beyond beyond veterinary care, the equipment, the tanks that habitats they're creating at home are large investments. And a lot of times, folks, when they're when they're given open ended answers or interviewed will report this this innate desire to sort of rescue these animals, they feel that there's, you know, we're sort of in an emergency triage situation, which arguably, we are, but they have to, like go out, and the best thing they can do is, is have these animals in their home to take care of them, so they don't go extinct in the wild. So again, on the positive side of the ledger, we have people who are eager to help, who are wanting to do things for conservation, wanting to prevent extinction, and willing to invest tremendous amounts of time and money into doing this, they're just putting their efforts in a little bit of the wrong spot. So in theory, could be relatively straightforward for us to kind of pull them back to where where their efforts would be more effective. And again, what we see are, when when folks were coming at it from this perspective of maintaining the health and the safety of the animal, and really sort of preventing extinction,

what what sort of emerged was a consistent trend for owning, in particular endangered exotic species. Again, not necessarily worried about legality here, but just the fact that they owned an endangered species. And the number one reason was that they felt that they were rescuing the animal and they wanted to form a bond with that animal. Secondly, they were looking for a new or unique experience, which again, that becomes a little bit more personal driven, not animal driven. Also, they were looking to create a collection of species that had desired features. So a lot of times, you'll see this with fish, reptiles, or invertebrates more. So they want to have a tremendous amount of data differences and diversity represented within their own personal collection. And then lastly, this accidental ownership idea, they didn't set out to have it, but they somehow wound up with it, and again, out of responsibility and empathy, they're going to keep the animal. So we're kind of, you know, again, we're kind of a little bit in a few different spots. But the number one point here again, was that people were looking to actually make a conservation effort of helping this animal just arguably in the wrong spot. If we if we move off of these internal psychosocial drivers and look at some cultural context, some other interesting trends started to emerge. One of the ones that that was, was interesting was that areas where there are biodiversity hotspots around the globe, tend to see a larger occurrence of exotic pet ownership. And one of the reasons this is is because having these animals that are that are so to speak in your backyard as a pet, in a lot of times will be seen as the desired luxury, or again in elevation social status. So this tends to be become a little bit more common where those animals are well known or recognized as being local but also highly desired because they are endangered or exotic or this is a biodiversity rich region. And you can readily find a lot of unique animals there. Another aspect of that the other side of that coin was that when there's an area where there are a lot of exotic Animals native. And in the wild, we also see a higher local demand in those areas for those pets, where the pets are typically then captured and exported out, there's a growing demand locally to sort of cash in on that exotic pet industry as well. So a lot of times we're seeing a push locally around those biodiversity hotspots where local communities are trying to seek exotic pets that are that are coming from their own particular region. But again, when asked about that, particularly when they're local, the pet owner cited that the loss of natural habitat was one of the driving factors for why they wanted to take those animals out of the wild, they had a tremendous amount of empathy and, and emotional response to the conservation plight of these animals, and felt the best thing they could do is participate in the light and bring them into their own home. And then there was also as sort of secondary aspects of that, this satisfaction of ownership of having done that, you get sort of a more of an intrinsic reward for that. And but then also some social status as well. So those are, those tend to be secondary, but they're sort of closely related. But sort of following off of this, what we do see, emerging quite often in several different papers, was the notion that a lot of the exotic pet owners are reporting a strong conservation ethic. And their desire to help, again, driven by empathy was a key factor in them wanting to have these exotic pets. So again, we have some misplaced activities. But I think in general, it's a positive thing, because it's far easier to help people understand if they are already empathetic to the to a conservation issue around a particular animal, it's far easier to help them come back on course, than creating that empathy out of nowhere. And oftentimes, and this was, this was an interesting bullet point. The second point here was that many actually reported seeing themselves and the exotic pet community as a whole as doing, quote, unquote, the right thing for animals, because again, they were providing a safe habitat are a safe environment for that animal to come out of a highly endangered habitat where there's tremendous habitat loss occurring. Interestingly, then, also, there was a global survey. And again, I put the reference in here specifically, so if you guys do get the paper, you can see this came from the continua paper, there was a global survey across seven continents, I'm not quite sure how they may have gotten people in Antarctica. But there you go. I'm not just saying what they are saying about exotic pet ownership. And one of the things that they found was that younger, less educated participants

in the survey, thought that exotic pet ownership was a reasonable response to the conservation crisis. Whereas older, more highly educated people disagreed with exotic pet ownership being a legitimate conservation tool. So we do see a little bit of a shift there. Again, taking taking a positive aspect of it. It's just a matter of education. If we can inform people more about what's happening, it's likely as we see if they get a little bit older, and they have they have more education, they they tend to understand the impacts versus the benefits from exotic pet ownership.



34:10

So we've got people around the world thinking they're doing the right thing by having exotic pets. Is it what do we do with this? Right? So this is this is the conservation paradox that I talked about in the paper in that we have people who think they're doing legitimate conservation actions, and yet maybe contributing in so doing to the very, the very pressures on on the animals that they're trying to hand. So what we have is that if we look at the plus column and again, our assets, exotic pet owners are investing tremendous amounts of time and money and energy into what they think is a conservation behavior. Again, this is a good problem to have, if we have people who are actively doing good concert or sorry, actively doing a lot of what they think is conservation, because they want to do conservation, they're just putting their efforts in there in the wrong area, we can write that ship far more easily than trying to convince people to get involved in conservation in the first place. So they think they're doing something beneficial. However, they're often stimulating that demand for the endangered species, perhaps even contributing to illegal activities of harvesting. In addition to this, the other aspect that oftentimes they're unaware of upfront, exotic pet owners that is, is this inability to adequately care for the animal. One of the key secondary factors that emerged a lot of times was was people wanting to provide high levels of veterinary care for their animals, willing to spend all sorts of money and time finding the right products, the right care and investing in the welfare of the animal, again, because of that deep empathic relationship that they have. However, they find out over time, ultimately, they're unable to do that. And that that leads to a great deal of inner conflict and turmoil then, because they're unable to care for the animal and do what they have to do, they may have to give up the animal, ultimately, the animals is usually destroyed. So bringing to bear this information to exotic pet owners is another step that we can point out that ultimately, you may not be able to care for these animals, right, and your access to the appropriate products, diet, habitat enrichments veterinary care is going to be extremely limited compared to what you see in a zoo, which is and or what would happen in the wild. So what about the facts then, outside of the individual, but in terms of looking at mainstream media and social media? Two pretty common and popular examples that come up all the time are Finding Nemo and Rio. And what we see is typically, there is a big surge in the demand for animals that are featured in these movies, you'll there'll be a big uptick in in sales and of course, subsequent demand, which will lead to both legal and illegal harvesting. So that's, that's just something to contend with. Again, if we can be in front of that a little bit. So that people understand these are, these are not good pets, then then there might be some opportunities to kind of speak to those things in a positive manner. Other aspects in the in the mainstream media, again, Tiger King, we look at those things. So as a as an aside, the big cat aspect of exotic pets is a study in and of itself, an abundance of material, it really would be its own separate project that's out there. We touched on it briefly here as it relates to ultimately why people are looking for exotic pets, and what the zoo has to do with it. But I would encourage you, if you're if you're interested, I can point you into some directions for some more papers on on big cat ownership. What was interesting with this with this one, though, was that there's the idea of Tiger King in particular brings up the

notion of unaccredited zoos, and and personal collections and these roadside exhibits that we see cropping up here and there. And what was interesting, though, is that after, after watching several episodes of this, people were asked to provide some comments and thoughts back. And what we saw was that, not me personally, but what the authors of those papers found was that the higher levels of reported empathy individuals had, the higher their negative perceptions were of things like Tiger King and unaccredited, zoos and that sort of thing. On the other hand, viewers who watched those shows who had lower empathy and higher narcissism did not have the strong negative response to personal collections on accredited zoos, roadside exhibits and the like. So again, while perhaps making deep changes in personal values to address perhaps narcissism are outside of the potential of Zoo, education and communication strategies. Certainly speaking to empathy and driving that it is within our bailiwick, and it's something that we can do on a regular basis so now we can jump into social media and all of its ills and problems that it creates for just about every sort of issue we can think of. And we'll look at some ways to try and get on the on the positive side of that. But you know, if you look on on social media, all you have to do is scroll through your your Instagram feed for a little bit, and inevitably, you'll come up with some animal videos that are on there. They're they're arguably some of the most popular things on the internet. And what's what's interesting though, is that when you start looking at these because of course of their interest and that aw cute factor, they get shared, they get liked, they get reposted, retweeted, what what have you and ultimately though, what that's doing is providing implicit support of what's being seen in that video. Oftentimes, these are otters I get on my feed all the time, the the, the Japanese aquariums where they have the otters and the otter keeps taking the shell and stuffing it in its chest and it all skin pockets and then walks with the keeper a 10 feet and pulls them all out. Right and, and how do you not want to watch that? It's cute. It's funny, the Otters having fun? Is it appropriate and right, good question. Is it? Is it encouraging people to think of otters as pets? Most definitely. Do you want an otter as as a pet? Absolutely not. I have a good friend of mine who was attacked by the otters in Shedd Aquarium when she was working there. You know, bad accident ended up with 80 stitches up and down her thighs, not not a good pet, right? So, you know, but these are out there, everybody sees them and thinks, oh, well, maybe that maybe the animals not as bad as we think. And of course, then when you see exotic pet owners posting their videos, and those get reshared and reposted one of them, you know, the the otter video here in this third bullet point was was actually picked up by national TV news channels or broadcast that we're showing the video on the newscast. Because it was it was cute, it was funny, it was charming. So again, all of these things are are out there. It's difficult, we you know, we can't really respond in terms of trying to stop that, or close those things. But what we can do is, is provide accurate information and be proactive with some of the social media messaging that we have as well. And, you know, again, we see here some the the last point on this slide. Again, blending some of these aspects, right where now we have social media, where you want likes, you want people to follow your page and that sort of thing. And in addition to that, this this study by SPE looked at Middle Eastern celebrity postings and in there inevitably found that when they were posting with exotic pets, likes went through the roof following went through the roof, positive strong comments back on all that. So again, that linked to status and social standing, also become part of that probably a little bit more so with with social media. So where does that leave us? The next couple of slides talk about the role of zoos both now and in the future. What I'm talking when I say zoo, what I what I mean and kind of also linking back to Tiger King. I'm only talking about AZA and WAZA accredited institutions. This does not apply to folks that are not accredited. So this this speaks to, obviously everybody here in this room today, but but to all the accredited institutions.

Starting at the top and providing a base for understanding everything. And again, I'm sure this is probably not new news for everybody for everybody here. But as a reminder, there's a tremendous amount of data about the positive effects on people of human animal interactions. Generally all positive, beneficial for physiological, psychological outcomes, all good things, right, and all that all the things that we want it all ultimately driven as a major component of empathy. What's interesting is that a lot of those experiences can be documented at at the same level, in a zoo, regardless of direct human animal contact. So there's no physical interactions. There's no petting, holding that sort of thing. And yet, zoo visitors come away invariably reporting a bond With animals, so we're able to capture that in a zoo setting, even though you're not having fun with your dog on the couch at home the way you would be. So that's where we're starting. We've got we've got a good, we've got a good starting point. So what's what's the reality we're seeing now more and more, many, many of the zoos in AZA, WAZA are trying to strike a strong and noticeable balance between conservation and visitor objectives. There's also more of a shift towards conservation. And when I say shift, I'm talking about like looking at where we were as zoos in the 40s and 50s. You know, it's we've been moving more towards a conservation focus compared to that entertainment focus. Again, this is not new news to anybody. But there's this challenge now, where we still do have to provide some experiences for our visitors that are engaging, that get people through the door, and at the same time, provide for the welfare of the animals, and allow people to form those connections and be informed by those connections. And one of the areas where we see this a lot of times now is to get a lot of zoos are shifting away from African elephants in favor of Indian elephants, because you know, again, less space, smaller animal, relatively speaking, ease, better quality of care, and visitors are becoming more and more aware of our conservation efforts as well as our welfare efforts. And really, that was one of the driving factors for for the ACE network was this, this big surge in visitors understanding welfare, and their concern for the animal is becoming a larger voice of the public and making sure or wanting to make sure zoos are doing everything they can to take care of their animals. And that desire for high quality of care and animal welfare is really something that we can embrace, and and popularize and publicize how good the quality of care is at our institutions, and how strong it is, how high it is, and how you as an individual can probably never, ever do what we do, which is also that a reason why you shouldn't have an exotic pet. So again, we can bring back all of these aspects of our normal zoo experience, and what we're doing and as we're moving forward with broader conservation themes, to help the visitors understand the care of the animals in our charge. And this is also though, one of the challenges because I would venture to say everybody here at their own institution probably has a slightly different definition of animal welfare rubrics that you're using, even for the same animal, right, and all of them are good, but you know, zoo a, may be focusing on this issue a little bit more zoo B is focusing on this, oftentimes just because of the nature of the individuals that you have in your care. But it's hard for us than as an organ as as a as a system as a zoo system to convey that information to the public. Whereas the public will make a snap judgment, they'll see the animal, it's pacing, that's bad, right. And so those sort of snap judgments about welfare and care are where we need to be, you know, out front and helping for everybody to understand that. And then also then linking back to what what zoo does, the challenges you would have as an individual, if this was your pet, why it shouldn't be a pet and those sorts of things. So it does form a nice, natural dovetail into those things. When we look at the zoo experience as a whole, what we want to do is make sure we're talking or we're speaking to the welfare of the animal, its conservation or endangerment status, and ultimately its unsuitability as a pet. Now, certain animals, of course, are not part of the exotic pet trade. That's not to say they couldn't be or wouldn't be. God only knows what that what the public is going to have an interest in next in terms of trying to make these things a pet. So we can be mindful in general of just having

broad messaging, that that really none of these animals are suitable for pets. And again, not not new information, but always being mindful that the habitats that you have the experiences that you're providing, particularly if they're interactive, is not promoting normal misconceptions about the animal but but rather is speaking directly to those misconceptions, so that people have a good understanding of the animal and of course, are disinclined to want to see that animal in their home. What was good was that across all the papers, there was no clear trend for Supporting or discouraging animal experiences. So if you're thinking about having an interactive animal experience, there's not a lot of data out there that says it's a bad thing. There's not a lot of data saying it's super good either. But again, looking at the positive, we're not seeing it being a negative factor for zoo visitors. And also that these two images that are on the screen now represent what are called two shot photos, which is just sort of a buzzword for a photograph that shows animal and animals and people together. What was interesting is that visitors reported that when they saw images like this, it actually discouraged them, the individual visitor from having the animal as a pet. And part of the thing that discouraged them was the presence of uniformed staff interacting with the animal. They didn't get into why I think that's really interesting, I would love to do a follow up study on that. So if anybody's interested, let me know. And we can try and figure this one out.



51:10

Oops. So kinda kind of bring us bring us home then on future roles. There's a tremendous amount of information from this particular lit review that highlights the psychosocial drivers, the internal reasons people are doing this as well as social factors. And the media influences so we can identify where the the pushes are for exotic pet ownership and respond accordingly. The other big factor is is care and access to appropriate care and long term maintenance of the animal in the house, which is ultimately going to fail and be a big difficulty. And so knowing where the sources are, knowing what the major problem is for homeownership, gives us a nice tidy package to start to develop some clear messaging strategies and themes around this. Again, we can use social media as a mechanism on our site to be proactive influencers of this. Speaking about those videos, speaking about pet ownership, what is responsible pet ownership owners, irresponsible pet ownership, both exotic or traditional, right, because people can err on being irresponsible traditional pet owners as well. And we'd like to discourage that. So using social media, as a constant free source of an opportunity to engage with the public, is something that again, if this is an issue, your zoo want us to tackle this, this is a key as a key venue for you to use on a regular basis. And again, at the beginning, I said it's easy to interpret. If we look at what best practices for our interpretation are understanding your audience, knowing where they're coming from understanding what they're seeking to learn, providing an experience that relates to them on an emotional and cognitive level, we have all the material now, to understand why people are interested in exotic pet ownership, we can speak to that we can include that we can put that into our normal messaging to just have sort of a constant stream of information out there that is routinely speaking to the problems and conservation issues surrounding exotic pet ownership, and how the zoo is actually making strides on a conservation front with habitat protection, species protection in the wild that you as an individual can help us with as opposed to helping by taking the animal out of the wild. So we covered so just covered this one. Oops, sorry about that. Using using media and social media, again to speak to those misconceptions, and shift the focus to conservation behaviors they can do in partnership with you as opposed to on their own, which may be misdirected. And I want to want to come down here to the bottom to wrap up. Data support that current zoo experiences, both on site and online are not a major contributor to the desire to own an exotic pet. So that's a key theme. And as a good interpreter. I'm going to repeat that so you guys can come away

with that. Data support that current zoo experiences both on site and online are not a major contributor to the desire to own an exotic pet. In fact, zoos are shown to positively influence people against exotic pet ownership. We do not see any increase in desire as a result of it. And generally, as a result of zoo education and interpretation, visitors are actively dissuaded from owning exotic pets because they learn of the conservation impacts. So all in all, we're on the right track with what we're doing. It's not a major source of driving people towards exotic pet ownership. And as a result, data from from this study, hopefully will give you some aspects to better understand how to target that messaging. If again, that is a key issue for your agency. So with see I can send this one how's that? And happy to answer any questions that you may have.

**E** Emily Bernhardt (Woodland Park Zoo) 56:06

Looks like Julia has raised her hand. And then we have one from Diana in the chat. Julia, do you want to go first?

**i** 56:16

Um, I'm curious. The papers that you're saying. Right, that there's some papers out there that says you you know, zoos aren't encouraging this exotic pet ownership. But in those papers, are we asking, folks, I'm just curious, if they what what they define as exotic pet ownership? So for example, the someone consider owning a hedgehog as an exotic pet, because I am curious if those questions were asked, and if we know, like smaller animals, like reptiles and things like that, if people are actually categorizing them as exotic, so when they are coming to the zoo? Like, I'm just curious about how those papers were actually done.

**i** 57:00

Right, or what's good, good question. And fair enough? The short answer is, it's unclear in a lot of them, or specifically was was not not clearly defined for a lot of the surveys. So oftentimes, in those instances, they're they're kind of a superficial pass through to kind of understand where some of the where the issues and topics need to be more deeply explored. And so it's it's hard to necessarily say with certainty that everybody that responded had a clear understanding of exotic pet or what was intended to be an exotic pet by the by the researcher. So I would say it's one of those things that we have a general trend that's emerged, but it may ultimately need refinement or deeper understanding by providing more clarity to the to the respondents around, we're talking about anything other than a normal pet, dog, cat or horse, which likely is not part of part of that discussion. Thank you.

**i** 58:25

Oh, yes. Hello, sorry. Get my contact info back up. See share screen? How's that?

**E** Emily Bernhardt (Woodland Park Zoo) 58:42

And I can read the question in the chat. It's from Diana. She's worried on the idea, or she's worried in

And I can read the question in the chat. It's from Diana, I'm versed on the idea, or I'm versed in the idea of exotic pet ownership and its native aspects. But I would still love to have the opportunity to hold or interact with certain animals. For example, in China, you can pay money for pandas, or visiting elephant orphanages in Africa. What do you think of that, and then there was a follow up. I don't want to own but I like the opportunity to hold a dwarf mongoose, for example. Is that a negative experience for the animals? And there's a little bit of discourse going on in the chat. But you would like to provide your take after the literature review as well.



59:18

Yes, so I agree. With Diana, it's so despite like, you know, being a PhD and active researcher, Professor, I still kind of a lot of times do the bad things right? Like I if I'm at a zoo, especially one overseas that have gotten an opportunity to touch an animal as long as I feel that it's not really overly exploiting the animal. There's been a couple times where I've actively not done that and I'm like, This is just This is bad. This is not good. But if it's a hey, we've got the animal out and you know, there's a there's a structure Session around it. And it's the animal has agency to come and go as it pleases. I am the first one in line to do that I want to touch everything I want to pet everything. I would not want an animal like that in my house. And I don't think that does necessarily speak to that. But how amazing is that when you can, you know, feed the giraffes. You know, that's a big one, especially here at the North Carolina Zoo, that exhibit or that that opportunity is always sold out all day long. You know, everybody's up there, giving them lettuce leaves and things like that. There were a couple of places I went in Australia, where they had the opportunity for you to be photographed with a koala. And it was very disturbing. They had a lot. So they had a large concrete, open air or open area where they had concrete fake trees, which were basically just poles sort of bark carved on them. And some branches. And the koalas were were sitting, there had to have been 50 of them on these on these quote unquote, trees, waiting, and then a keeper would go so there's a line of people, you pay your 50 bucks Australian to get your picture taken. So you walk up, the keeper would walk over to the tree, pop the koala off like a ripe piece of fruit, stick it in the arms of the of the visitor, click, pick it off, plop it back on the tree, go to the next one and just rotate it around. That to me seemed inappropriate. And yet the line for that was out the door. And every one of those people was paying 50 bucks a picture. So it wasn't even like a family picture. Like mom had to go dad had to go kid had to go. You know, so those those things don't seem to be the best. But I but I think those experiences I'm with you. I mean, like how cool is that to be able to do that? And, and you know, and again, I was I was bad on safari, right? Because I like I'm the worst kind of person because you know, the lions sitting on laying over the hood of the car. And here's me trying to reach over and touch the lion which of course, you know, I got yelled at quite a bit. I didn't everything was fine. But how do you not right? It's it's one of those things you want to do so. Yeah. But that also gives a good opportunity to say, Hey, listen, look, this is an animal that can cause serious harm to you. This is an animal that requires tremendous amounts of care. This is an animal we're giving agency to to come away from you if it doesn't want to be pet or touched or part of this exhibit right now. And you can't really do this at home. But we're giving you an opportunity to form a relationship with a wild animal in general, that you can then with that empathy and that new connection, we can channel your positive intent into something that would be beneficial.



Emily Bernhardt (Woodland Park Zoo) 1:02:56

Awesome, thank you. I do want to recognize that we are at time. Do you have time for one

more question, jett?



1:03:04

Oh, yeah, I'm fine. Yeah, I can. I can. Unfortunately, I'm home so I can stay as long as I want.



Emily Bernhardt (Woodland Park Zoo) 1:03:09

I just seen it. I think Julia raised her hand again.



1:03:15

Awesome. So I'm wondering if they're, if you've done any research in the literature, about the implications, right, of zoos doing things like giraffe feedings? So like, for example, right? Do we see a a negative or positive connection between a zoo offering a draft feeding, say in North America? And then people who are traveling thinking, Yeah, I'm gonna go do this at some, you know, random place in a country? So like, for example, what's the ethical? Do you see anything literature that discusses the ethical dilemma of a North American zoo offering something like a sloth feeding, and then people offering that down in South America as a way to make a living?



1:04:06

Right. That's it. That's a great question. And I, to my my brief readings on that, it's interesting, that's all I hear about or that's all I've really seen to a large extent is the ethical discussion of that with no data or no actual investigation to understand what the implications are right. So, so, we can we can have these philosophical debates over over the values and efficacy of things like that and the ethical aspects of it and the welfare issues of it, which are good and need to happen. But then we need to kind of put the rubber to the road and see like okay, what what happens then when that when that does occur, right. And when What are the implications for that? And so that's where I haven't seen them progress to those to the to the point of research. I do know for example out but in the Galapagos are a great example of that. You know, so when you go down there, there's a tremendous amount of effort and resources put towards proper wildlife tourism and interactions around the animals, and what's allowed and what isn't, and, and what's appropriate and what isn't, and why. And that why aspect is really brought to bear through their interpretive programming and their their arrangers on site. And it's actually gotten to the point where it's really encouraging because I would be standing back watching people in various settings down there, and you would see someone start to do something inappropriate. And other visitors would self police that individual, because they've been through the interpretive programs. And they've, they've gone through the literature, and they have a little bit more education around it, and would inform them of that. And more often than not, the people are like, Oh, I had no idea like we skipped the visitor center, or we didn't go on the talk. And they're like, thanks for letting us know. So I think so there's some, there's some positive aspects to that. You know, and so I think, though, it's incumbent probably more so on working at more of a systems level to work with individuals in those countries where that can occur. So to help encourage them to do ethical experiences, as opposed to saying, just don't do

it, or, you know, we just, we shouldn't do any of this. Rather, if we can form some partnerships, and create some more networks, where information can flow back and forth, and support and help can be offered that might be a better approach.



1:06:58

Awesome, thank you so much.



Emily Bernhardt (Woodland Park Zoo) 1:07:06

Awesome, well, thank you so much, Jeff, for both writing the literature review and giving us his presentation, summarizing it as well. I think this was super informative. And I've also dropped the link to the review in the chat for folks, if you would like to review it if you haven't already. But yeah, I do want to recognize that we are at time a little bit over. But thank you all so much for attending and Jeff for being here and providing your knowledge and expertise. I think it was great.



1:07:35

It just as a parting note, if if you do look at the paper, and you would like some of the references in there and you don't have access to them, just shoot me an email, I can send you the PDF.



Emily Bernhardt (Woodland Park Zoo) 1:07:46

Awesome. Thank you. Bye, everybody. Have a wonderful weekend.



1:07:51

Thank you. Bye bye