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## "Barriers between Client Education/Communication and Exotic Animal Husbandry"

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## **I. Abstract**

The purpose of this study is to quantify the knowledge gap between clientele and veterinary staff about exotic animal husbandry corresponding to housing and diet specifically. With the rise of social media platforms and influencers, the spread of misinformation and stigma revolving around the mistrust of veterinary staff has created strife between clients and veterinary professionals. Misinformation influences pet owners to implement aspects of care into their pets lives that may be unnecessary or harmful. Consequently, as veterinary professionals attempt to educate their clients they are not always trusting of the information being provided to them. This can lead to a lack of quality care provided by both veterinary professionals and pet owners, resulting in a poor quality of life for the animal. The research conducted was designed to investigate which particular issues clients are most uneducated about, or struggle the most with implementing into their pet's care.

Overall, the study found that the majority of exotic animal owners were frustrated because veterinary staff had never discussed, or very minimally discussed appropriate diet and housing for their respective animal. Pet owners felt that they lacked pertinent knowledge to provide a good quality of life for their pet. Many owners suggested that they would like to see "welfare" appointments implemented in clinics where a veterinarian or veterinary technician, who is familiar with the husbandry needs of the animal, would discuss with the owner in-depth care. This could include topics such as diet, housing, enrichment, signs of poor health, and more. Many other respondents that participated in the study desired to have easier access to information on exotic animal husbandry such as handouts, pamphlets, and infographics to be provided in a visit

summary after an appointment at the veterinary clinic. Hopefully, after discussing the results of this study, the field of veterinary medicine will be able to implement new tactics that lead to better communication between owners of exotic animals and veterinary professionals.

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### **III. Introduction**

A topic of increasing importance in the veterinary world revolves around the discussion of clientele education and knowledge. Currently, the industry lacks adequate communication between clients and veterinary staff, creating a barrier between the two groups, especially when it pertains to exotic animal husbandry. What veterinary staff know versus the knowledge their clients possess about the topic is vastly different. Part of the veterinary staff's job is to act as client educators about topics such as appropriate or proper diet(s), environment(s), enrichment activities, parasite prevention, etc. The basis of these revolves around an animal's husbandry requirements. It is also their job to ensure that clients have all of the necessary knowledge in order to meet the needs of their pets.

As the prevalence of interest and ownership of exotic pets increases due to social media influence, veterinary staff have witnessed an influx of people acquiring these pets with no idea how to properly care for them. Social media platforms such as TikTok, Instagram, Facebook and more have the capability to reach a much larger audience than a single veterinary practice can reach. Much like other issues, these platforms allow for the spread of misinformation by untrained professionals such as influencers, and in turn, this creates distrust of veterinary staff and makes their job of educating clients that much more difficult.

Exotic pets such as reptiles, gerbils, rodents, birds, and more have very particular dietary and environmental needs that differ from your typical house pets, such as dogs and cats. From personal experience, there are multitudes of clients that bring their sickly pets into the clinic due to a lack of appropriate housing or diet. Therefore, this study's research is geared towards establishing how and why there is a barrier between veterinary

staff and clients when it comes to education. The survey used will gauge the knowledge of those who are currently in the veterinary world. This specific pool will contain students, technicians, technologists, assistants, and veterinarians to put into perspective the large gap of knowledge and prevent skewed results of the survey.

Overall, the goal and purpose of this research is to establish the large knowledge gap, why the gap is large, and discuss ways that the veterinary field can help lessen the gap to better educate their clients on the husbandry needs of their exotic pets. It has been established previously by the RSPCA that there is a gap between the knowledge possessed by clients and veterinary staff about exotic animal husbandry. After conducting previous research the RSPCA found that that “*whereas most people, and in particular veterinarians, are very familiar with the needs and problems of domesticated animals, exotic species are not only far less familiar but also their needs and problems are typically far more specialized*”. Exotic animals are, accordingly, surrendered to sanctuaries or rehomed due to “*former purchasers of exotic animals who realize that caring for these animals is considerably more demanding than had been conveyed*” (RSPCA, 2017; Whitehead & Forbes, 2013.). So, the results of this study will allow for healthier pets, more satisfied clients, and happier veterinary staff as the outreach begins to reestablish trust that has been lost due to misinformation spread through popular social media platforms.

#### IV. Research Study Background

This study was founded on the fact that there is a gap between the knowledge our clients possess and the knowledge veterinary professionals possess about exotic animal husbandry. However, in order for the study to succeed and yield accurate information there were certain criteria that needed to be met. First, it needed two distinct pools of respondents: those formally educated in veterinary medicine and those who are uneducated. This helps prevent skewed results and aids in quantification of the knowledge of both groups. Secondly, since husbandry is such a broad topic, the study focused on the two areas where veterinary medicine sees the most issues in clinical practice: housing (enclosure type and setting) and diet. Thirdly, the study results needed to accurately gauge the number of clients that discuss these husbandry topics with their veterinary staff and how confident they are with the information or instructions the owners are provided when they leave the clinic. This informs the investigators of how effectively veterinary staff are communicating with their clients and how well those clients are able to implement appropriate husbandry practices with their pet(s) at home.

The following are case studies found in literature and commonly seen in clinical practice which supports the basic tenets of this study.

##### A. Case Studies:

##### a. Gastrointestinal Stasis in Guinea Pigs and Rabbits

Guinea pigs and rabbits have very similar dietary requirements despite being from different families, *Caviidae* and *Leporidae*, respectively. Both species produce cecotropes, also known as fecal pellets that contain extra



nutrients necessary for the animal after digestion occurs (Papajeski, 2022). These animals consume these cecotropes to gain the nutrients; however, in order to maintain healthy metabolic processes guinea pigs and rabbits need to be fed high fiber diets (Michelle). But why fiber? Well, as stated by the National Library of Medicine “*the main driving force for normal intestinal motility is the presence of large quantities of indigestible fiber*” (Oglesbee, 2020).

When dietary inadequacies are present, gastrointestinal disease becomes common; the majority of cases seen in clinical practice is GI stasis - a term used to describe decreased or absent gut motility. So, as mentioned previously, guinea pigs and rabbits have much higher metabolic rates and need to eat constantly which also means that their bodies are digesting food continuously. When these processes stop, bodily homeostasis is interrupted and the animals develop GI stasis as a result. This can be life threatening as the animal will stop eating and drinking and be unable to pass fecal material. Oftentimes, these animals already have poor constitutions and the stress from this disease will cause cardiac arrest or even death .

Therefore, educating clients or encouraging them to conduct research on the dietary requirements of their animals prior to becoming owners is incredibly important. Most people assume that rabbits and guinea pigs only need to eat hay, as portrayed by many television shows or social media outlets; however, they need particular types of hay, such as alfalfa

or timothy hay. In addition to hay, their diets require pellet mixtures, leafy greens such as kale and cauliflower, and a variety of other vegetables. The following guide is a great depiction of the daily dietary requirements of a pet rabbit and examples of food that can be fed throughout the week to supplement the rabbit's diet and allow for variety. These are the kinds of illustrations that many of the respondents requested in the survey, and should be readily available as a client resource in veterinary clinics.



(Tamsin, 2018)

#### b. Dysecdysis in Reptiles

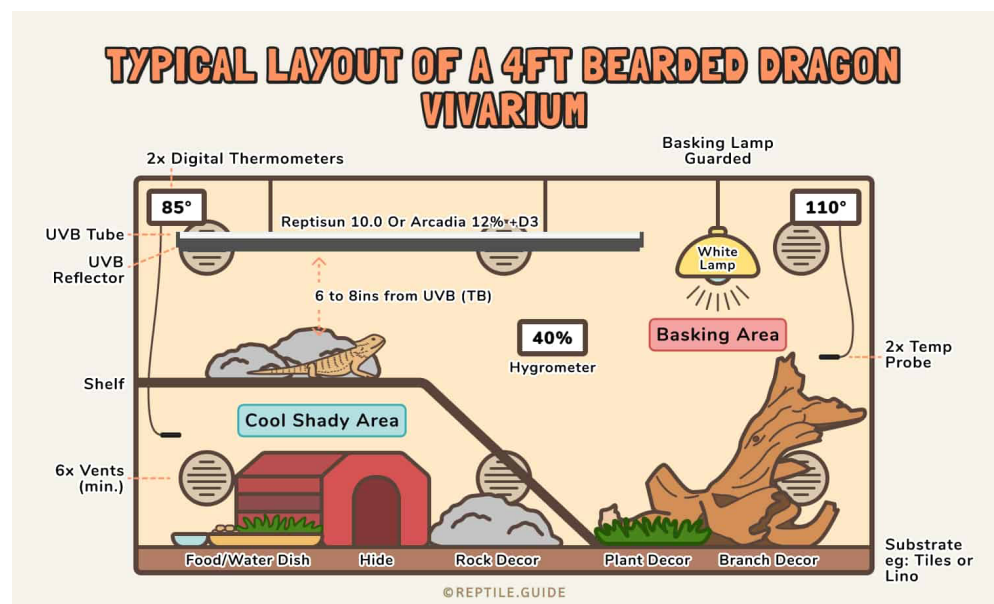
Dysecdysis is the scientific term for an abnormal shedding of the outer layer of dead skin in reptiles. It is a common issue most often seen with snakes and bearded dragons, but can be a problem for any reptile.

Typically, issues with shedding indicate suboptimal husbandry; however, it

can also be a sign of disease (i.e: parasitic infections, septicemia, abscesses, vitamin A deficiency, etc).

Dysecdysis most commonly occurs due to inappropriate humidity or temperature settings in the enclosure and is caused by using an incorrect light or heat source or by not soaking the animal to help loosen the second layer of dead skin when needed (Kruzer). While there are general species standards every animal is different and clients need education on signs or symptoms to to be aware of, what those may indicate, and how to correct the issue before it becomes too severe and may require medical intervention.

Here is another illustration that would be a valuable resource to clients who have or are considering adopting a reptile. This setup is specifically for a bearded dragon; however, the majority of the primary elements seen here are going to be similar, if not the same, for other reptilian species.



(Stacey, 2022)

Understanding the reasons behind why bearded dragons and other reptiles require particular enclosure “settings” is vital. Since reptiles are cold-blooded they need the ability to access warmer areas and cooler areas to maintain their body temperature. Hence, why is it recommended that enclosures should contain at least two thermometers, one for each “area” and a hygrometer to monitor the humidity levels (Stacey, 2022). UVB or heat lights are ideal for basking, which allows the reptile to maintain its body temperature (Herndon, 2021). Facilitating an enclosure that utilizes appropriate equipment to mimic the temperature and humidity levels required by the reptile lessens the risk for dysecdysis.

## **V. Methods, Materials, Apparatus**

After receiving approval through the Institutional Review Board (IRB) of Murray State University, the research survey (Appendix B) was distributed to the public through partnership with local and non-local veterinary clinics that see and treat exotic animal patients, the MSU Pre-Vet/Vet Tech Program, and was shared through various social media platforms such as Facebook and Instagram.

Since the goal of this study was to quantify the knowledge gap about exotic animal husbandry and diet between clients and their veterinary staff, these two groups had to be separated within the data in order for it to be successful. So, respondents were asked whether or not they were an alumni of the MSU Pre-Vet/Vet Tech Program or if they had been formally educated in the field of veterinary medicine. Being an alumni or member of the program was not a part of the Consent Form (Appendix A) since it was not a requirement to be a participant. However, conducting the study in this manner allowed

for results to be collected on the sole knowledge of clients and veterinary staff as separate entities, then when the results of both groups were combined they could be compared and contrasted to visualize trends in the data.

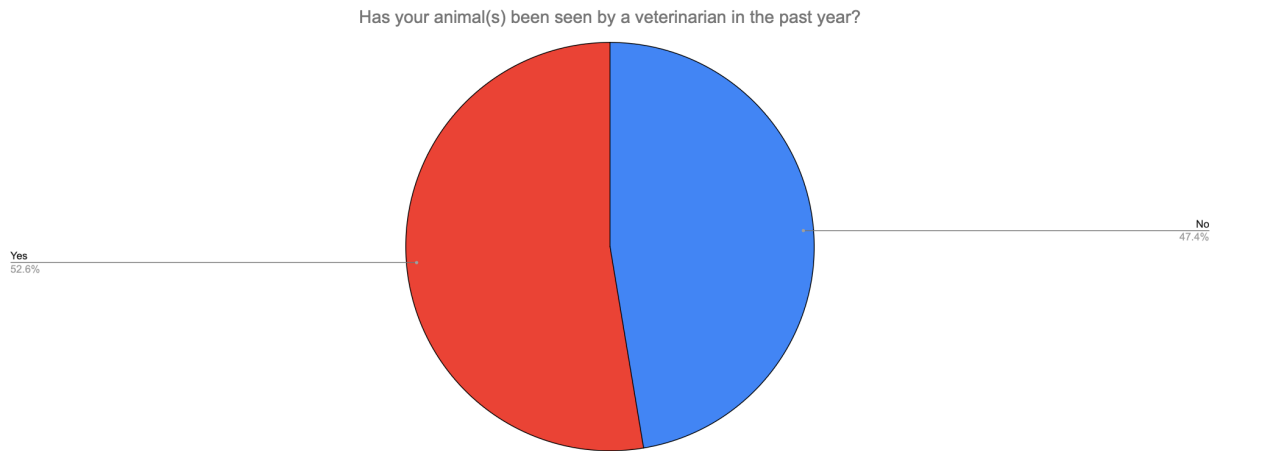
Survey results were collected for approximately one month and the study ended with a total of 39 respondents, 68.4% of which were formally educated in veterinary medicine and placed in the veterinary professional pool. The other 31.6% reported that they were not educated in the field and were placed, accordingly, in the client pool. Ideally, these numbers would have been more evenly distributed; however, the study still shed light onto how large the knowledge gap between clients and veterinary staff is.

After that one month timeframe, the survey was closed and analysis of the results began once all of the data was collected and compiled. Those results will be listed and discussed in the next section.

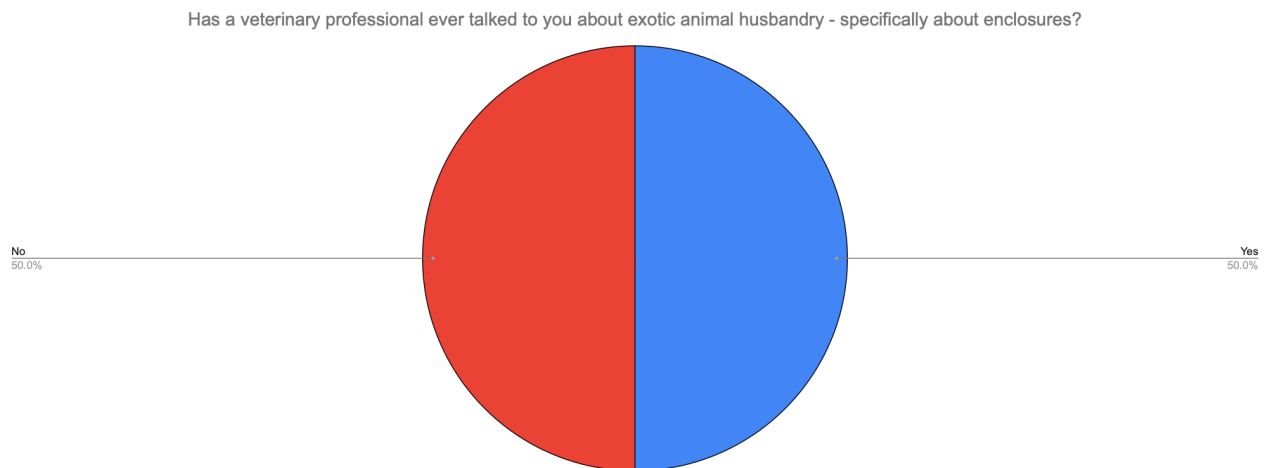
## **VI. Results**

Listed below is the data collected from the research study, this section begins by briefly discussing the results from each question that was asked in the survey. In order to more readily see similarities and differences between the client and veterinary professional pools, they have been separated. First, an overall percentage of respondents from both pools that have had their animal(s) seen by a veterinarian within the past 12 months will be established, then the results from the client pool will be discussed. Next, the results from the veterinary pool will be discussed and lastly, the overall results from the study will be discussed, putting into perspective trends from the study and quantifying the knowledge gap between clients and veterinary professionals. Each figure corresponds to the description located below it.

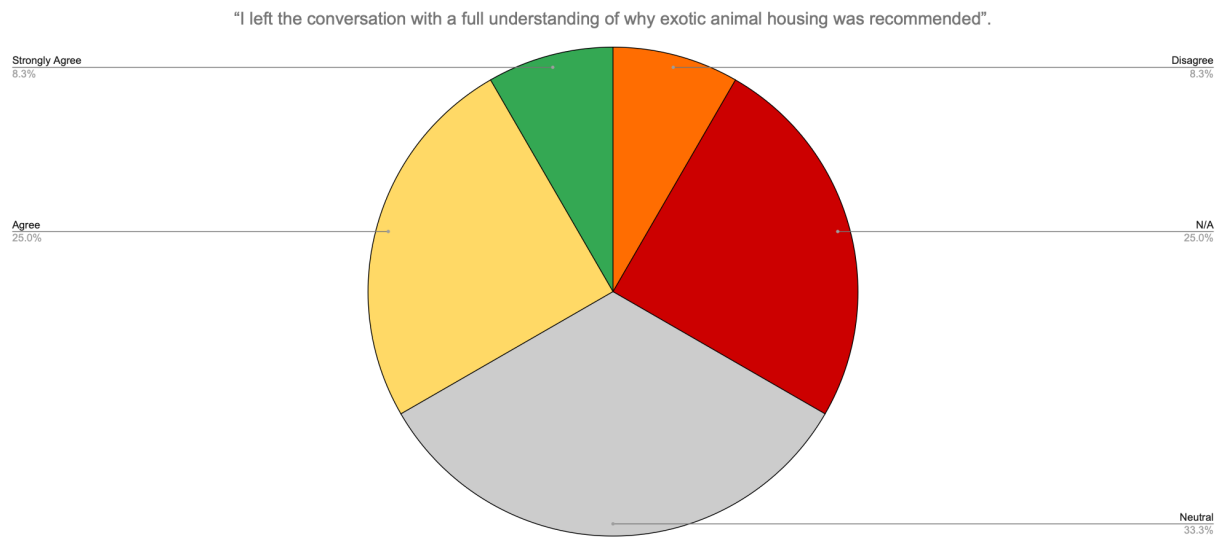
For reference, between the 39 respondents they owned 42 reptiles (primarily snakes, bearded dragons, and leopard geckos), 29 small mammals (primarily rabbits, guinea pigs, and chinchillas), 5 birds, 3 tarantulas, 3 amphibians (all tree frog species) and 2 non-human primates (Capuchin monkeys).



**Figure 1.** Answers to the question “*has your animal(s) been seen by a veterinarian in the past year?*” by respondents from both pools (client and veterinary professional) in the study.



**Figure 2.** Answers to the question “*has a veterinary professional ever talked to you about exotic animal husbandry - specifically about enclosures?*” from respondents in the client pool.



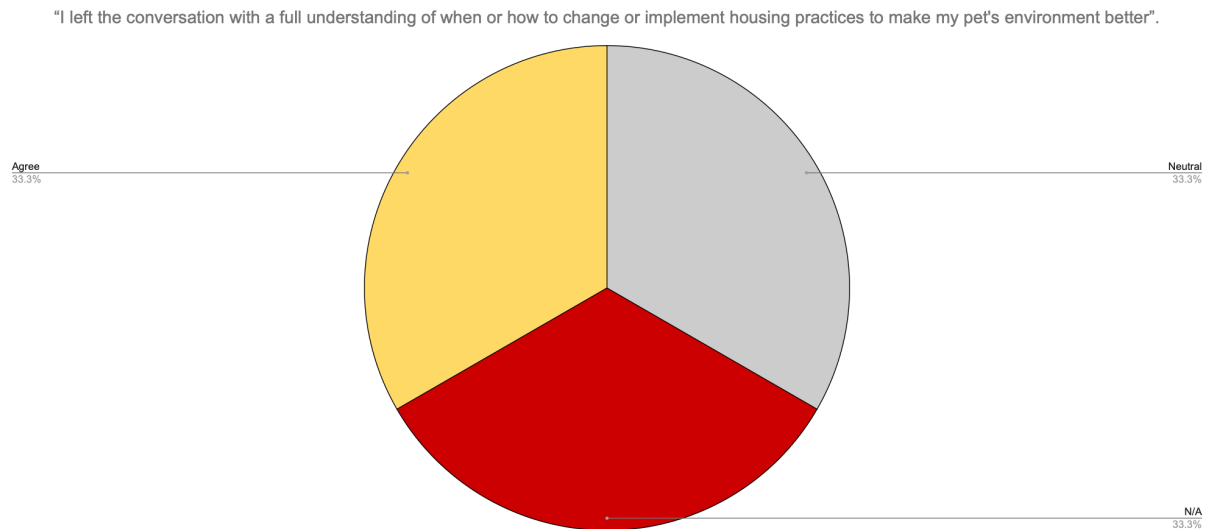
**Figure 3.** Answers to the statement *"I left the conversation with a full understanding of why exotic animal housing was recommended"* from the respondents in the client pool.

Respondents from both the veterinary professional and client pool were asked if their animal(s) had been seen by a veterinarian within the last 12 months - one year. To which, 52.6% responded that "yes", their animals had been seen by a veterinarian and the other 47.4% responded "no" (Figure 1). When asked further questions about this, the majority of the respondents who answered "no" to the question said it was because they do not live in a geographical location that has a veterinary clinic that handles exotic patients or because the owner did not trust their veterinarian to provide accurate information or medical expertise about their animal(s).

From the client pool, respondents not formally educated in the field of veterinary medicine, over 50% reported that their veterinary staff had never spoken to them about exotic animal husbandry (Figure 2). Out of the other 50% of surveyors who had spoken to a veterinary professional about the husbandry needs of their pets they were asked to select how likely they were to agree or disagree with the following statement: *"I left the*

*conversation with a full understanding of why exotic animal housing was recommended”.*

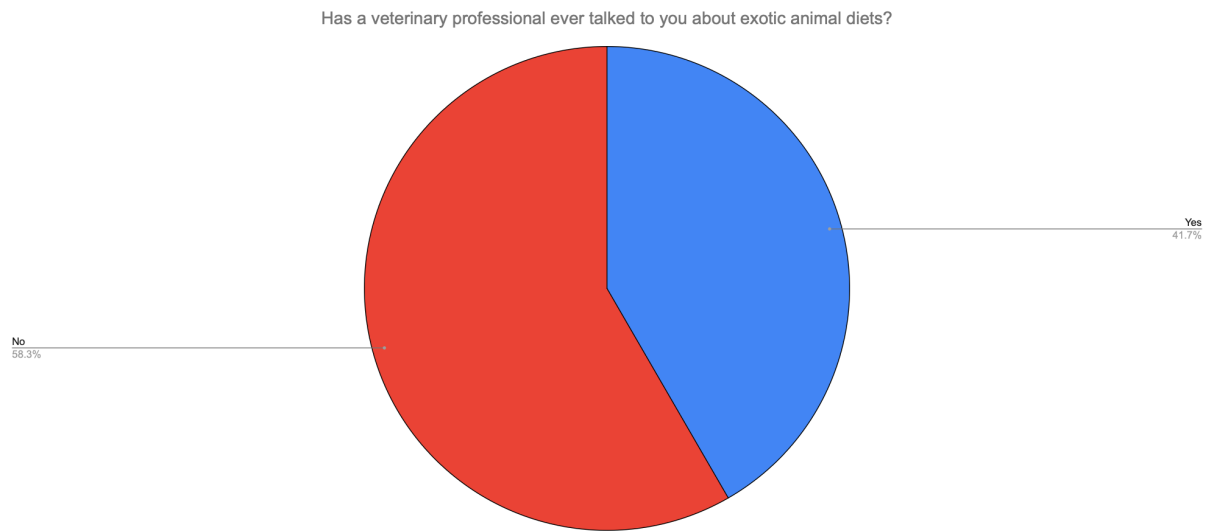
8.3% of respondents disagreed with the statement, 25% of the respondents agreed, 8.3% strongly agreed, 33.3% were neutral, and 25% were unable to answer this question because they have not discussed it with their veterinarian (Figure 3).



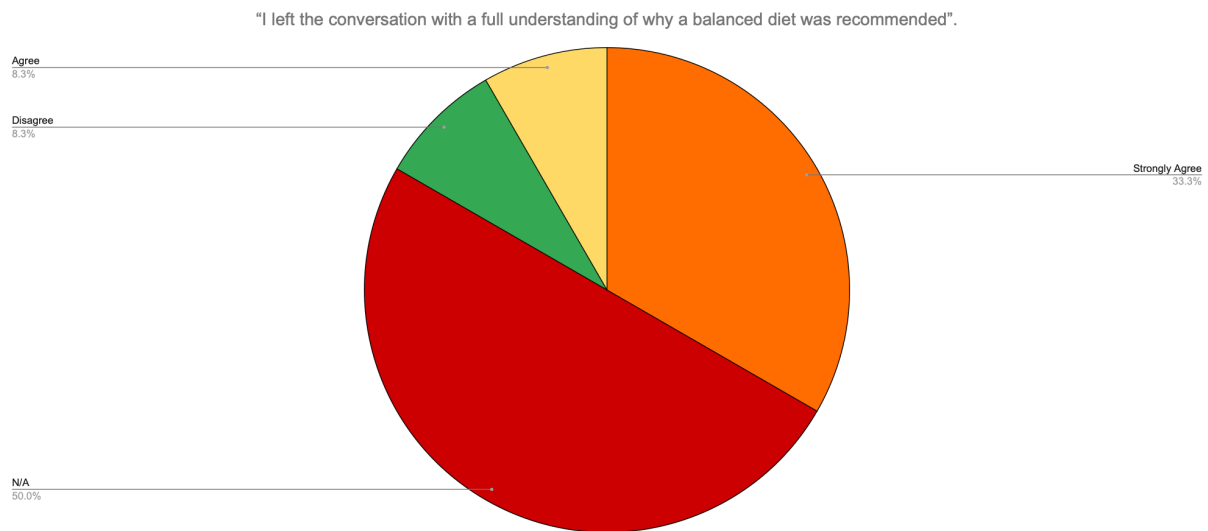
**Figure 4.** Answers to the statement *“I left the conversation with a full understanding of when or how to change or implement housing practices to make my pet’s environment better”* from respondents in the client pool.

When asked if they agreed or disagreed with the statement: *“I left the conversation with a full understanding of when and how to change or implement housing practices to make my pet's environment better”*. The responses were split evenly, with 33.3% agreeing with the statement, having a neutral opinion on it, or being unable to respond due to not having discussed it with their veterinarian (Figure 4).

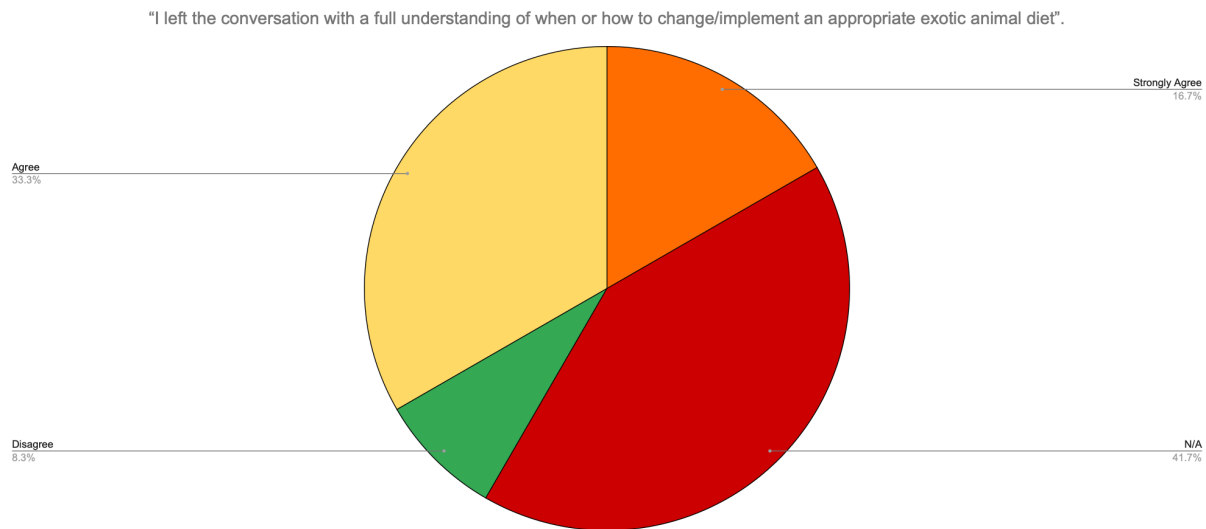




**Figure 5.** Answers to the question “*Has a veterinary professional ever talked to you about exotic animal diets?*” from respondents in the client pool.

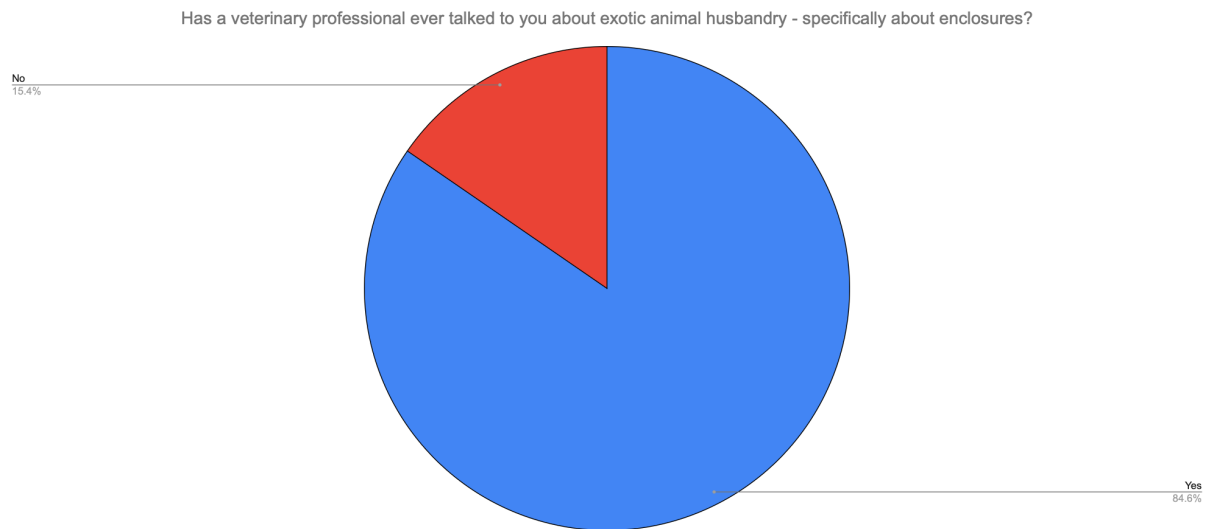


**Figure 6.** Answers to the statement “*I left the conversation with a full understanding of why a balanced diet was recommended*” from respondents in the client pool.

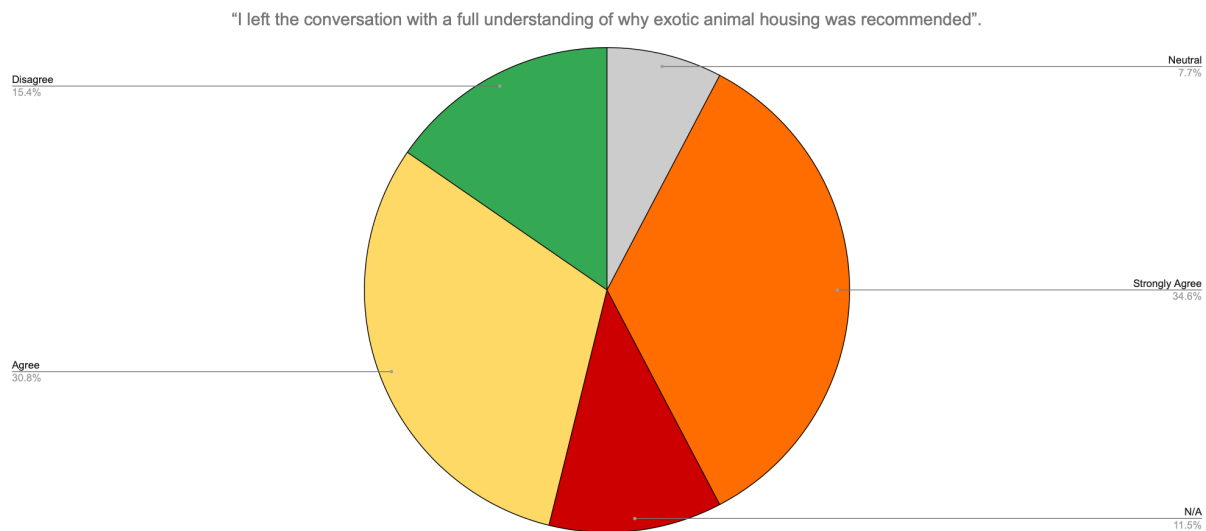


**Figure 7.** Answers to the statement *“I left the conversation with a full understanding of when or how to change/implement an appropriate exotic animal diet”* from respondents in the client pool.

When prompted to answer a question about exotic animal diets, 58.3% of respondents stated that their veterinarian had not discussed it with them (Figure 5). Out of the 41.7% of respondents who had discussed exotic animal diets with their veterinarian, 50% were unable to respond due to not having discussed the topic with their veterinarian and 33.3% strongly agreed with the statement *“I left the conversation with a full understanding of why a balanced diet was recommended”*. The remaining percent of respondent answers was split evenly with 8.3% of clients either agreeing or disagreeing with the statement (Figure 6). The respondents who had discussed appropriate exotic animal diets with their veterinarian were also asked to rank their confidence in the statement *“I left the conversation with a full understanding of when or how to change/implement an appropriate exotic animal diet”*. 16.7% of clients strongly agreed with this statement, 33.3% agreed, 8.3% disagreed, and 41.7% were unable to respond to this statement (Figure 7).

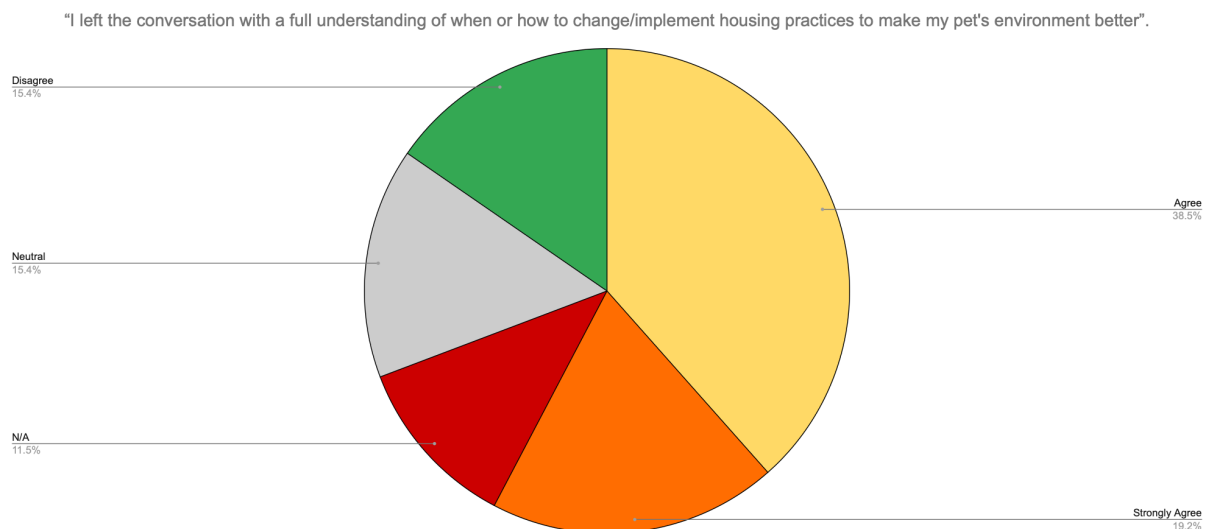


**Figure 8.** Answers to the question “*has a veterinary professional ever talked to you about exotic animal husbandry - specifically about enclosures?*” from respondents in the veterinary professional pool.



**Figure 9.** Answers to the statement “*I left the conversation with a full understanding of why exotic animal housing was recommended*” from respondents in the veterinary professional pool.

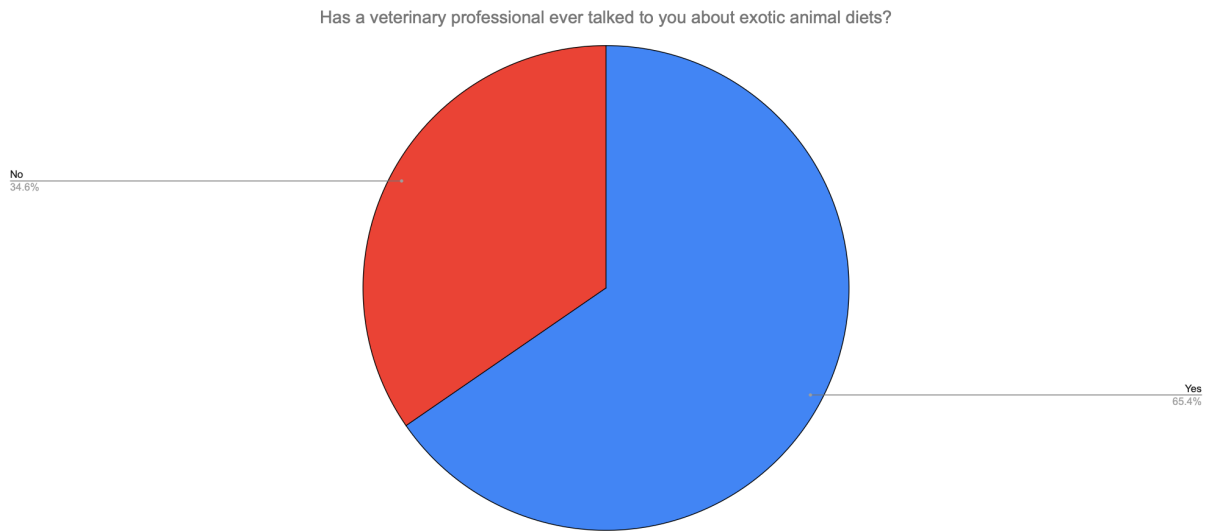
From the veterinary professional pool - those who are alumni of the Murray State Vet Tech/Pre-Vet program or who are formally educated in the field of veterinary medicine. Only 15.4% of respondents in this pool said that their veterinarian had not spoken with them about the importance of exotic animal husbandry in their pet's environments (Figure 8). Of the 84.6% of veterinary staff who had discussed exotic animal husbandry with their veterinarian, they were asked to rank their confidence in the following statement: "*I left the conversation with a full understanding of why exotic animal housing was recommended*". Over 34.6% strongly agreed, 30.8% agreed with the statement, 15.4% disagreed, 7.7% were neutral, and 11.5% were unable to respond (Figure 9).



**Figure 10.** Answers to the statement "*I left the conversation with a full understanding of when or how to change/implement housing practices to make my pet's environment better*" from respondents in the veterinary professional pool.

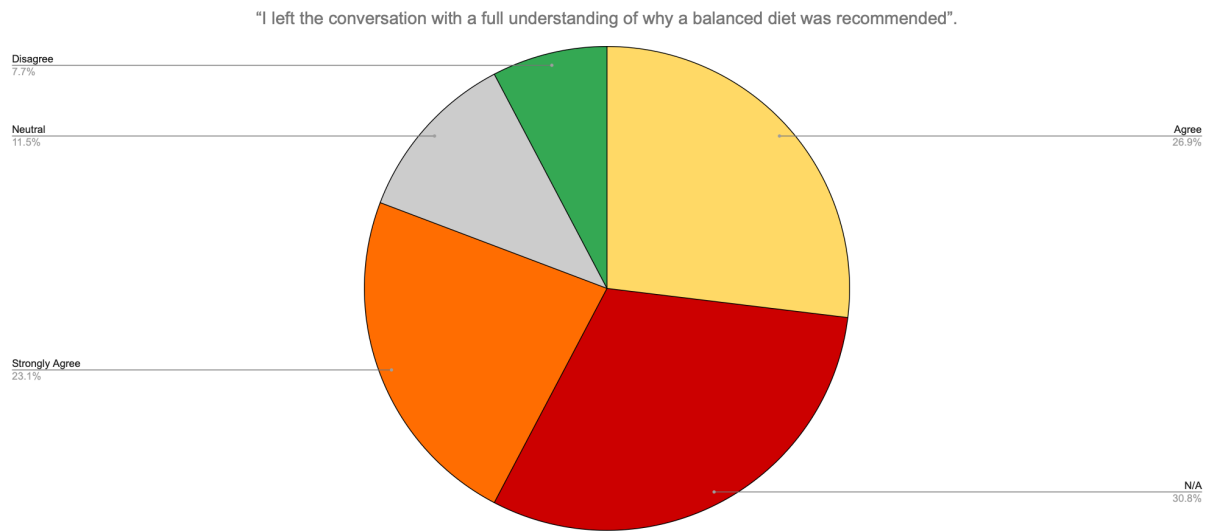
When asked how confident they were in the statement "*I left the conversation with a full understanding of when or how to change/implement housing practices to make my pet's environment better*". 19.2% strongly agreed with the statement, 38.5% agreed, 15.4% of

respondents either disagreed or were neutral to the statement, and 11.5% were unable to respond (Figure 10).



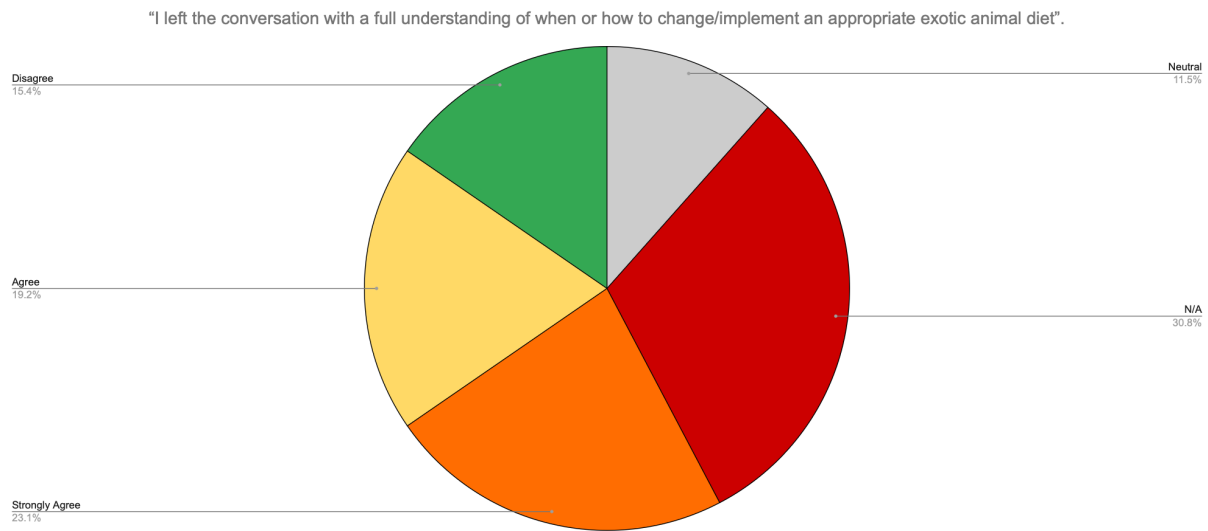
**Figure 11.** Answers to the question “*Has a veterinary professional ever talked to you about exotic animal diets?*” from respondents in the veterinary professional pool.

Only 34.6% of respondents in the veterinary professional pool reported not having discussed exotic animal diets with their veterinarian while the other 65.4% have discussed it (Figure 11).



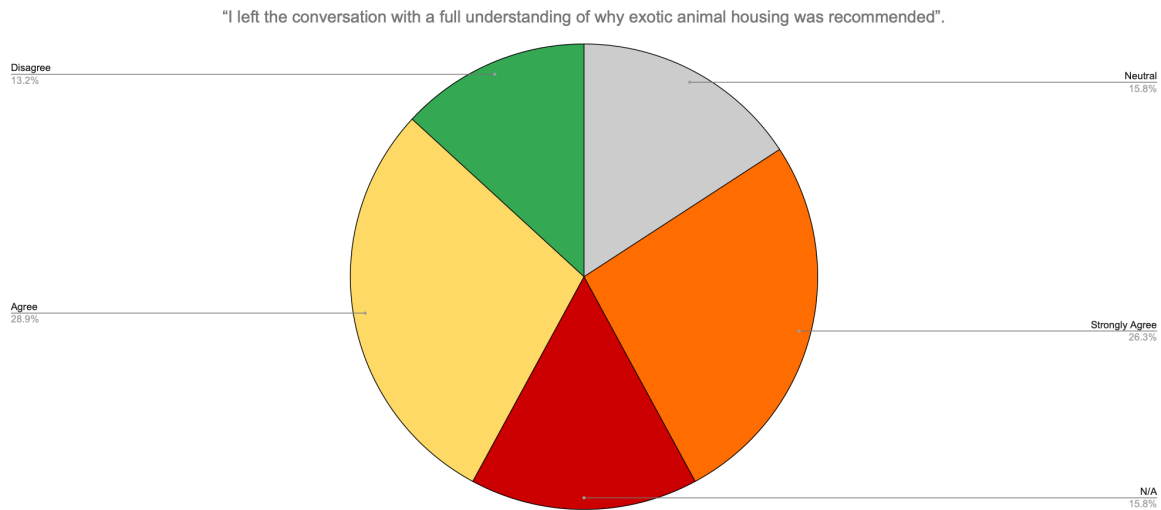
**Figure 12.** Answers to the statement “*I left the conversation with a full understanding of why a balanced diet was recommended*” from respondents in the veterinary professional pool.

Out of the 65.4% of veterinary professionals who had discussed exotic animal diets with their veterinarians they were asked to rank their confidence in the statement “*I left the conversation with a full understanding of why a balanced diet was recommended*”. To which, 23.1% strongly agreed, 26.9% agreed, 7.7% disagreed, 11.5% were neutral or preferred not to rank the statement, and 30.8% were unable to answer due to not having discussed the topic with their veterinarians (Figure 12).

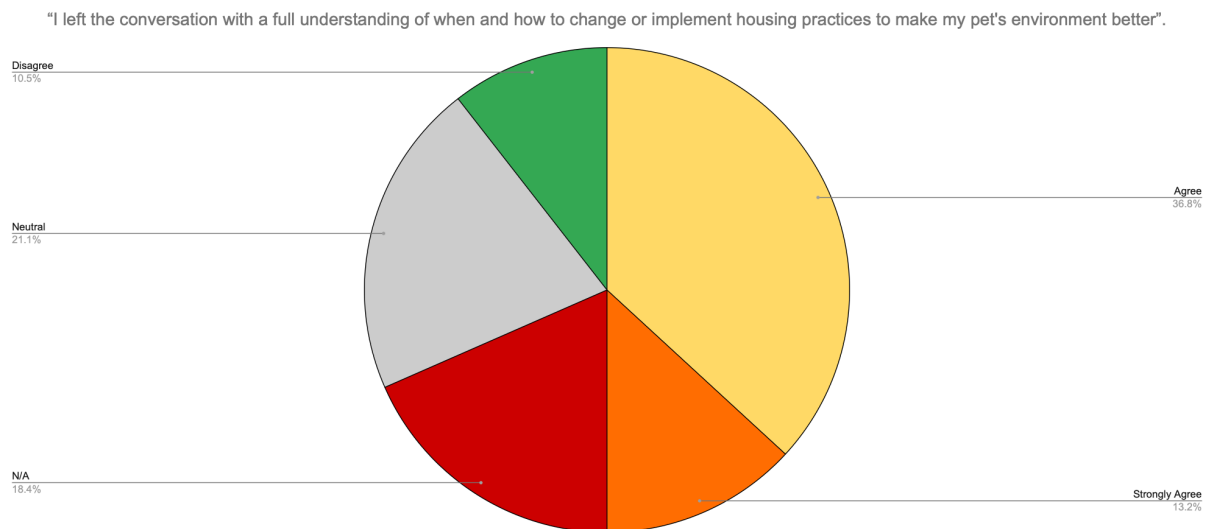


**Figure 13.** Answers to the statement *“I left the conversation with a full understanding of when or how to change/implement an appropriate exotic animal diet”* from respondents in the veterinary professional pool.

When asked to rank their confidence in the statement *“I left the conversation with a full understanding of when or how to change/implement an appropriate exotic animal diet”*; 23.1% strongly agreed, 19.2% agreed, 15.4% disagreed, 11.5% were neutral, and 30.8% were unable to respond (Figure 13).



**Figure 14.** Answers to the statement *"I left the conversation with a full understanding of why exotic animal housing was recommended"* from respondents in both pools.



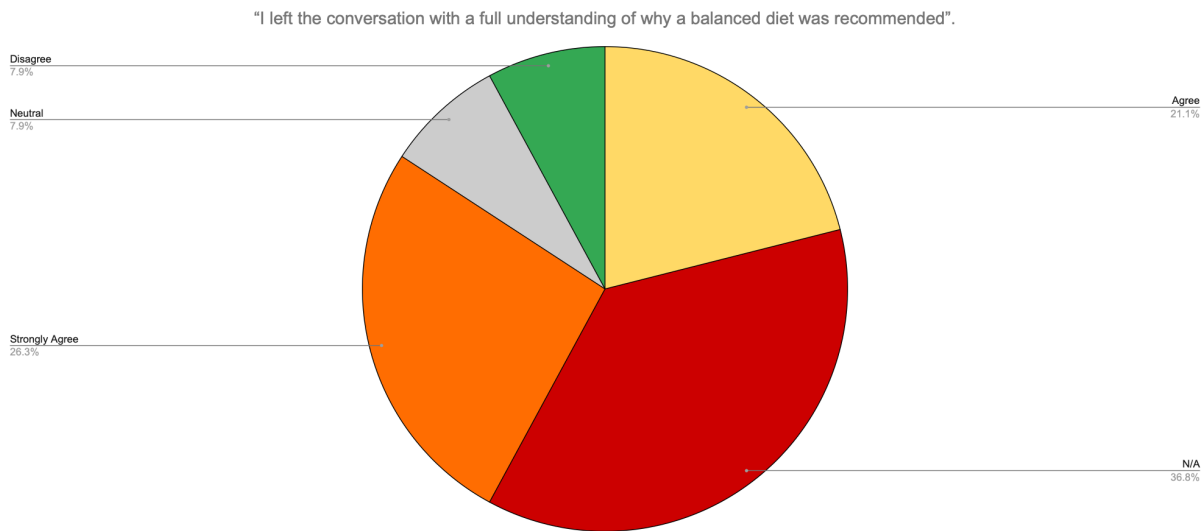
**Figure 15.** Answers to the statement *"I left the conversation with a full understanding of when or how to change or implement housing practices to make my pet's environment better"* from respondents in both pools.

Now, after combining the results from both the client and veterinary professional pools, 26.3% strongly agreed with the statement: *"I left the conversation with a full*

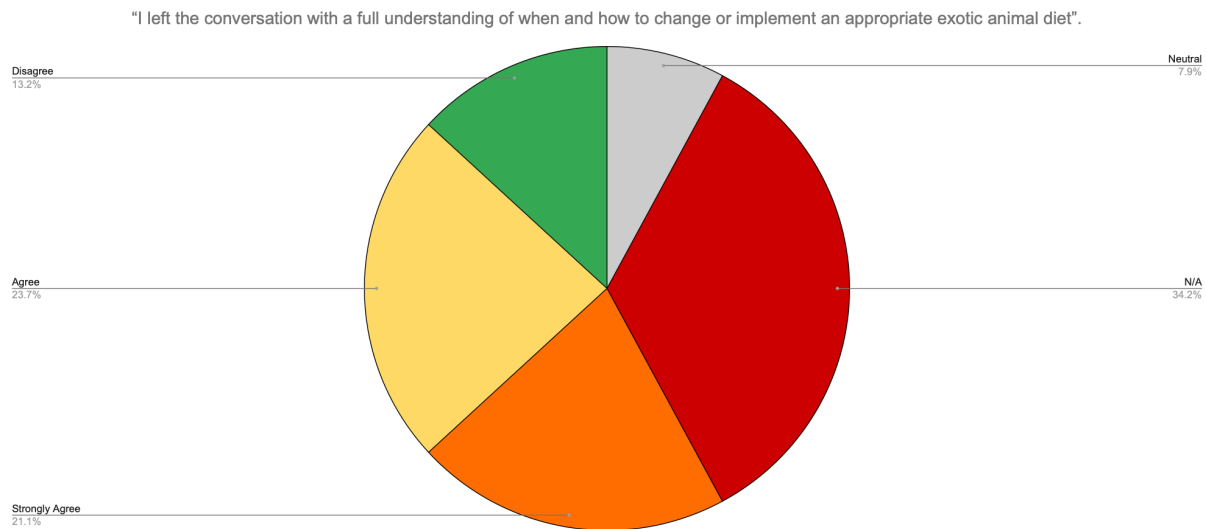


*understanding of why exotic animal housing was recommended*”. While another 28.9% of respondents agreed with the previous statement, 13.2% disagreed, and 15.8% were either neutral or unable to respond (Figure 14).

When asked to rank the statement: *“I left the conversation with a full understanding of when or how to change or implement housing practices to make my pet’s environment better”*. 13.2% of respondents strongly agreed, 36.8% agreed, 10.5% disagreed, 21.1% were neutral, and 18.4% were unable to respond (Figure 15).



**Figure 16.** Answers to the statement *“I left the conversation with a full understanding of why a balanced diet was recommended”* from respondents in both pools.



**Figure 17.** Answers to the statement “*I left the conversation with a full understanding of when or how to change/implement an appropriate exotic animal diet*” from respondents in both pools.

When prompted, 26.3% of respondents from both pools strongly agreed with the statement: *I left the conversation with a full understanding of why a balanced diet was recommended*” while 21.1% agreed, and 7.9% disagreed. 7.9% of respondents were neutral to the statement and the remaining 36.8% were unable to respond (Figure 16).

The respondents from the study were also asked to rank their confidence in the statement: *“I left the conversation with a full understanding of when and how to change or implement an appropriate exotic animal diet”*. To which, 21.1% strongly agreed, 23.7% agreed, 13.2% disagreed, 7.9% were neutral, and 34.2% of the respondents were unable to provide an answer, either because they did not want to rank the statement or had not discussed the topic with their veterinarian (Figure 17).

## VII. Discussion/Interpretation

The resultant data from this research study was summarized and placed into these tables to provide a visual representation of how (a) the respondent pool was split and (b) to more easily quantify the knowledge gap between veterinary staff and their clients.

	Yes	No
<i>“Has a veterinary professional ever talked to you about exotic animal husbandry - specifically about enclosures?”</i>	50.0%	50.0%
<i>“Has a veterinary professional ever talked to you about exotic animal diets?”</i>	41.7%	58.3%

**Table 1.** Percentages of respondents in the client pool that had or had not discussed husbandry topics with their veterinarian.

In Table1, we see that about half of the respondents in the client pool had discussed exotic animal husbandry with their veterinarian/veterinary staff and the other half did not. This is often a result of a lack of knowledge on the veterinary profession’s part, since exotic animal husbandry is not a part of core curriculum in most programs or by lack of knowledge of the owner. In that, they did not know that they needed to prompt the discussion about their pet. Multiple respondents also admitted to getting an exotic animal (i.e: leopard gecko, bearded dragon, snake, etc.) without knowing that it required

“special” accommodations, such as particular temperatures and humidities in it’s enclosure, so this contributes to this statistic as well. In Table 1, we also see that 58.3% of respondents in the client pool reported not having discussed an appropriate diet for their pet with their veterinarian. This is commonly seen in clinical practice, because unlike dogs and cats, exotic pets have more restricted diets and require increased supplementation of nutrients like calcium, fiber, vitamin C, etc.

	Yes	No
<i>“Has a veterinary professional ever talked to you about exotic animal husbandry - specifically about enclosures?”</i>	84.6%	15.4%
<i>“Has a veterinary professional ever talked to you about exotic animal diets?”</i>	65.4%	34.6%

**Table 2.** Percentages of respondents in the veterinary professional pool that had or had not discussed husbandry topics with their veterinarian.

In Table 2, we see drastically lower percentages of veterinary staff that reported not discussing exotic animal husbandry or diet with their veterinarian, this is probably due to a combination of their own knowledge about their pets living requirements and research completed on their own time. However, even though 84.6% of veterinary professionals reported discussing husbandry with their veterinarian, only 65.4% of respondents

discussed dietary needs with their veterinarian. While this percentage is more than the client pool it is still a lower percentage, providing a commonality between both pools, which is that they both show trends of being more confident or prepared for exotic animal housing rather than diet.

	Strongly Agree	Agree	Neutral	Disagree	N/A
<i>“I left the conversation with a full understanding of why exotic animal housing was recommended.”</i>	8.3%	25.0%	33.3%	8.3%	25.0%
<i>“I left the conversation with a full understanding of when or how to change or implement housing practices to make my pet’s environment better”</i>	-	33.3%	33.3%	-	33.3%
<i>“I left the conversation with a full understanding of why a balanced diet was recommended.”</i>	33.3%	8.3%	-	8.3%	50.0%
<i>“I left the conversation with a full understanding of when or how to change/implement an appropriate exotic animal diet”</i>	16.7%	33.3%	-	8.3%	41.7%

**Table 3.** Percentages of each term respondents from the client pool used to rank their confidence in the statement or question provided.

Table 3 places the results from each question asked in the client pool into perspective; however, it is very important to note that a much larger percentage of clients were unable to rank their confidence in the statements about diet because they had not discussed it with their veterinarian. While it looks like only 8.3% of the respondents disagreed with the statements about both exotic animal housing and diet, the portion of clients who responded with “non-applicable” to the statement about exotic animal diets was approximately double of those who reported “non-applicable” for the statements about housing.

Although, it is also important to note that out of the percentage of clients that did speak to their veterinarian about both topics, more are confident in the information provided about diet compared to husbandry with 33.3% of respondents strongly agreeing with the statement *“I left the conversation with a full understanding of why a balanced diet was recommended”*. Versus only 8.3% who strongly agreed with the statement *“I left the conversation with a full understanding of why exotic animal housing was recommended”*.

	Strongly Agree	Agree	Neutral	Disagree	N/A
<i>“I left the conversation with a full understanding of why exotic animal housing was recommended.”</i>	33.3%	33.3%	4.2%	16.7%	12.5%
<i>“I left the conversation with a full understanding of when or how to change or implement housing</i>	19.2%	38.5%	15.4%	15.4%	11.5%

<i>practices to make my pet's environment better"</i>					
<i>"I left the conversation with a full understanding of why a balanced diet was recommended."</i>	23.1%	26.9%	11.5%	7.7%	30.8%
<i>"I left the conversation with a full understanding of when or how to change/implement an appropriate exotic animal diet"</i>	23.1%	19.2%	11.5%	15.4%	30.8%

**Table 4.** Percentages of each term respondents from the veterinary professional pool used to rank their confidence in the statement or question provided.

In Table 4, we once again are able to visualize the relationship between the results and see very similar trends to that of the client pool. The veterinary staff pool struggles with discussing exotic animal diets with their veterinarian as well, but seems to be more confident in the information provided about husbandry practices when compared to diet with 66.6% of respondents confident in the statement *"I left the conversation with a full understanding of why exotic animal housing was recommended"* versus 50.0% of respondents being confident in the statement *"I left the conversation with a full understanding of why a balanced diet was recommended"*. Overall, a large majority of respondents from this pool seems more confident in the information provided regarding husbandry practices rather than diet.

In this pool there is also a stark difference between respondents understanding why appropriate exotic animal husbandry and dietary practices are recommended versus implementing them, with both 15.4% of the respondents disagreeing with the statements *“I left the conversation with a full understanding of when or how to change or implement housing practices to make my pet’s environment better”* and *“I left the conversation with a full understanding of when or how to change/implement an appropriate exotic animal diet”*.

#### How large is the knowledge gap?

Although exotic animal husbandry is not typically found in the core veterinary medicine curriculum, those of us who are formally educated tend to have a knowledgeable foundation. Veterinary staff gain knowledge through frequent clinical experiences. Then they begin to formulate trends and patterns based on the common problems seen for popular species of exotic animals. The most frequently seen cases in clinical practice stem from issues caused by inappropriate diets or inadequate housing for the animal. Hence, why this study was narrowed down to focus on those two particular aspects of exotic animal husbandry - they are the two areas that cause the most problems and seem to be the most misunderstood (Clifford). Essential welfare standards such as those contained within the established “five freedoms” (Table 1) and the “five welfare needs” (Table 2) are outlined below. Both discuss concepts and provisions that are legally required for an animal to be in human care, these concepts are upheld by the United States Department of Agriculture (USDA) under the Animal Welfare Act (AWA).



Table 1. Five freedoms

- 
1. Freedom from hunger and thirst—by ready access to fresh water and a diet to maintain full health and vigor;
  2. Freedom from discomfort—by providing an appropriate environment including shelter and a comfortable resting area;
  3. Freedom from pain, injury, or disease—by preventing them from getting ill or injured and by making sure animals are diagnosed and treated rapidly if they do;
  4. Freedom to express normal behavior—by providing sufficient space, proper facilities, and company of the animal's own kind;
  5. Freedom from fear and distress—by ensuring conditions and treatment, which avoid mental suffering.

(Webster, 1994.)

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Table 2. Five welfare needs (FWNs)

- 
1. Need for a suitable environment;
  2. Need for a suitable diet;
  3. Need to be able to exhibit normal behavior patterns;
  4. Need to be housed with, or apart, from other animals;
  5. Need to be protected from pain, suffering, injury, and disease.
- 

(RSPCA, 2005.)

As seen above, in both Table 1 and Table 2 the top two established concepts revolve around diet and housing.

With that being said, clients do not have the same knowledge as veterinary staff because they have not been formally educated in veterinary medicine. Most clients have not worked in a clinic with animals and, therefore, have not had the opportunity to see those recurring problems on a daily basis.

So, based on the results of the study, the knowledge gap between veterinary staff and clients about exotic animal husbandry is very large; however, said gap also varies from topic to topic. As supported by the data, more clients struggle with implementing an appropriate diet while veterinary staff seem to struggle with providing an appropriate living environment for their animals, respectively.

#### Contributors to the knowledge gap.

The study did not focus on collecting data on this aspect specifically; however, through discussions with respondents and further research outside of the survey major contributors to the knowledge gap have been determined. Influencers on social media and the spread of misinformation are the two largest contributors to this issue (Cavallo, 2022). These two also have a corresponding relationship with each other. As mentioned earlier, with the rise of technology the position of “social media influencer” has been growing exponentially in popularity. Many of these influencers use veterinary medicine as a platform to gain popularity while blasting opinions and fallacies on ever-growing controversial topics such as dietary and environmental requirements for animals. Unfortunately, this is not an isolated issue, it is an epidemic that is spreading throughout the entire medical and scientific world (Cavallo). In veterinary medicine it is easy for uninformed clients - who mean well, but may not know better - to fall victim to the massive amounts of misinformation being spread by people who have no academic background or formal education in veterinary medicine.

Through the course of this study, many clients have admitted to getting their animal with no prior knowledge about it's needs. They were required to conduct

research on their own, trying to distinguish the difference between reputable and disreputable information. In an ideal situation, all clients would talk to their veterinary staff in order to learn how to properly care for their animals, exotic or not; however, that is not always the case.

The harsh reality is that a negative attitude is adopted when discussions about exotic animal husbandry arise and clients can tend to direct it towards veterinary staff. However, this mistrust is rooted in client's frustration due to the spread of misinformation by social media and influencers. Many owners, after discussion with their veterinary staff, tend to realize that they did not have all the tools and information necessary to provide quality care for their pet since the beginning of their exotic animal ownership journey, which causes tension between owner and veterinary professional.

Overall, there are a multitude of deeper and more complex issues regarding this topic and tying into other topics around veterinary medicine that cannot be solved with this one study. In the future, other studies should focus on getting to the root of these complex issues and determining how to repair the split between clients and their veterinary staff.

#### What do clients struggle with the most?

Based on the results of the study and the data collected, clients struggle the most with understanding the nutritional requirements of their animal and how to appropriately implement changes in their diet. Including, but not limited to: changing ingredients to provide higher fiber foods, adding missing vitamins or

minerals, providing vegetables, using different types of bugs for reptiles, and ensuring the food is sourced appropriately.

The reality behind the situation is that owning an exotic pet requires some basic knowledge of anatomy and physiology about the animal, because it helps the owner to understand why a certain diet is important to prevent their animal from developing diseases.

#### What do veterinary staff struggle with the most?

Based on the results of the study, veterinary staff struggle to understand exotic animal housing. Primarily how to implement appropriate housing practices or how to change their animal's enclosure to provide an environment where the animal will thrive. Aspects such as appropriate temperature and humidity, enrichment, soaking, providing basking spots, and more are all areas that fall under this area.

#### How can the gap be lessened?

To answer this question veterinary professionals first need to ask themselves: "*What do the clients need from us?*". Over 73% of respondents in this study stated that they would like to see more informational resources provided for clients either during or after the vet visit. These include, but are not limited to: handouts or printouts, brochures, reference guides, a list of trusted or reputable online sources for husbandry, "how to" guides, etc. Informational resources such as these would teach the clients what to look for regarding signs of sickness in their animal, what it could be caused by, how to reach a solution, and more. These handouts would discuss husbandry needs for that particular animal and go into

depth about specifics such as dietary and housing needs. With the rise of technology and social media, there is an increased level of readily accessible information via handheld devices. Some respondents would like to see their veterinarians or veterinary staff suggest trusted social media accounts or even create accounts themselves on apps such as Facebook, TikTok, and Instagram as a platform to spread accurate information about how to properly care for different species of exotic animals.

Secondly, geographical location needs to be taken into consideration. The state of Kentucky - like many other states in the U.S - currently struggles with a shortage of exotic animal veterinarians. This leads to veterinary clinics opening up their doors and accepting exotic animal patients as an attempt to provide the owners a place to bring their pets for treatment and care. However, this places strain on the veterinary staff who may not always have a strong educational background about those exotic animals. To combat this particular issue, many of the study participants suggested implementing virtual welfare visits, which would allow for an owner to converse with an exotic veterinarian who may be located a few hours away or even in another state. Others suggested ideas to consider such as sending home dietary samples so that owners could see what ingredients or foods need to be included in their animal's diet and why. Recommending Oxbow's website to clients is a valuable and educational online resource for them to explore at their leisure to learn more about their pet's dietary needs (Oxbow, 2023).

At the end of the day, every client is different and while there will always be general trends amongst clients regarding knowledge base and each owner and pet must be treated as an individual case.

Lastly, the question “*How can our veterinary staff be further educated so that they can go out and tackle this issue on a larger scale?*” needs to be posed to develop solutions, allowing for the gap to be closed from both sides of the equation. Most undergraduate programs, both in Pre-Veterinary Medicine and Veterinary Technology, focus more on educating young professionals about domestic species rather than exotic species. Therefore, creating more educational opportunities for upcoming veterinary staff to learn about exotic animal medicine and husbandry practices would help tremendously, especially as the interest in owning exotic animals increases. Facilitating these learning opportunities will help students better understand appropriate husbandry and proper care. Examples of this include, but are not limited to: the physiology behind why reptiles and amphibians need their enclosure to be a certain temperature or humidity. Along with why small mammals such as rabbits, guinea pigs, and chinchillas need to be provided with particular substances for optimal husbandry (i.e: gnawing sticks for guinea pigs and rabbits to maintain good dental hygiene, dust baths for chinchillas to maintain skin and coat health, etc.).

## **VIII. Conclusion**

On a much larger scale, and an issue that cannot be resolved at this level, the veterinary medicine field should research adding exotic animal medicine into the core curriculum. At the undergraduate level, it can focus on electives; however, at

the graduate level Doctor or Veterinary Medicine programs would benefit greatly from including more exotic animal medicine into the core curriculum requirements. According to the American Association of Zookeepers, out of the thirty-two AVMA accredited veterinary schools in the United States only six offer Exotic Animal Programs. The remainder of the accredited universities only have it as an option for specialization beyond graduating from their DVM program. As the rise of exotic animal ownership increases, the veterinary medicine profession needs to be ready to grow and adapt alongside it.

The limitations imposed on this study were a small study size with 39 respondents, with the majority of the distribution through the Murray State Pre-Vet/Vet Tech program. Preferably, there would have been more interaction throughout the community to get additional data in the client pool; however, Murray, KY is in a geographic area where exotic animal medicine is not common.

After reviewing the results, the questions asked in the survey quantified the knowledge gap between clients and veterinary staff, but were not specific enough to inform us of the complexities of the gap. The study revealed that the knowledge gap between clients and veterinary staff originates from a lack of communication or miscommunication about exotic animal housing and diet.

New question to ask to help discover the root of the problem is: “Is the gap as large as it is because veterinary staff are not confident or miseducated in the knowledge they are sharing with their clients?”, “is it because exotic animal medicine is a minority/specialty in veterinary medicine and, therefore, it is not

emphasized in the core curriculum?”, or “is it all linked back to the spread of misinformation via social media platforms?”.

There are many questions that are still unanswered and if the study was to be expanded upon or further researched it should strive to answer these questions so that more appropriate solutions to solve the knowledge gap can be found by discovering the root of the problem.

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## X. Endnotes

### A. Appendix A (Consent Form)

#### Online Research Participation Consent

**Study title:** “Barriers between Client Communication/Education and Appropriate Exotic Animal Husbandry”

**Primary investigator:** Caileigh Linton

**Faculty Advisor:** Dr. Laura Ken Hoffman

You are invited to participate in this survey as a part of research for a Senior Honors Thesis conducted through Murray State University. This form contains

information necessary to help you decide whether or not you believe you qualify and should take part in this research. Please read the form carefully and ask the study's team member(s) questions about anything that is not clear.

**Nature and Purpose of Project:** This survey will be used to investigate client understanding of exotic animal husbandry, specifically relating to living environment or enclosure and diet(s).

**Explanation of Procedures:** This is a one-time online survey and should take no more than 10 minutes of your time.

**Discomforts and Risks:** There are no anticipated risks and/or discomforts for participants.

**Benefits:** Participation in this study may not benefit you directly, but it will help veterinary professionals better serve clients and their pets by understanding the reasons why pets are not receiving appropriate care relating to husbandry issues. This survey helps veterinary professionals learn more about how they can better educate their clients.

**Refusal/Withdrawal:** Participation in this study is voluntary. You are free to leave questions blank or exit the survey at any time with no fear of repercussions. Please answer the questions honestly, there will be no judgment of answers perceived to be "right" or "wrong" by the investigator or involved parties.

**Confidentiality:** Your participation in this study is anonymous. Neither the researcher(s) nor any other individuals will know if you have participated or how you responded. However, we are unable to guarantee the security of the computer on which you choose to enter your responses. Information, or data, you enter and websites you visit online can be tracked, captured, corrupted, lost, or otherwise misused.

This research is overseen by Dr. Laura Ken Hoffman and Honors College Executive Director, Dr. Warren Edminster.

Any questions about the procedures or conduct of this research should be brought to the attention of

Faculty Advisor: Dr. Laura Ken Hoffman ([lhoffman2@murraystate.edu](mailto:lhoffman2@murraystate.edu))

This project has been reviewed and approved by the Murray State University Institutional Review Board (IRB) for the Protection of Human Subjects. If you have any questions about your rights as a research participant, you should contact the MSU IRB Coordinator at (270)- 809 - 2916 or [msu.irb@murraystate.edu](mailto:msu.irb@murraystate.edu).

## B. Appendix B (Survey Questions)

### Exotic Animal Husbandry Survey

Hello everyone! My name is Caileigh Linton, a senior Pre-Veterinary Medicine and Veterinary Technician Student at Murray State University. I am sharing this survey to be used in research for my Senior Honors Thesis.

If you are the primary owner (i.e: you take them to the vet or make all medical decisions) of an exotic animal (rabbit, lizard, snake, hamster, bird, turtle, etc.) I would appreciate it greatly if you would take this anonymous, short survey on exotic animal husbandry, the questions relate specifically to diet and living environment.

Please **SHARE** this survey to help me inform veterinary professionals of how they can better serve and educate their clients about the care of their pets!

Feel free to contact me at [clinton@murraystate.edu](mailto:clinton@murraystate.edu) with any questions about the research: “Barriers between Client Communication/Education and Exotic Animal Husbandry”.

1. Do you agree to partake in this survey voluntarily, understanding that all information will be kept anonymous. By clicking "yes" you will be taken to the informed consent document, detailing the purpose of the survey and how you are affected as a participant.
  - a. Yes
  - b. No
2. Do you agree to all of the information outlined in the above document? At this time you may choose to either continue on with the survey or withdraw.
  - a. Yes
  - b. No

3. By checking this box, you are acknowledging that you understand your above rights (Informed consent document) **AND** that you are 18 years of age or older.
  - a. Agree
4. Are you the primary caretaker of at least one exotic animal?
  - a. Yes
  - b. No
5. What exotic animal(s) do you own? Select all that apply.
  - a. Bearded Dragon
  - b. Snake
  - c. Guinea Pig
  - d. Rabbit
  - e. Chinchilla
  - f. Turtle
  - g. Hamster
  - h. Bird
  - i. Rat
  - j. Other - please specify in the next question.
6. If you chose "other" in the above question, please specify what animal(s).
7. Are you a student or alumni of the MSU Veterinary Technology Program or are you employed/formally educated in the field of veterinary medicine?
  - a. Yes
  - b. No
8. Has your animal(s) been seen by a veterinarian in the past year?
  - a. Yes
  - b. No
9. Has a veterinary professional (veterinarian, technician, receptionist, etc.) ever talked to you about exotic animal husbandry - specifically living environments such as enclosures?
  - a. Yes
  - b. No
10. If so, which professional (select all that apply).

- a. Veterinarian
  - b. Veterinary Technician or Assistant (usually the individual in scrubs who you first speak with in the room).
  - c. Receptionist
  - d. Other (kennel worker, practice manager, etc.)
  - e. No one spoke to me about it.
11. If yes, please select the most correct answer to the following statements. “I left the conversation with a full understanding of why exotic animal husbandry (certain aspects of their environment) was recommended”.
- a. Strongly Agree
  - b. Agree
  - c. Neutral
  - d. Disagree
  - e. Strongly Disagree
  - f. N/A
12. “I left the conversation with a full understanding of when and how to change or implement appropriate exotic animal husbandry to make my pet's environment better”.
- a. Strongly Agree
  - b. Agree
  - c. Neutral
  - d. Disagree
  - e. Strongly Disagree
  - f. N/A
13. Has a veterinary professional (veterinarian, technician, receptionist, etc.) ever talked to you about exotic animal diets?
- a. Yes
  - b. No
14. If so, which professional (select all that apply).
- a. Veterinarian

- b. Veterinary Technician or Assistant (usually the individual in scrubs who you first speak with in the room).
  - c. Receptionist
  - d. Other (kennel worker, practice manager, etc.)
  - e. No one spoke to me about it.
15. If yes, please select the most correct answer to the following statements. “I left the conversation with a full understanding of why a balanced diet was recommended”.
- a. Strongly Agree
  - b. Agree
  - c. Neutral
  - d. Disagree
  - e. Strongly Disagree
  - f. N/A
16. “I left the conversation with a full understanding of when and how to change or implement an appropriate exotic animal diet”.
- a. Strongly Agree
  - b. Agree
  - c. Neutral
  - d. Disagree
  - e. Strongly Disagree
  - f. N/A
17. What would you like to see your veterinary staff implement or change in the future regarding appointments or discussions about exotic animal care? (This could be something such as providing more informational hand-outs, suggesting videos, providing article print-outs, scheduling an appointment to discuss exotic animal care in depth, etc.)\*
18. Please use this question to add any additional details about your experiences owning an exotic animal or handling their veterinary care. And/or to provide any additional information.\*

\*Open ended and optional questions.

## C. Appendix C (IRB Approval)



# MURRAY STATE UNIVERSITY

## Institutional Review Board

328 Wells Hall  
Murray, KY 42071-3318  
270-809-2916 • msu.irm@murraystate.edu

**TO:** Laura Hoffman, Animal Health Technology  
**FROM:** Jonathan Baskin, IRB Coordinator JB  
**DATE:** 2/6/2023  
**RE:** Human Subjects Protocol I.D. – IRB # 23-103

The IRB has completed its review of your student's Level 1 protocol entitled *Barriers between Client Communications and Exotic Animal Husbandry*. After review and consideration, the IRB has determined that the research, as described in the protocol form, will be conducted in compliance with Murray State University guidelines for the protection of human participants.

**The forms and materials that have been approved for use in this research study are attached to the email containing this letter. These are the forms and materials that must be presented to the subjects. Use of any process or forms other than those approved by the IRB will be considered misconduct in research as stated in the MSU IRB Procedures and Guidelines section 20.3.**

**Your stated data collection period is from 2/3/2023 to 5/4/2023.**

If data collection extends beyond this period, please submit an Amendment to an Approved Protocol form detailing the new data collection period and the reason for the change.

**This Level 1 approval is valid until 2/5/2024.**

If data collection and analysis extends beyond this date, the research project must be reviewed as a continuation project by the IRB prior to the end of the approval period, 2/5/2024. You must reapply for IRB approval by submitting a Project Update and Closure form (available at [murraystate.edu/irm](http://murraystate.edu/irm)). You must allow ample time for IRB processing and decision prior to your expiration date, or your research must stop until such time that IRB approval is received. If the research project is completed by the end of the approval period, then a Project Update and Closure form must be submitted for IRB review so that your protocol may be closed. It is your responsibility to submit the appropriate paperwork in a timely manner.

The protocol is approved. You may begin data collection now.

Opportunity  
afforded

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Equal education and employment opportunities M/F/D, AA employer. Murray State University supports a clean and healthy campus. Please refrain from personal tobacco use.

## D. Appendix D (Excel Results Spreadsheet)

 Exotic Animal Husbandry Survey Results

Do you agree to partake I Do you agree to all of the By checking this box, you Are you the primary caret What exotic animal(s) do If you choose "other" in the				Are you a student or	Has your animal(s) been I Has a veterinary professi If so, which professional ( If yes, please select the n "I left the conversation will	Has a veterinary professi If so, which professional ( If yes, please select the n "I left the conversation will						
Yes	Yes	Agree	Yes	Bearded Dragon	Yes	No	Yes	Veterinarian, Veterinary T Neutral	Agree	Yes	Veterinarian, Veterinary T Agree	Neutral
Yes	Yes	Agree	Yes	Snake	Yes	Yes	Yes	Veterinarian Strongly Agree	Strongly Agree	No	Unknown	N/A
Yes	Yes	Agree	Yes	Rabbit, Chinchilla	Yes	No	No	Veterinarian N/A	N/A	No	Veterinarian	N/A
Yes	Yes	Agree	Yes	Bearded Dragon, Guinea Axolotls, uromastyx, tree	Yes	Yes	Yes	Veterinarian Strongly Agree	Strongly Agree	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Snake	Yes	No	Yes	Veterinarian Agree	Agree	No	Other (kennel worker, pra N/A	N/A
Yes	Yes	Agree	Yes	Snake, Rat, Other - please Leopard Gecko	Yes	No	Yes	Veterinarian, Receptionist Agree	Neutral	Yes	Receptionist	Neutral
Yes	No	Agree	Yes	Guinea Pig, Rabbit	No	Yes	Yes	Veterinarian, Veterinary T Disagree	Neutral	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Snake	No	No	No	Other (kennel worker, pra N/A	N/A	No	Other (kennel worker, pra N/A	N/A
Yes	Yes	Agree	Yes	Snake, Bird, Rat, Other - Tegus, Chameleon, Geck	Yes	Yes	No	Veterinary Technician or I Agree	Agree	No	Veterinary Technician or I Agree	Agree
Yes	Yes	Agree	Yes	Bearded Dragon, Guinea Leopard gecko	No	Yes	No	Veterinary Technician or I Neutral	Neutral	No	Veterinary Technician or I Disagree	Disagree
Yes	Yes	Agree	Yes	Snake, Other - please spx Leopard Gecko, crested	Yes	No	Yes	Veterinarian Disagree	Disagree	No	Other (kennel worker, pra N/A	N/A
Yes	Yes	Agree	Yes	Bearded Dragon	Yes	Yes	Yes	Veterinarian Strongly Agree	Neutral	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Rabbit, Turtle	No	No	No	Other (kennel worker, pra Neutral	N/A	No	Other (kennel worker, pra N/A	N/A
Yes	Yes	Agree	Yes	Other - please specify in i 2 capuchin Monkeys	No	Yes	Yes	Veterinarian Neutral	Neutral	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Rabbit	Yes	No	Yes	Veterinarian Agree	Agree	Yes	Veterinarian	Agree
Yes	Yes	Agree	Yes	Bearded Dragon	Yes	Yes	Yes	Veterinarian Strongly Agree	Agree	Yes	Veterinarian	Agree
Yes	Yes	Agree	Yes	Bearded Dragon, Snake, Tortoise, Tegu	Yes	Yes	Yes	Veterinarian, Veterinary T Agree	Neutral	Yes	Veterinarian, Veterinary T Agree	Disagree
Yes	Yes	Agree	Yes	Bearded Dragon, Snake, Rabbit	Yes	No	Yes	Veterinarian, Other (kenn N/A	N/A	Yes	Veterinarian	N/A
Yes	Yes	Agree	Yes	Rabbit, Bird	Yes	Yes	Yes	Veterinarian Disagree	Disagree	Yes	Veterinarian	Disagree
Yes	Yes	Agree	Yes	Snake	Yes	Yes	Yes	Veterinarian, Veterinary T Strongly Agree	Strongly Agree	No	No one spoke to me about N/A	N/A
Yes	Yes	Agree	Yes	Bird	Yes	Yes	Yes	Veterinarian, Other (kenn Strongly Agree	Agree	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Bearded Dragon	Yes	No	No	No one spoke to me about N/A	N/A	No	No one spoke to me about N/A	N/A
Yes	Yes	Agree	Yes	Other - please specify in i Leopard gecko	Yes	No	Yes	Veterinarian, Receptionist Agree	Agree	Yes	Veterinarian	Agree
Yes	Yes	Agree	Yes	Bearded Dragon	Yes	Yes	Yes	Veterinarian, Veterinary T Strongly Agree	Strongly Agree	Yes	Veterinarian, Veterinary T Strongly Agree	Strongly Agree
Yes	Yes	Agree	Yes	Chinchilla, Turtle, Other - Tortoise	No	Yes	Yes	Veterinarian, Veterinary T Agree	Agree	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Snake, Rabbit	Yes	Yes	No	No one spoke to me about Disagree	Disagree	No	No one spoke to me about Disagree	Disagree
Yes	Yes	Agree	Yes	Other - please specify in i White Tree Frogs	Yes	No	Yes	Veterinarian, Veterinary T Agree	Agree	Yes	Veterinarian	Agree
Yes	Yes	Agree	Yes	Chinchilla	No	Yes	Yes	Veterinarian Agree	Agree	No	No one spoke to me about N/A	Agree
Yes	Yes	Agree	Yes	Rat	No	Yes	Yes	Veterinarian Strongly Agree	Agree	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Rat	No	Yes	No	Veterinarian Neutral	Neutral	Yes	Veterinarian	Agree
Yes	Yes	Agree	Yes	Snake	Yes	Yes	No	Veterinarian, Veterinary T Strongly Agree	Agree	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Rabbit, Turtle, Other - ple Hedgehog, leopard gecko	Yes	Yes	Yes	Veterinarian Strongly Agree	Strongly Agree	Yes	Veterinarian	Strongly Agree
Yes	Yes	Agree	Yes	Rabbit	No	No	Yes	Veterinary Technician or I Agree	Agree	No	No one spoke to me about N/A	N/A
Yes	Yes	Agree	No	Other - please specify in i none	Yes	No	Yes	Other (kennel worker, pra Agree	Agree	Yes	Other (kennel worker, pra Agree	Agree
Yes	Yes	Agree	Yes	Snake, Other - please spx Day gecko and tarantula	Yes	Yes	Yes	Veterinarian Neutral	Neutral	Yes	Veterinarian, Veterinary T Neutral	Agree
Yes	Yes	Agree	Yes	Bird	No	No	No	No one spoke to me about N/A	N/A	No	No one spoke to me about N/A	N/A
Yes	Yes	Agree	Yes	Snake	Yes	No	Yes	Veterinarian Disagree	Disagree	No	No one spoke to me about N/A	N/A
Yes	Yes	Agree	Yes	Other - please specify in i Tarantula	No	No	No	No one spoke to me about N/A	N/A	No	No one spoke to me about N/A	N/A