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**PERCEPTION, AWARENESS AND PRACTICE TOWARDS
ANIMAL WELFARE IN PETTING ZOOS AMONG
MALAYSIANS**

By

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**A RESEARCH PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENT FOR THE
DEGREE OF DOCTOR OF VETERINARY MEDICINE**

**FACULTY OF VETERINARY MEDICINE
UNIVERSITI MALAYSIA KELANTAN**

2024

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ABSTRACT

An abstract of the research paper presented to the Faculty of Veterinary Medicine, Universiti Malaysia Kelantan, in partial requirement of the course DVT 55204 – Research Project.

Animal welfare is an essential aspect of ensuring ethical and humane treatments of animals in captive facilities such as petting zoos. This cross-sectional study aims to assess the levels of perception, awareness and practice of Malaysians regarding animal welfare in petting zoos while exploring associations with socio-demographic factors like age, gender, education, and income, as well as analysing correlation among the awareness, perception and practice levels. Data were collected through an online survey, with 101 participants. Descriptive analysis was performed to evaluate the overall levels, and associations were analysed using statistical tests such as Chi-square and Spearman correlation, with IBM® SPSS® Version 27. The study found moderate levels of awareness, with significant differences based on demographic variables. While respondents demonstrated positive perceptions toward animal welfare, their practices often did not align with these perceptions, indicating challenges such as limited access to information and insufficient policy enforcement. The study highlights that a comprehensive approach combining education, policy enhancement, and active public participation is vital to creating a welfare-conscious society that aligns Malaysia's practices with global standards and improve animal welfare in petting zoos. This can be done by awareness campaigns, stricter regulations and community engagement to align with global animal welfare standards.

Keywords: Animal Welfare; Petting Zoos; Awareness; Perception; Practice

ABSTRAK

Abstrak kertas penyelidikan yang dikemukakan kepada Fakulti Perubatan Veterinar, Universiti Malaysia Kelantan, sebagai keperluan sebahagian daripada kursus DVT 55204 – Projek Penyelidikan.

Kebajikan haiwan merupakan aspek penting dalam memastikan layanan yang beretika dan berperikemanusiaan di kemudahan kurungan seperti zoo haiwan jinak. Kajian keratan rentas ini bertujuan untuk menilai tahap persepsi, kesedaran dan amalan rakyat Malaysia terhadap kebajikan haiwan di zoo haiwan jinak, sambil meneroka hubungan dengan faktor sosio-demografi seperti umur, pendidikan, dan pendapatan, serta menganalisis hubungan antara tahap kesedaran, persepsi dan amalan. Data dikumpulkan melalui tinjauan dalam talian melibatkan 101 peserta. Analisis deskriptif dilakukan untuk menilai tahap keseluruhan dan hubungan dianalisis menggunakan ujian statistik seperti Chi-square dan korelasi Spearman, dengan IBM® SPSS® Version 27. Kajian ini mendapati tahap kesedaran yang sederhana, dengan perbezaan ketara berdasarkan pemboleh ubah demografi. Walaupun responden menunjukkan sikap positif terhadap kebajikan haiwan, amalan mereka sering kali tidak selaras dengan sikap tersebut, menunjukkan cabaran seperti akses maklumat yang terhad dan penguatkuasaan dasar yang tidak mencukupi. Kajian ini menekankan bahawa pendekatan menyeluruh yang menggabungkan pendidikan, penambahbaikan dasar, dan penglibatan aktif masyarakat adalah penting untuk mewujudkan masyarakat yang prihatin terhadap kebajikan haiwan. Pendekatan ini dapat menyelaraskan amalan Malaysia dengan piawai global dan meningkatkan kebajikan haiwan di zoo haiwan jinak. Hal ini boleh dicapai melalui kempen kesedaran, peraturan yang lebih ketat, dan penglibatan komuniti untuk menyelaraskan dengan piawai kebajikan haiwan global.

Kata kunci: Kebajikan haiwan; Zoo haiwan jinak; kesedaran; persepsi; amalan

CERTIFICATION

This is to certify that we have read this research paper entitled '**Perception, Awareness and Practice towards Animal Welfare in Petting Zoos among Malaysians**' by **Anis Athirah binti Shaifull Nazre**, and in our opinion, it is satisfactory in terms of scope, quality, and presentation as partial fulfillment of the requirements for the course DVT 55204 – Research Project.



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ACKNOWLEDGEMENT

Special thanks to those who have given their support, guidance, advice, and aid for the completion of this project paper:

Dr. Goh Soon Heng

Dr. Mohammed Dauda Goni

Faqhrull Shafiq

Mysarah Ursilan

Aishah Nadine Crowley

Thushintha Tanavanthan

Afiq Pakari

Family

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DEDICATIONS

This thesis is dedicated to the incredible individuals who have shaped my journey, provided unwavering support, and stood by me through every step of this challenging yet rewarding endeavor.

First and foremost, to my parents and family, you have been my anchor, my guiding light, and my greatest source of strength. Your unconditional love, endless encouragement, and sacrifices have given me the courage to chase my dreams. Your belief in me, even when I doubted myself, has been the foundation upon which I have built this achievement. For every word of advice, every prayer and every act of kindness, I am deeply grateful.

I am profoundly grateful to my supervisors, whose wisdom, patience and mentorship have been invaluable throughout the process. Thank you for sharing your expertise, guiding me with constructive feedback, and challenging me to push beyond my limits. Your dedication and support have not only enriched this project but have also shaped me into a more competent and confident individual.

To my friends, who have been my constant cheerleaders and sources of joy. Your understanding, late-night pep talks, and ability to lift my spirits during difficult times have meant more to me than words can express. Thank you for believing in me, celebrating my small wins, and making this journey less daunting with your laughter and companionship.

Lastly, to myself. This dedication is a recognition of your resilience, determination and growth. For every sleepless night, for pushing through moments of doubt, and for never giving up despite the challenges - this is a testament to your strength and perseverance. You've worked tirelessly to bring this vision to life, and you deserve to celebrate this achievement wholeheartedly.

Thank you everyone for making this journey possible.

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LIST OF ABBREVIATIONS

STPM	Sijil Tinggi Persekolahan Malaysia
PhD	Doctor of Philosophy
NGOs	Non-Governmental Organizations
CARE	Companions and Animals for Reform and Equity
SPCA	Society for the Prevention of Cruelty to Animals
RM	Ringgit Malaysia



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LIST OF SYMBOLS

%	Percentage
>	Greater than
n	Number of respondents
p	P-value
r	correlation coefficient



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CHAPTER 1

1.0 INTRODUCTION

1.1 Research Background

In Malaysia, petting zoos can be found nationwide, particularly in tourist locations. It is a popular attraction with a unique experience in which visitors may engage with various animals in a replicated natural setting. From feeding rabbits and guinea pigs to holding exotic birds and reptiles, guests get hands-on experience with creatures from all over the world. A petting zoo provides interactive experiences where visitors may go up close to particular animals while supervised. Although personal and societal perspectives differ widely, it is commonly recognised that there is a rising social movement that has led to greater public concern and interest in the welfare of captive animals (Sherven and Hemsworth, 2019).

Zoo animal care has become a critical issue in Malaysia (Friends of the Orangutans (Malaysia), 2020). The present level of animal welfare in petting zoos varies according to region, legislation, and each facility's specific procedures. There is a growing awareness of the significance of animal welfare in many areas, resulting in tougher laws and standards for petting zoos and other animal attractions. Some petting zoos put animal welfare first, offering suitable habitats, veterinary care, and enrichment activities to guarantee the animals' physical and psychological well-being. They may also take steps to reduce stress and ensure that interactions with visitors are safe for both animals and people. However, certain petting zoos continue to face problems and concerns, including overcrowding (Sherven & Hemsworth, 2019), incorrect animal handling (Browning, 2018), unsuitable living conditions (Sueur & Pelé, 2019), unwanted feeding (Collins et al., 2023) and a lack of competent veterinary care (Pasteur et al., 2024). Due to these circumstances, animals may experience stress, damage,

or disease (Sherven & Hemsworth, 2019). Petting zoos must follow all animal care standards and guidelines established by authorities. Visitors may also help to promote animal care by choosing reputable facilities, observing correct behaviour around animals, and reporting any issues to the appropriate authorities. Some petting zoos can raise animal welfare as a topic as it must be understood for the possible influence of visitor behaviour on animal welfare (Davey, 2007). Visitors need to patronise only those petting zoos that adhere to high animal welfare standards and ethical practices.

1.2 Problem Statement

The awareness level of animal welfare needs to be improved, and the knowledge of every Malaysian needs to be expanded to provide the best care for the petting zoo animals, as most animals can experience stress from contact with the visitors. However, while this may appear to be a harmless pastime, certain petting zoos continue to face problems and concerns that could result from several circumstances. There are numerous welfare concerns related to the animals in petting zoos that usually go undetected and unheard. However, there is a paucity of data on the perception, awareness and practice towards animal welfare in petting zoos among Malaysians as well as the Malaysians' acceptance level on animal welfare.

1.3 Research Questions

1. What is the level of perceptions of Malaysians towards the known welfare of animals in petting zoos?
2. What is the level of awareness of Malaysians on the welfare of animals in petting zoos?
3. Do Malaysians understand the need for welfare practices for animals in petting zoos?

4. What are the socio-demographic factors associated with the level of perception, awareness and practice among Malaysians?

1.4 Research Hypothesis

1. Malaysians are aware of the animal welfare of animals in petting zoos.
2. Malaysians have a positive level of perception towards the animal welfare of animals in petting zoos.
3. Malaysians understand the need for practice for animals in petting zoos.
4. The socio-demographic factors are associated with the level of perception, awareness and practice of Malaysians.

1.5 Research Objectives

1. To assess the perceptions of Malaysians towards the welfare of animals in petting zoos.
2. To determine the level of awareness of Malaysians regarding animal welfare in petting zoos.
3. To assess whether Malaysians understand the need for welfare practices for animals in petting zoos.
4. To determine the factors associated with the level of perception, awareness and practice among the socio-demographic variables.

CHAPTER 2

LITERATURE REVIEW

2.1 Animal Welfare

Arndt *et al.*, (2022) emphasise animal welfare in three concepts: The Five Freedom concept, the Five Domain concept and The Quality of Life concept. The idea of welfare revolves around the dynamics of an individual animal's ability to cope and adapt to its surroundings. Whereas an animal's adaptive ability includes positive and negative emotional reactions, the animal welfare discussion focuses mostly on 'negative' feelings. Multiple 'official' definitions of animal welfare incorporate all three concepts described above (Webster, J., 2016). The World Organisation for Animal Health (2008) defines excellent animal well-being as being healthy, comfortable, well-nourished, and able to express natural behaviour without pain, fear, or discomfort. The 'Five Freedoms' notion provides a practical way for studying wellbeing.

Under the provisions of Section 15 of the Animal Welfare Act 2015, which comprises the Five Freedoms concept. There are thirteen (13) activities involving animals that shall be licensed by the Animal Welfare Board (Department of Veterinary Services Malaysia, 2019). The owner or licensee must take reasonable steps to ensure that the following animal requirements are met:

- i. its needs for a suitable environment;
- ii. its need for a suitable diet;
- iii. the need for it to be able to exhibit its normal behaviour pattern;
- iv. the need for it to be housed with or apart from other animals; and

v. the need for it to be protected from pain, suffering, injury and disease.

Animal welfare refers to how an animal copes with the conditions in which it lives. Scientific data indicates that an animal is in a good state of animal welfare when it is healthy, comfortable, well-nourished, safe, able to express natural behaviour, and not experiencing pain, fear, or discomfort. Animal welfare includes illness prevention, veterinarian care, housing, management, feeding, humane handling, and humane killing. Thus, protecting an animal's welfare involves meeting both its physical and mental requirements.

2.2 Current State of Petting Zoo

A petting zoo is a collection of displays where domesticated or semi-domesticated animals are permitted to interact with humans, including physical touch and feeding. Close encounters between animals in zoo exhibits might impact their behaviour and welfare. Petting zoos are popular attractions at zoos and animal parks, but little research has been conducted on them (Farrand *et al.*, 2013). The purpose of zoos is to maintain high animal welfare standards, promote healthy living conditions, and highlight this to visitors. Some petting zoos prioritise animal welfare, providing appropriate habitats, medical treatment, and enrichment activities to ensure the animals' physical and psychological well-being. They may also take precautions to alleviate stress and ensure that interactions with visitors are safe for animals and humans. Certain petting zoos, however, continue to face issues and concerns, such as overcrowding (Sherven & Hemsworth, 2019), improper animal handling (Browning, 2018), unsuitable living conditions (Sueur & Pelé, 2019), unwanted feeding (Collins *et al.*, 2023), and a lack of competent veterinary care (Pasteur *et al.*, 2024). As a result of these situations, animals may be stressed, harmed, or afflicted with illness. Petting zoos must adhere to all animal care regulations and requirements set by authorities. If an animal exhibits indications

of stress or avoidance in the presence of visitors, these aims may clash. Visitors may stimulate or provide good experiences for some species, potentially improving animal welfare (Sherven and Hemsworth, 2019).

Learmonth (2020) examines that petting zoos also serve as unique platforms for human-animal interaction, offering both educational and recreational opportunities for visitors to learn about animals and nature. The research highlights their potential to promote conservation awareness and foster emotional connections between visitors and animals. For instance, the information provided such as interactions in petting zoos can provide memorable experiences that enhance understanding and respect for animals, potentially encouraging pro-conservation behaviours among visitors. However, such interactions are not without ethical concerns. Studies reveal that frequent handling and prolonged exposure to humans can lead to stress-related behaviours in animals, as observed in guinea pigs subjected to petting events (Kase *et. al*, 2021). Moreover, petting zoos are often criticized for prioritizing visitor satisfaction over animal welfare, with concerns including overbreeding, inadequate living conditions, and a lack of educational value (Bloch, 2020). These facilities must balance their goals of education and entertainment with the ethical responsibility to safeguard animal welfare. Thus, while petting zoos hold promise as tools for education and engagement, their operations must be closely regulated to ensure animal welfare is not compromised.

2.3 The effects of visitors in petting zoo

Zoo visits have been linked to behavioural changes in captive animals. Wild animals are brought into captivity for various causes, including conservation, study, agriculture, and the exotic pet trade. Captivity diminishes wild animals' natural impulses. Animals lack

freedom of choice and cannot act as they would in their natural habitat. This can lead to physical and behavioural deterioration. The most prevalent behavioural changes documented are often perceived negatively regarding animal welfare. These include reduced social conduct, increased aberrant behaviour, and increased violence (Sherven & Hemsworth, 2019). While animals' basic requirements are addressed in captivity, confinement and exposure to people can cause physiological stress (Fischer & Romero, 2019).

On the other hand, visitors might theoretically have a negative, neutral, or positive impact on petting zoo animals. Visitor effect research has frequently lacked scientific rigour due to the difficulties of controlling visitor variables, such as visitor presence, density, noise, and behaviour (Farrand *et al.*, 2013). Others argue that visiting zoos benefits caged animals. According to this viewpoint, visitors contribute to the environmental variety and enrichment. Limited studies have been conducted on the enriching benefits of visitors on animals. However, anecdotal evidence shows that certain animals may want visitor impacts, especially in zoos and exhibitions where animals interact with humans or wander freely (Davey, 2007). In addition, zoo animals are often exposed to humans, both known and new, which may impair their welfare (Sherven & Hemsworth, 2019).

Furthermore, visitors may also affect the animals' natural behaviour. Some behaviours, including play, walking, stretching, turning, and getting up and lying down, are not species-specific but beneficial for welfare. Several of these instances were included in the original articulation of the Five Freedoms (Arndt *et al.*, 2022) and are widely recognised as crucial for animal welfare. Natural behaviour refers to animals' enjoyable and beneficial behaviours in their natural environment (Bracke & Hopster, 2006).

2.4 The importance of public awareness in animal welfare

Human perceptions of non-human animals, and the ensuing interactions and decisions we make regarding their worth and well-being, are impacted by various factors, including age, gender, religion, and previous experience with animals (Cornish *et al.*, 2016). Animal welfare has grown in popularity recently, although it is not a new issue (Khillare & Kaushal, 2021). Animal welfare establishes a mutually advantageous programme between people and animals in which "if we take care of animals, animals will take care of us" (Strand, 2014). Khillare and Kaushal (2021) also emphasise that animal protection and care can lead to the domestication of some animals, reducing human-animal conflict and zoonotic illnesses. Human-animal ties are positive and encouraging partnerships. As a result, the better the human-animal link and animal psychology are aware, the more we can use the bond to improve people's lives by improving mental, emotional and social well-being (Purdue News Service, 2019). When suitable techniques and management are followed, the animals appear to be in good health. It is time for all humans to recognise the value of animal welfare and its significance in our lives. For example, positive welfare is critical to preserving the health and happiness of animals under human care as stress has an environmental influence on a person, overtaxing its control systems and reducing its fitness (Broom & Johnson, 2020).

World Animal Welfare Day promotes the relationship between humans and animals. World Animal Day, also known as International Day for Animal Rights and Welfare, is observed every year on October 4. The goal of World Animal Welfare Day was to improve animal welfare standards across the world by enlisting the help and participation of people, organisations, and non-governmental organisations that care about and love animals. The annual World Animal Day activities include animal welfare movements, which are

encouraged to become a worldwide force in making the world a better place for all animals. Some other laws and enactments address animal welfare (Khillare & Kaushal, 2021).

Non-Governmental Organizations (NGOs) play an important role in raising public awareness about animal welfare by focusing on education, advocacy and involving communities. They organize activities like workshops and school programs to teach people how to care for animals responsibly and explain the importance of the “Five Freedoms”, which ensure animals are free from harm, stress, and discomfort. Groups like World Animal Protection and CARE (Companions and Animals for Reform and Equity) also work to improve animal laws and ensure they are enforced (Jenkins & Rudd, 2022). Some NGOs focus on creating better living conditions for animals, where they can behave naturally and thrive. These efforts often include online campaigns, such as the World Animal Day, to get people worldwide to support animal welfare (Rault *et al.*, 2022). While these initiatives are effective, challenges like limited funding and cultural differences can make progress slower. However, programs that include local communities and adapt to their needs are usually more successful in the long term (Khillare & Kaushal, 2021).

Local organizations like the Society for the Prevention of Cruelty to Animals (SPCA) in Malaysia also play a vital role in promoting animal welfare. SPCA Selangor, for instance, is dedicated to protecting animals from abuse and neglect through initiatives such as cruelty investigations, public education, and offering low-cost neutering and spaying services to manage stray populations. They also provide adoption services for rescued animals, emphasizing community involvement in improving animal welfare practices (Zolkipli@Zulkifli, 2022).

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Study Design and Target Population

This cross-sectional study was conducted among visitors and non-visitors of the petting zoo in Malaysia. The study is designed to assess the awareness, perceptions as well as practice towards animal welfare among the visitors and non-visitors of petting zoos in Malaysia. As such, this study sampled Malaysians across all states between the period of 1 September to 20 November 2024.

3.2 Selection Criteria

Respondents consist of Malaysians from all states, particularly regular visitors or non-visitors of petting zoos, who are willing and consent to participate in the study. Respondents must also have their means to access the self-administered online questionnaire.

3.2.1 Inclusion Criteria

Respondents must be Malaysian, above 18 years old, know and understand the concept of petting zoos as well as be willing to participate.

3.2.2 Exclusion Criteria

The respondents are excluded if they are not from Malaysia, below 18 years old, or do not know and understand the concept of petting zoo. Respondents involved in pre-testing the questionnaire would also be excluded from the study.

3.3 Sampling Method and Procedure

This study used a convenience sampling strategy utilising online questionnaires prepared with Google Form. A single proportion formula will be utilised to estimate the minimum sample size for this inquiry. Based on the population proportion (P) is set to 50% in the single proportion calculation and the margin of error to 10%. The decrease in population percentage aims to achieve statistical restrictions with the fewest possible samples. The above yields a sample size of 97 for the investigation.

3.4 Data Collection Tools

A questionnaire was developed and validated solely for this study. Data was collected by using the questionnaire through the distribution of Google Form, which is made up of 4 parts, labelled as part A, B, C, and D. Part A focuses on collecting demographic information, including the age group, gender, education level, income range, pets owned, and visitor type. Part B focuses on the level of awareness towards animal welfare in petting zoos in Malaysia. Part C focuses on the perception towards animal welfare in petting zoos among Malaysians. Part D focuses on the level of animal welfare practice in petting zoos.

Incorrect or questionable responses in the awareness section will receive a score of 0, whilst picking the proper option will earn one point. The maximum overall awareness score will correspond to the total number of questions in the segment. In the perception and practice sections, responses to statements with choices ranging from “strongly agree” to “strongly disagree” will be scored as 5, 4, 3, 2, or 1. Practices will be graded as 5 for "always", 4 for “often”, 3 for “sometimes”, 2 for “rarely” and 1 for “never”. Respondents' perception, awareness, and practice levels will be graded as "good" or "poor" based on Bloom's cut-off criterion. Malaysians with awareness ratings more than 60% are deemed to have good

awareness, while those with scores less than 60% are classed as having poor awareness. Scores of 80% or more indicate a good perception, 60-79% indicate a moderate perception, while scores below 59% are considered poor. Participants with scores greater than 80% will be considered to have appropriate practices, while those with scores less than 80% will be deemed to have unsatisfactory practices.

3.5 Statistical Analysis of Data

The questionnaire data were analyzed using IBM® SPSS® Version 27. Descriptive statistics was used to analyze the sociodemographic characteristics of the respondents as well as their awareness, perception and practice towards animal welfare in petting zoos. The categorical data was analyzed and expressed in percentage and frequency. Pearson Chi-square was used to determine the association between the categorical variables. Statistical significance was tested at 95% confidence interval. A p-value of <0.05 was considered significant. Spearman's rho correlations were performed to measure the correlations between total scores of awareness, perception and practice. The correlation was significant at a level of <0.01 .

CHAPTER 4

RESULTS

4.1 Socio-Demographic Characteristics of Respondents

The results of the demographic characteristics of respondents are displayed in Table 4.1. Based on the findings, most of the respondents were within the age group of 21-30 years old (51.5%), followed by the age group of 51-60 years old (14.9%), 41-50 years old (12.9%), 31-40 years old (8.9%), 18-20 years old (7.9%), and 61-65 years old (4%) respectively. Most respondents were female (60.4%) whilst the remaining were male (39.6%). The highest education level of the majority of respondents was Bachelor's degree (53.5%), followed by Diploma / Matriculation / Foundation / STPM (20.8%), Master degree (11.9%), secondary education (5%), PhD (4%), no formal education (3%), and other (2%). The income also revealed <RM2500 as the highest (29.7%), no income (24.8%), RM5000-RM8000 (21.8%), RM8000-RM10000 (9.9%), RM2500-RM5000 (7.9%), and lastly >RM10000 (5.9%). Most visitors also own pet animals (78.2%) with the remaining not having pet animals (21.8%). Most of the respondents have visited petting zoos (90.1%), and the remaining have never visited petting zoos (9.9%).

Table 4.1: Demographic information of the respondents (n=101)

Demographic Information		Number (n)	Percentage (%)
Age	18-20	8	7.9
	21-30	52	51.5

	31-40	9	8.9
	41-50	13	12.9
	51-60	15	14.9
	61-65	4	4.0
Gender	Male	40	39.6
	Female	61	60.4
Education level	Secondary	5	5.0
	Diploma / Matriculation / Foundation / STPM	21	20.8
	Bachelor's degree	24	53.5
	Master degree	12	11.9
	PhD	4	4.0
	No formal education	3	3.0
	Other	2	2.0
Income	<RM2500	30	29.7
	RM2500-RM5000	8	7.9
	RM5000-RM8000	22	21.8
	RM8000-RM10000	10	9.9

	>RM10000	6	5.9
	None	25	24.8
Do you own any pet animals?	Yes	79	78.2
	No	22	21.8
Have you visited a petting zoo?	Yes	91	90.1
	No	10	9.9

4.2 Awareness of Animal Welfare in Petting Zoos

In this study, the awareness of respondents is displayed in Table 4.2. It revealed varied levels of awareness among respondents about animal welfare in petting zoos. A significant majority was high at 78.2% (n=79), acknowledged the importance of animal welfare, and 79.2% (n=80) understood the need for respectful interactions and hygiene practices. Awareness about daily care (67.3%, n=68), species-specific care (80.2%, n=81) were relatively high. The animal sensitivities like bright lights and loud noises were noted high at 78.2% (n=79). High awareness on petting zoos may be a valuable educational resource that provides knowledge about animals, their natural behaviors, and their care was noted (77.2%, n=78). Only half of the respondents (50.5%, n=51) were moderately aware of specific welfare standards. Also, moderate awareness was seen towards the stress and discomfort indicators in animals (52.5%, n=53), ethical considerations of captivity (58.4%, n=59), the role of petting zoos in conservation at (58.4%,n=59) awareness of prohibited food items (54.5%, n=55) and the need for animal enrichment (56.4%, n=57). Furthermore, moderates are aware of petting zoo's role in conservation and education (57.4%, n=58) and campaigns or

organizations that promote animal welfare in petting zoos (58.4%, n=59). Awareness of specific frameworks, such as Five Freedoms of animal welfare, was notably lower (42.6%, n=43) and even fewer (39.6%, n=40) knew about certifications or accreditations. Similarly, awareness of animal happiness and health in petting zoos was low at 40.6% (n=41). Also, low awareness at 49.5% (n=50) showed whether the visitors are unaware of whom to contact in case of an incident involving the animals or visitors. The assessment of animal welfare in petting zoos (47.5%, n=48) and how to conduct the assessment of animal welfare in petting zoos (40.6%, n=41) awareness were relatively lower.

Table 4.2: Responses of respondents(n=101) towards awareness questions.

Questions	Responses	
	Yes n (%)	No / Not sure n (%)
Are you aware of the importance of animal welfare in petting zoos?	79 (78.2)	22 (21.8)
Are you aware of the Five Freedoms of animal welfare?	43 (42.6)	58 (57.4)
Are you aware of any specific animal welfare standards or regulations that petting zoos are required to follow?	51 (50.5)	50 (49.5)
Are you aware if petting zoos in your area have any certifications or accreditations related to animal	40 (39.6%)	61 (60.4)

welfare?

Are animals in petting zoos happy and healthy? 41 (40.6) 60 (59.4)

Are you aware that the petting zoos may engage in conservation efforts and ethical breeding practices? 59 (58.4) 42 (41.6)

Are you aware of the ethical considerations behind keeping animals in captivity? 59 (58.4) 42 (41.6)

Are you aware of the petting zoo's role in conservation and education? 58 (57.4) 43 (42.6)

Are you aware of the importance of maintaining a respectful and safe environment for both animals and people during visiting periods? 80 (79.2) 21 (20.8)

Are you aware that petting zoos may be a valuable educational resource that provides knowledge about animals, their natural behaviors, and their care? 78 (77.2) 23 (22.8)

Are you aware there are campaigns or organizations that promote animal welfare in petting zoos? 59 (58.4) 42 (41.6)

Are you aware about the daily care and needs of animals in petting zoos? 68 (67.3) 33 (32.7)

Are you aware about the importance of hygiene for animals in petting zoos?	80 (79.2)	21 (20.8)
Are you aware that animals in petting zoos require enrichment?	57 (56.4)	44 (43.6)
Are you aware of the prohibited food items for animals?	55 (54.5)	46 (45.5)
Are you aware that different animal species require different care and diet requirements?	81 (80.2)	20 (19.8)
Are you aware of the signs of stress or discomfort in animals?	53 (52.5)	48 (47.5)
Are you aware that animals need to be approached carefully and respectfully?	81 (80.2)	20 (19.8)
Are you aware that certain animals are sensitive to bright light and loud noises?	79 (78.2)	22 (21.8)
Do you know whom to contact in case of an incident involving animals or visitors?	50 (49.5)	51 (50.5)
Are you aware of the assessment of animal welfare in petting zoos?	48 (47.5)	53 (52.5)
Are you aware of how to conduct the assessment of animal welfare in petting zoos?	41 (40.6)	60 (59.4)

4.3 Perception of Animal Welfare in Petting Zoos

Table 4.3 displays the response towards animal welfare in petting zoos. A majority strongly agreed, showing high perception that animal welfare is important (66.3%, n=67) with other significant high perceptions including the necessity of hygiene (64.4%, n=65). The need for specific standards were high (60.4%, n=61) and certifications (62.4%, n=63) was also emphasized. High perception was also noticed on feeding prohibited food items to animals in petting zoos (67.3%, n=68). A moderate perception on the adherence to the Five Freedoms is crucial (53.5%, n=54) and petting zoos were recognized as educational resources which showed moderate perceptions (51.5%, n=52). Campaigns or organizations that promote animal welfare in petting zoos are beneficial in maintaining animal welfare (52.5%, n=53) and (59.4%, n=60) stressed the importance of maintaining a respectful and safe environment during visits. It is important to know about the daily care and needs of animals in petting zoos (53.5%, n=54) as well as moderate perceptions on specialized diets (53.5%, n=54), and recognizing animal stress indicators (55.4%, n=56). A moderate perception also showed animals in petting zoos need to be approached carefully and respectfully (56.4%, n=57) with the relevant parties needing to be contacted in case of an incident involving animals or visitors in petting zoos (57.4%, n=58). Moderate perception (52.5%, n=53) was also noticed on the importance of knowing and how to conduct the assessment of animal welfare in petting zoos. However, perceptions about the actual welfare conditions of animals were less favorable, with (39.6%, n=40) indicating low perceptions, agreeing that animals were well taken care of (39.6%, n=40), but there were individuals (23.8%, n=24) who had neutral responses. Some respondents (30.7%, n=31) believed they were happy and healthy but there were individuals (39.6%, n=40) that had neutral responses to that too. Respondents also highlighted the benefits of conservation efforts (44.6%, n=45) and ethical considerations in

captivity (39.6%, n=40) that were still considered low. The perception of enriched environments was also considered low (45.5%, n=46).

Table 4.3: Responses of respondents (n=101) towards perception questions.

Questions	Responses				
	Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
Animal welfare is important in petting zoos	67 (66.3)	14 (13.9)	7 (6.9)	9 (8.9)	4 (4.0)
Five Freedoms of animal welfare should always be consistently adhered to in petting zoos	54 (53.5)	29 (28.7)	8 (7.9)	6 (5.9)	4 (4.0)
It is important for petting zoos to follow specific animal welfare standards or regulations	61 (60.4)	21 (20.8)	6 (5.9)	8 (7.9)	5 (5.0)
It is important for petting zoos to have any certifications or accreditations related to	63 (62.4)	24 (23.8)	8 (7.9)	3 (3.0)	3 (3.0)

animal welfare

The animals in petting zoos 40 (39.6) 24 (23.8) 24 (23.8) 7 (6.9) 6 (5.9)

are well taken care of

All animals in petting zoos 31 (30.7) 19 (18.8) 40 (39.6) 8 (7.9) 3 (3.0)

are happy and healthy

It is beneficial for petting 45 (44.6) 31 (30.7) 13 (12.9) 8 (7.9) 4 (4.0)

zoos to engage in

conservation efforts and

ethical breeding practices

The ethical considerations 40 (39.6) 33 (32.7) 20 (19.8) 5 (5.0) 3 (3.0)

behind keeping animals in

captivity is part of

maintaining animal welfare

Petting zoo's role in 46 (45.5) 32 (31.7) 14 (13.9) 3 (3.0) 6 (5.9)

conservation and education

is part of maintaining

animal welfare

It is essential to maintain a 60 (59.4) 29 (28.7) 4 (4.0) 7 (6.9) 1 (1.0)

respectful and safe

environment for both

animals and people during

visiting periods

Petting zoos are a valuable educational resource that provides knowledge about animals, their natural behaviors, and their care	52 (51.5)	30 (29.7)	11 (10.9)	7 (6.9)	1 (1.0)
Campaigns or organizations that promote animal welfare in petting zoos is beneficial in maintaining animal welfare	53 (52.5)	33 (32.7)	8 (7.9)	5 (5.0)	2 (2.0)
It is important to know about the daily care and needs of animals in petting zoos	54 (53.5)	28 (27.7)	11 (10.9)	8 (7.9)	0
Hygiene is important for animals in petting zoos	65 (64.4)	20 (19.8)	4 (4.0)	9 (8.9)	3 (3.0)
Enrichments are needed by the animals in petting zoos	46 (45.5)	42 (41.6)	8 (7.9)	3 (3.0)	2 (2.0)
We should not feed prohibited food items to animals in petting zoos	68 (67.3)	20 (19.8)	5 (5.0)	5 (5.0)	3 (3.0)
Animals in petting zoos	54 (53.5)	29 (28.7)	8 (7.9)	7 (6.9)	3 (3.0)

need high-quality, specialized diets to ensure optimal growth and health					
It is important to recognise signs of stress or discomfort in animals in petting zoos	56 (55.4)	30 (29.7)	5 (5.0)	9 (8.9)	1 (1.0)
Animals in petting zoos need to be approached carefully and respectfully	57 (56.4)	27 (26.7)	8 (7.9)	6 (5.9)	3 (3.0)
The relevant parties need to be contacted in case of an incident involving animals or visitors in petting zoos	58 (57.4)	26 (25.7)	8 (7.9)	5 (5.0)	4 (4.0)
It is important to know the assessment of animal welfare in petting zoos	53 (52.5)	28 (27.7)	8 (7.9)	8 (7.9)	4 (4.0)
It is important to conduct the assessment of animal welfare in petting zoos	53 (52.5)	30 (29.7)	13 (12.9)	4 (4.0)	1 (1.0)

4.4 Practice on Animal Welfare in Petting Zoos

From Table 4.4, respondents' practices reflected a mix of adherence to animal welfare principles. Combining "always" and "often" responses, (81.2%, n=82) followed specific guidelines during visits, while the principles of the Five Freedoms were always or often followed (64.3%, n=65). Observing and assessing animal health and well-being were high, which was always or often done by (62.4%, n=63), while (70.3%, n=71) always or often supported conservation efforts. Other high practices of ethical considerations were incorporated into behaviour (74.2%, n=75), and conservation and education initiatives were always or often noticed (66.4%, n=67) were noted. Monitoring a respectful and safe environment for animals and visitors was always or often ensured (74.3%, n=75), while (66.4%, n=67) always or often utilized educational resources. Applying animal knowledge during interactions was demonstrated (69.3%, n=70) while being mindful of the daily care and needs of animals was practiced always or often (64.4%, n=65) with sometimes (27.7%, n=28). Hand hygiene, through using sanitizers or washing hands, was always or often practiced (63.3%, n=64). Avoiding feeding prohibited items was always or often followed (70.3%, n=71) and identifying and responding to signs of stress in animals was practiced (60.4%, n=61), while careful and respectful approaches to animals were always or often ensured (74.3%, n=75). Participation in animal welfare campaigns was always or often reported by (54.4%, n=55), and noticing welfare practices in petting zoos was always or often observed (56.4%, n=57) with sometimes (26.7%, n=27), while assessing welfare practices was done (52.5%, n=53) with sometimes (33.7%, n=34). Despite these positives, verifying certifications was always and often done by only a third of respondents (32.7%, n=33) with sometimes being answered (27.7%, n=28). Observing enrichments provided for animals was less common, with (49.5%, n=50) always or often noticing them and sometimes (28.7%, n=29). Less favorable behaviours included touching prohibited animals (25.7%, n=26)

always or often engaging in this, and taking pictures with flash, reported by (20.8%, n=21). Knocking on enclosures to attract animals’ attention was always or often done (21.8%, n=22) with sometimes (23.8%, n=29). Handling incidents effectively was always or often addressed by (34.6%, n=35) with sometimes (24.8%, n=25).

Table 4.4: Responses of respondents (n=101) towards practice questions.

Questions	Responses				
	Always	Often	Sometimes	Rarely	Never
	n (%)	n (%)	n (%)	n (%)	n (%)
Do you ensure to follow specific animal welfare standards or regulations such as avoiding disruptive behaviours and following petting zoos guidelines during your visit?	51 (50.5)	31 (30.7)	8 (7.9)	6 (5.9)	5 (5.0)
Do you practice and adhere to the Five Freedoms of animal welfare whilst visiting petting zoos?	39 (38.6)	26 (25.7)	17 (16.8)	12 (11.9)	7 (6.9)
Do you verify that a petting zoo has relevant	12 (11.9)	21 (20.8)	28 (27.7)	18 (17.8)	22 (21.8)

certifications or accreditations related to animal welfare before your visit?					
Do you observe and assess the health and well-being of animals to ensure they appear happy and healthy?	31 (30.7)	32 (31.7)	21 (20.8)	10 (8.9)	7 (6.9)
Do you support the conservation efforts and ethical breeding practices that a petting zoo may engage in?	46 (45.5)	25 (24.8)	14 (13.9)	9 (8.9)	7 (6.9)
Do you incorporate an understanding of ethical considerations into your behavior during visits?	39 (38.6)	36 (35.6)	8 (7.9)	12 (11.9)	6 (5.9)
Do you notice the petting zoo's initiatives in conservation and education during visits?	35 (34.7)	32 (31.7)	21 (20.8)	9 (8.9)	4 (4.0)
Do you take actions to help	45 (44.6)	30 (29.7)	11 (10.9)	7 (6.9)	8 (7.9)

maintain a respectful and safe environment for both animals and visitors during your visit?

Do you use the educational resources provided by the petting zoos to learn about animals, their natural behaviors, and their care?

Do you participate in or support campaigns or organizations that promote animal welfare in petting zoos?

Do you apply your knowledge of animals when interacting with them in petting zoo?

Are you mindful of the daily care and needs of the animals during your visit?

Do you use hand sanitizers

43 (42.6)	24 (23.8)	17 (16.8)	7 (6.9)	10 (9.9)
29 (28.7)	26 (25.7)	22 (21.8)	15 (14.9)	9 (8.9)
36 (35.6)	34 (33.7)	16 (15.8)	8 (7.9)	7 (6.9)
40 (39.6)	25 (24.8)	27 (26.7)	6 (5.9)	3 (3.0)
37 (36.6)	27 (26.7)	24 (23.8)	6 (5.9)	7 (6.9)

or wash hands thoroughly
before and after interacting
with the animals?

Do you notice the 24 (23.8) 26 (25.7) 29 (28.7) 12 (11.9) 10 (9.9)
enrichments provided for
the animals during your
visit?

Do you ensure that you 53 (52.5) 18 (17.8) 18 (17.8) 6 (5.9) 6 (5.9)
only use food items
provided by the petting zoo
and avoid feeding animals
prohibited items?

Do you identify and 25 (24.8) 36 (35.6) 22 (21.8) 13 (12.9) 5 (5.0)
respond to signs of stress or
discomfort in animals
during your visit?

Do you ensure that you 50 (49.5) 25 (24.8) 14 (13.9) 10 (9.9) 2 (2.0)
approach the animals
carefully and respectfully?

Do you touch the animals 10 (9.9) 16 (15.8) 5 (5.0) 13 (12.9) 57 (58.4)
available on display even
when prohibited?

Do you take pictures of the animals with flash?	9 (8.9)	12 (11.9)	16 (15.8)	13 (12.9)	51 (50.5)
Do you knock the enclosures to attract the attention of the animals when visiting a petting zoo?	8 (7.9)	14 (13.9)	24 (23.8)	20 (19.8)	35 (34.7)
Do you handle and report incidents involving animals or visitors effectively?	17 (16.8)	18 (17.8)	25 (24.8)	15 (14.9)	26 (25.7)
Do you notice the level of welfare practices while visiting the petting zoo?	27 (26.7)	30 (29.7)	27 (26.7)	8 (7.9)	9 (8.9)
Do you assess the level of welfare practices while visiting the petting zoo?	25 (24.8)	28 (27.7)	34 (33.7)	6 (5.9)	8 (7.9)

4.5 Respondents' level of awareness, perception and practice

Based on Table 4.5, out of 101 respondents, more respondents showed good awareness (51.5%, n=52) with poor awareness at (48.5%, n=49). Additionally, 70 respondents (69.3%, n=70) showed a good perception towards animal welfare, while 11.9% (n=12) and 18.8% (n=19) showed a poor and moderate perception towards animal welfare, respectively. While

for practice, poor practice was observed more (70.3%, n=71) than good practice (29.7%, n=30).

Table 4.5: Respondents' (n=101) level of awareness, perception and practice

Variable	Level	Score	Frequency (%)
Awareness	Poor	0-13	49 (48.5)
	Good	14-22	52 (51.5)
Perception	Poor	1-65	12 (11.9)
	Moderate	66-87	19 (18.8)
	Good	88-110	70 (69.3)
Practice	Poor	1-91	71 (70.3)
	Good	92-115	30 (29.7)

4.6 Association between socio-demographic characteristics between awareness, perception and practice towards animal welfare in petting zoos among Malaysians

From table 4.6.1, it examines the relationship between various factors and awareness level of the animal welfare in petting zoos, which was analyzed using Chi-square tests. There is a statistically significant association between the age ($p=0.022$), education ($p=0.001$) and income ($p=0.015$) with the awareness level of animal welfare in petting zoos. However, the gender ($p=0.061$) and visitor type ($p=0.921$) did not show statistically significant associations ($p>0.05$).

Table 4.6.1: Association between total score of awareness and the sociodemographic characteristics of respondents

Sociodemographic characteristics	Awareness	
	Chi-square value	p-value
Age	13.123	0.022
Gender	3.498	0.061
Education level	32.997	0.001
Income	14.109	0.015
Visitor type	0.010	0.921

From table 4.6.2, this table examines that there is statistically significant association between almost all of the characteristics, such as age ($p=0.001$), gender ($p=0.031$), education level ($p=0.001$) and income ($p=0.003$) with the perceptions level of animal welfare in petting zoos. However, the visitor type shows no significant result of $p=0.714$.

Table 4.6.2: Association between total score of perception and the sociodemographic characteristics of respondents

Sociodemographic characteristics	Perception	
	Chi-square value	p-value
Age	29.855	0.001

Gender	6.978	0.031
Education level	39.451	0.001
Income	27.094	0.003
Visitor type	0.674	0.714

From table 4.6.3, the table highlights that there is statistically significant association between age (p=0.011) and income (p=0.039) with practice levels of animal welfare in petting zoos. While there is no statistically significant association between gender (p=0.695), education level (p=0.066), and visitor type (p=0.479) with the practice levels of animal welfare in petting zoos.

Table 4.6.3: Association between total score of practice and the sociodemographic characteristics of respondents in Malaysia

Sociodemographic characteristics	Practice	
	Chi-square value	p-value
Age	14.894	0.011
Gender	0.154	0.695
Education level	11.812	0.066
Income	11.733	0.039
Visitor type	0.500	0.479

4.7 Correlation between total awareness, perception and practice score of animal welfare in petting zoos among Malaysians

The table summarizes the correlation coefficient and significance for the relationships between three variables. For awareness and perception, it shows 0.563 that indicate a moderate positive relationship. The relationship is statistically significant ($p=0.001$). This suggests that higher awareness levels are associated with higher perception levels. The level of awareness and level of practice of 0.501 indicate a moderate positive relationship with the relationship being statistically significant ($p=0.001$). This suggests that higher awareness is associated with better practices. The level of perception and practice shows 0.385 indicating a weak to moderate positive relationship with the relationship being statistically significant ($p=0.001$). This suggests that higher perceptions are somewhat associated with better practices, but the relationship is not as strong.

Table 4.7: Spearman' rho correlation between awareness, perception and practice

Spearman 's rho	Correlation (p-value)		
	Awareness	Perception	Practice
Awareness	1	0.563 (0.001)	0.501 (0.001)
Perception	0.563 (0.001)	1	0.385 (0.001)
Practice	0.501 (0.001)	0.385 (0.001)	1

Correlation is significant at the 0.01 level (2-tailed)

CHAPTER 5

DISCUSSION

The study revealed a relatively good level of general awareness among respondents, with 51.5% (n=52) having a high score on the awareness. Majority of respondents (78.2%, n=79) acknowledged the importance of animal welfare. High awareness on daily care (67.3%, n=68) reflects understanding of animals' fundamental requirements. Awareness about practical aspects, such as species-specific care and diet (80.2%, n=81), hygiene (79.2%, n=80), and recognizing stress signals (52.5%, n=53), was notably higher. This reflects the effectiveness of focusing on tangible and actionable aspects of animal welfare in public messaging (Weese et al., 2007). The high awareness of animal sensitivities like bright light and loud noises (78.2%, n=79) suggests respondents recognize environmental factors that may distress animals. Petting zoos as educational resources (77.2%, n=78) reflects the potential of zoos to serve as hubs for learning about natural behaviour and ecological roles (Greenwell et al., 2023). Moreover, a moderate awareness of conservation efforts (58.4%, n=59) suggests that zoos should highlight their conservation roles through visible and engaging visitor activities (Greenwell et al., 2023). Moderate awareness on specific welfare standards (50.5%, n=51) highlights lack of familiarity with specific guidelines while ethical considerations of captivity (58.4%, n=59) reflects a recognition of concerns like enclosure adequacy. Moderate awareness of prohibited food items (54.5%, n=55) indicate inconsistent dietary constrictions of animals, and the need for animal enrichment (56.4%, n=57) suggest visitors may not value the purpose and importance. Also, a moderate number of respondents are aware that petting zoo's role in conservation and education (57.4%, n=58) can be from insufficient emphasis during visits and campaigns or organizations that promote animal

welfare in petting zoos (58.4%, n=59) highlights familiarity with advocacy efforts. However, specific knowledge, such as the Five Freedoms of animal welfare (42.6%, n=43), was much lower. This suggests a gap in awareness about key welfare principles despite their foundational role in ensuring the ethical treatment of animals. This indicates a need for targeted educational efforts to bridge the awareness gap, especially regarding fundamental animal welfare standards. Studies highlight that public education campaigns such as through talk on events focusing on frameworks like the Five Freedoms can enhance understanding and encourage adherence to welfare standards (Learmonth, 2020). Low awareness on certifications at petting zoos (39.6%, n=40) points to insufficient dissemination of information about regulatory standards. Public campaigns could emphasize the significance of certifications as indicators of ethical practices, which could foster greater accountability among petting zoos (Main et al., 2014). Also, limited awareness of animal happiness and health (40.6%, n=41) signs a gap between visitor expectations and the ability to evaluate welfare. Visitors often rely on anthropomorphic cues, such as visible playfulness, which can misrepresent animal well-being (D’Cruze *et al.*, 2019). Information in the form of pamphlets can be provided to visitors to differentiate between normal stress-free behaviours, such as proper posture or calm engagement, could significantly enhance welfare comprehension. Limited awareness of certifications and accreditations. The low awareness of whom to contact during incidents (49.5%, n=50) highlights a gap in emergency preparedness among visitors. Prior studies have emphasized the importance of visible and easily accessible contact points in zoos, such as helpline numbers to address emergencies effectively (Moss & Pavitt, 2019). The assessment on animal welfare (47.5%, n=48) and how to conduct assessment (40.6%, n=41) suggests limited understanding of evaluation criteria such as stress indicators or living conditions of the animals.

Respondents' good perceptions with a total score of perception (69.3%, n=70) revealed strong support for the importance of animal welfare (66.3, n=67), indicating a shared ethical framework among respondents whose majority answer strongly agreed and agreed for almost all of the questions. This perception aligns with broader societal movements prioritizing humane treatment (Hansson & Lagerkvist, 2014). High perception on hygiene (64.4%, n=65), the need for specific standards (60.4%, n=61) reflect visitors ensuring safety and maintaining animal welfare standards. The certifications (62.4%, n=63) being high as well indicate recognition of structured welfare measures. High perception also noted on avoiding prohibited feeding (67.3%, n=68) that reflects growing awareness of the harm caused by improper feeding practices. A moderate perception of adherence to the Five Freedoms (53.5%, n=54) reflects uncertainty among visitors regarding zoo practices. Transparency in demonstrating adherence to these principles, such as through welfare inspections or live demonstrations by showcasing practices such as to stimulate natural behaviour, could improve public perception (Main *et al.*, 2014). Educational resources (51.5%, n=52) and campaigns or organizations that promote animal welfare in petting zoos are beneficial in maintaining animal welfare (52.5%, n=53) which showed moderate perceptions suggesting partial awareness of their role in maintaining welfare. Moderate perception also on the importance of respectful and safe environment (59.4%, n=60) suggests that while a majority acknowledge its significance, there may still be gaps in fully understanding or prioritizing such practices. Moderate perception on daily care and specialized diets (53.5%, n=54) reflects a basic understanding of animal needs, yet it remains insufficient for deeper advocacy. Petting zoos could provide practical demonstrations of feeding routines and dietary adjustments to increase public understanding (Moss & Pavitt, 2019). The moderate perception of recognizing stress indicators (55.4%, n=56) highlights lack of understanding of animal behaviour. Visitors often misinterpret stress signals due to

anthropomorphic biases, underscoring the need for educational tools such as visual cues or interactive exhibits (D’Cruze *et al.*, 2019). The moderate perception of careful and respectful approaches (56.4%, n=57) reflects a basic alignment with welfare-friendly practices. Also, contacting relevant parties during incidents (57.4%, n=58) highlights the emergency preparedness. Petting zoos should emphasize these procedures in visitor orientation sessions and through visible contact signage. Welfare assessment (52.5%, n=53) being moderate to visitors’ perception could reflect limited understanding of evaluation protocols. Guided tours explaining welfare indicators could improve visitors’ ability to assess welfare conditions effectively. Low perception of actual welfare conditions (39.6%, n=40) can be from substandard conditions that could bias their perceptions, and ethical concerns such as exhibiting animals for entertainment. Animals being happy and healthy (30.7%, n=31) suggests unmet expectations regarding petting zoos’ practices. However, there is neutral perception (39.6%, n=40) for both welfare conditions and animals being happy and healthy, which can be from lack of observation during visits, or they might have seen positive (e.g., clean enclosure) or negative (e.g, stressed animals) aspects, the visitors might choose a neutral stance. Studies show that zoos can enhance trust by demonstrating welfare practices, such as enrichment programs and regular health checks, to visitors (Sherwen & Hemsworth, 2019). The conservation benefit being low (44.6%, n=45) indicates limited knowledge of petting zoos' roles in biodiversity preservation, while ethical considerations of captivity (39.6%, n=40) reflects limited engagement with the complexities of captivity. Emphasizing active conservation efforts, such as habitat restoration or species reintroduction programs, could strengthen public perception. The low perception of enriched environments as well (45.5%, n=46) highlights a failure to adequately communicate the presence and purpose of enrichment activities. Clearly labeled enrichment programs and live demonstrations to

improve transparency while educating visitors could raise awareness and improve visitor perception.

Majority of respondents showed poor overall practice with a score of 70.3% (n=71). This hinders the translation of positive perceptions and general awareness into consistent welfare-friendly actions. Concerning practice towards animal welfare in petting zoos, respondents' practice reflected mixed adherence to welfare principles. A significant proportion (81.2%, n=82) reported always and often adhering to zoo guidelines during visits, yet fewer respondents always and often verified certifications or accreditations (32.7%, n=33) with often being the most answered (20.8%, n=21) from it. This highlights barriers to proactive behaviour, such as lack of transparency or limited access to relevant information. For instance, a study by Warsaw and Sayers (2020) emphasizes that while accreditation programs are crucial for assessing zoo animal welfare, their effectiveness is limited unless visitors can easily understand and trust these certifications. Following the principles of the Five Freedoms which are always and often practiced (64.3%, n=65), this indicates a commitment to ensure animals' basic needs, such as freedom from hunger, discomfort, pain, fear, and the ability to express natural behaviours (World Organization of Animal Health, 2008). Notably, 62.4% (n=63) combined always and often responses in observing animal health, while over 20.8% (n=21) did so, sometimes indicating a need to encourage consistent monitoring practices through visitor education (Pollastri *et al.*, 2022). A high percentage of respondents from always and often practiced supporting conservation efforts (70.3%, n=71) reflects growing awareness of the importance of preserving biodiversity. Incorporating ethical considerations into behaviour which is always and often practiced (74.2%, n=75) suggests visitors increasingly recognize the moral responsibilities of animal interactions. High practice which always and often on noticing conservation and education initiatives

(66.4%, n=67) implies an effort by petting zoos to merge entertainment with education. Also, always and often ensuring a respectful and safe environment (74.3%, n=75) was also highly practiced which advocates for environments promoting both animal welfare and visitor safety. Utilizing educational resources was always and often practiced (66.4%, n=65) plays a critical role in shaping perceptions and behaviours while applying animal knowledge during interactions always and often (69.3%, n=70) reflects the effectiveness of programs aimed at educating visitors about proper animal handling. Practice on being mindful of animals' daily care and needs always and often (64.4%, n=65), with sometimes (27.7%, n=28), suggesting varying levels of understanding or emphasis on animal needs. Frequent reminders and visible care protocols could bridge this gap. Also, practicing hand hygiene was always and often practiced (63.3%, n=64) aligns with zoonotic disease prevention protocol according to Centers for Disease Control and Prevention (CDC). However, nearly 40% of respondents practicing this less frequently could reflect inadequate facility access to sanitizing stations or law enforcement. Practice on avoiding feeding prohibited items was always or often (70.3%, n=71) reflects awareness campaigns discouraging harmful feeding behaviours. Occasional lapses suggest some visitors might still need clearer signage or staff intervention during visits. High practice which was always and often identifying and responding to signs of stress (60.4%, n=61), indicates recognizing stress whilst there might still be limited knowledge on the stress indicators. Ensuring careful and respectful approaches always and often practiced (74.3%, n=74) reflects understanding of animal interaction, while participating in animal welfare campaigns always and often practiced (54.4%, n=55) is relatively lower, suggesting that these initiatives may lack sufficient promotion for engagement. Campaigns with clear objectives and visitor involvement could boost participation (Sherwen & Hemsworth, 2019). Practice on observing welfare practices always and often (56.4%, n=57) and sometimes (26.7%, n=27) might stem from a lack of visible welfare measures or understanding of their

importance. Following that, assessing welfare practices always and often (52.5%, n=53) indicate clearer criteria for visitor assessment might help. The practice on verifying certifications (32.7%, n=33), and sometimes (27.7%, n=28) suggest limited public knowledge about the certification system. This can be addressed by educating on welfare certifications to visitors in petting zoos by verbally from tour guides or signage. Also, observing enrichments is always and often practiced (49.5%, n=50), but sometimes (28.7%, n=29) might indicate insufficient enrichment activities or inadequate communication about their role. Low practices are always and often done, which touching prohibited animals (25.7%, n=26), using flash for photos (20.8%, n=21) as well as knocking on enclosures (21.8%, n=22) suggests many are respectful with the barrier with animals but some visitors may still disregard rules and can highlight the lack of understanding about its impact on animals. However, more responses on rarely and never here indicate that these are the good practices as a lot of the visitors in petting zoos practice on minimizing disturbance to the animals, which indicate the understanding on the welfare.

The significant association between awareness levels and socio-demographic factors, such as age, education and income, underscore the importance of tailored awareness campaigns (Luna *et al.*, 2019). For instance, respondents with higher educational qualifications were more likely to exhibit good awareness. This suggests that leveraging formal education, channels or collaborating with academic institutions could enhance awareness efforts. Further analysis of the results suggests that awareness levels are not only influenced by demographic variables but also by the availability and accessibility of educational resources. Interestingly, socio-demographic factors such as age, gender, education and income significantly influenced perceptions. This highlights the pervasive nature of perception influences and suggests that educational and advocacy initiatives should

be broad-based while accounting for demographic nuances. Additionally, the positive perceptions observed may reflect the influence of broader global trends in animal welfare advocacy (Hansson & Lagerkvist, 2014). The study's findings underscore the role of socio-demographic factors in shaping awareness, perceptions and practices. Age and income showed significant associations across all three domains, while education was particularly influential for awareness and perception. These findings align with existing literature, suggesting that socio-economic status and educational attainment play critical roles in shaping attitudes towards animal welfare. In addition, these socio-demographic trends highlight the need for inclusivity in welfare campaigns. Programs tailored to various age groups and income can address specific barriers, such as financial constraints or limited access to information, ensuring broader community engagement (Phillips *et al.*, 2024).

The moderate positive correlation between awareness and perception ($r=0.563$) suggests that enhancing awareness about animal welfare could improve perceptions (Demartoto *et al.*, 2017). Similarly, the correlation between awareness and practice ($r=0.501$) highlights the potential for awareness to drive better practices. However, the weaker correlation between perception and practice ($r=0.385$) indicates that favorable perceptions alone may not suffice to ensure good practices. This gap emphasized the need for actionable interventions that encourage and facilitate welfare-friendly practices. The research supports these findings, emphasizing that while awareness and perception provide a foundation for ethical behaviours, sustained practices often depend on institutional support and reinforcement through policy and community norms. The weak-to-moderate positive correlation between perception and practice ($r=0.385$) indicates that improving practices may require more than just raising awareness and enhancing perceptions. Practical barriers, such as accessibility to information and enforcement of animal welfare standards, might need to

be addressed. Moreover, integrating hands-on workshops or guided visits to petting zoos that adhere to high welfare standards could help translate positive perceptions into action. Furthermore, institutional factors play a crucial role in shaping public practices. Zoos and related facilities must adopt transparent welfare assessment processes and actively involve visitors in educational activities to bridge the gap between awareness and practice (Koosis, 2024).



CHAPTER 6

CONCLUSION AND RECOMMENDATION

6.1 Conclusion

This study examined Malaysians' perceptions, awareness and practices regarding animal welfare in petting zoos, highlighting critical gaps and opportunities for improvement. The findings revealed moderate levels of awareness, positive but nuanced perceptions, and a significant disparity between awareness and perception towards the practice implementation. Socio-demographic factors such as age, education, and income significantly influenced these outcomes, underscoring the importance of targeted interventions to bridge these gaps.

The moderate awareness observed, particularly concerning the Five Freedoms of Animal Welfare, points to a need for improved public education efforts. While most respondents expressed favourable perceptions of animal welfare, their practices often did not align, suggesting barriers such as limited access to information and enforcement mechanisms. The findings further emphasize the need for collaborative efforts among stakeholders, including policymakers, educators, and petting zoo operators, to promote and institutionalize animal welfare standards.

6.2 Recommendation

The study also highlights several practical implications. First, the findings suggest a need for comprehensive public awareness campaigns focusing on the importance of animal welfare and the specific requirements of animals in captivity. Second, incorporating animal welfare education into school curriculums and public service announcements could foster a culture of care and respect for animals. Third, policymakers should consider strengthening regulations and ensuring strict enforcement of welfare standards in petting zoos. Certifications and accreditations should be made mandatory, with transparent reporting to enable informed decisions by visitors. Moreover, collaborative efforts between government agencies, non-governmental organizations, and educational institutions can amplify the reach and effectiveness of these campaigns. Implementing visitor feedback mechanisms and regular welfare audits could further ensure compliance and build public trust.

However, this study may be not without limitations. The use of a convenience sampling method may limit the generalizability of the findings. Future research could adopt randomized sampling methods to achieve broader representation as well as consider longitudinal studies to examine how changes in awareness and perception over-time influence practices. Investigating the impact of specific interventions, such as educational campaigns or policy changes, could provide actionable data to guide welfare improvement efforts.

In conclusion, fostering a welfare-conscious society requires a multifaceted approach that combines education, policy enforcement, and public engagement. Addressing the gaps in awareness, perception, and practice is essential to ensure the ethical treatment of animals in petting zoos and align public attitudes with international animal welfare standards.

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APPENDIX

12/11/24, 10:04 AM PERCEPTION, AWARENESS AND PRACTICE TOWARDS ANIMAL WELFARE IN PETTING ZOOS AMONG MALAYSIANS

PERCEPTION, AWARENESS AND PRACTICE TOWARDS ANIMAL WELFARE IN PETTING ZOOS AMONG MALAYSIANS

Assalamualaikum and Salam Sejahtera. I am Anis Athirah, a fourth year Doctor of Veterinary Medicine student from Faculty of Veterinary Medicine, Universiti Malaysia Kelantan. We are conducting a survey entitled Perception, Awareness and Practice towards Animal Welfare in Petting Zoos among Malaysians and wish invite you to this questionnaire.

The aim of this study is to explore and understand various aspects related to animal welfare in petting zoos. Your responses will provide valuable insights into how people perceive, are aware of, and practice animal welfare in these unique environments.

Why Your Participation Matters:

Your input will help identify gaps in knowledge, perceptions, and practices related to animal welfare in petting zoos. By understanding these areas, we can provide recommendations for improving animal care and visitor engagement. Your responses will contribute to creating better practices and policies that ensure the well-being of animals in petting zoos.

Inclusion criteria

1. Respondents must be a Malaysian
2. Above 18 years old
3. Have heard about petting zoos
4. Willing to participate

This survey contains 4 sections:

1. Section A: Socio-demographic information
2. Section B: Awareness of animal welfare in petting zoo
3. Section C: Perception of animal welfare in petting zoo
4. Section D: Practice towards animal welfare in petting zoo

Confidentiality and Anonymity:

All responses will be kept confidential and used solely for research purposes. Your identity will not be linked to your answers, and your participation is completely voluntary.

Thank you for taking the time to contribute to this important study. Your feedback is crucial in advancing the understanding of animal welfare in petting zoos.

<https://docs.google.com/forms/d/144JGaDY0X0aFV-83MFHtsak17HnJqo3W3VgcmYiedt7Bzcx-736018549283691214>

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12/11/24, 10:04 AM PERCEPTION, AWARENESS AND PRACTICE TOWARDS ANIMAL WELFARE IN PETTING ZOOS AMONG MALAYSIANS

For any inquiries or further information please email to d20a0052@siswa.umk.edu.my.

Assalamualaikum and Salam Sejahtera. Saya Anis Athirah, seorang pelajar Doktor Perubatan Veterinar tahun keempat Fakulti Perubatan Veterinar, Universiti Malaysia Kelantan. Kami sedang menjalankan satu kajian bertajuk Persepsi, Kesedaran dan Amalan terhadap Kebajikan Haiwan di zoo haiwan jinak dalam kalangan rakyat Malaysia dan ingin menjemput anda untuk menyertai soal selidik ini.

Tujuan kajian ini adalah untuk meneroka dan memahami pelbagai aspek berkaitan dengan kebajikan haiwan di zoo haiwan jinak. Maklum balas anda akan memberikan pandangan berharga tentang bagaimana orang melihat, memahami, dan mengamalkan kebajikan haiwan dalam persekitaran unik ini.

Mengapa Penyertaan Anda Penting: Maklum balas anda akan membantu mengenal pasti jurang dalam pengetahuan, persepsi, dan amalan berkaitan kebajikan haiwan di zoo haiwan jinak. Dengan memahami kawasan ini, kami dapat memberikan cadangan untuk memperbaiki penjagaan haiwan dan penglibatan pelawat. Jawapan anda akan menyumbang kepada penciptaan amalan dan dasar yang lebih baik untuk memastikan kebajikan haiwan di zoo haiwan jinak.

Kriteria Kelayakan:

1. Responden mestilah rakyat Malaysia
2. Berumur 18 tahun ke atas
3. Telah mengenali tentang zoo haiwan jinak
4. Sedia untuk menyertai

Kajian ini mempunyai 4 bahagian:

1. Bahagian A: Informasi sosio-demografi
2. Bahagian B: Pengetahuan tentang kebajikan haiwan di zoo haiwan jinak
3. Bahagian C: Sikap terhadap kebajikan haiwan di zoo haiwan jinak
4. Bahagian D: Tahap amalan ke arah kebajikan haiwan di zoo haiwan jinak

Sulit dan Kerahsiaan: Semua maklum balas akan dirahsiakan dan digunakan hanya untuk tujuan penyelidikan. Identiti anda tidak akan dikaitkan dengan jawapan anda, dan penyertaan anda adalah sepenuhnya secara sukarela.

Terima kasih kerana meluangkan masa untuk menyumbang kepada kajian penting ini. Maklum balas anda adalah penting dalam memajukan pemahaman mengenai kebajikan haiwan di zoo haiwan jinak.

Untuk sebarang pertanyaan atau maklumat lanjut, sila emel ke d20a0052@siswa.umk.edu.my

* Indicates required question.

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12/11/24, 10:04 AM PERCEPTION, AWARENESS AND PRACTICE TOWARDS ANIMAL WELFARE IN PETTING ZOOS AMONG MALAYSIANS

1. Email *

2. I have read and understand the above consent form. I certify that I am 18 years old * or older. By clicking the "Next" button to enter the survey, I indicate my willingness to voluntarily take part in this study.

Saya telah membaca dan memahami borang persetujuan di atas. Saya mengesahkan bahawa saya berumur 18 tahun atau lebih. Dengan menekan butang "Seterusnya" untuk memasuki kajian, saya menyatakan kesediaan saya untuk menyertai kajian ini secara sukarela.

Mark only one oval.

- Yes / Ya
 No / Tidak

3. Age / Umur *

Mark only one oval.

- 18-20
 21-30
 31-40
 41-50
 51-60
 61-65
 > 65
 Other: _____

<https://docs.google.com/forms/d/144JGaDY0X0aFV-83MFHtsak17HnJqo3W3VgcmYiedt7Bzcx-736018549283691214>

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12/11/24, 10:04 AM PERCEPTION, AWARENESS AND PRACTICE TOWARDS ANIMAL WELFARE IN PETTING ZOOS AMONG MALAYSIANS

4. Gender / Jantina *

Mark only one oval.

- Male / Lelaki
 Female / Perempuan

5. Level of education / Tahap pendidikan *

What is the highest degree or level of school you have completed? If currently enrolled, highest degree received.

Apakah ijazah atau tahap tertinggi sekolah yang pernah anda terima? Jika masih berdaftar, ijazah tertinggi yang sudah anda diterima

Mark only one oval.

- Primary / Sekolah rendah
 Secondary / Sekolah menengah
 Diploma / Matriculation / Foundation / STPM
 Bachelor's degree / Ijazah Sarjana Muda
 Master degree / Ijazah Sarjana
 PhD / Doktor Falsafah
 No formal education / Tiada pendidikan formal
 Other: _____

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6. Income / Pendapatan *

Mark only one oval.

- < RM 2500
 RM 2500 - RM 5000
 RM 5000 - RM 8000
 RM 8000 - RM 10000
 > RM 10000
 None / Tiada

7. Do you own any pet animals? / Adakah anda mempunyai haiwan peliharaan? *

Mark only one oval.

- Yes / Ya
 No / Tidak

8. If yes, what species do you own? / Jika ya, spesies apa yang anda miliki?

9. Have you ever visited a petting zoo? / Pernahkah anda mengunjungi zoo haiwan jinak? *

Mark only one oval.

- Yes
 No

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Section B: Awareness of Animal Welfare in Petting Zoos / Bahagian B: Kesedaran tentang kebajikan haiwan di zoo haiwan jinak

In this section, we aim to assess your awareness and understanding of various aspects related to animal welfare in petting zoos. Whether you have visited a petting zoo or not, your insights will help us gauge the general level of knowledge and perception about the care and treatment of animals in these settings.

Dalam bahagian ini, tujuan kami adalah untuk menilai kesedaran dan pemahaman anda mengenai pelbagai aspek yang berkaitan dengan kebajikan haiwan di zoo haiwan jinak. Sama ada anda pernah melawat zoo haiwan jinak atau tidak, pandangan anda akan membantu kami menilai tahap kesedaran dan persepsi umum mengenai penjagaan dan perlakuan haiwan dalam tetapan ini.

Choice / Pilihan:

1. Yes / Ya
 2. No / Tidak
 3. Not sure / Tidak pasti

10. Are you aware of the importance of animal welfare in petting zoos? / Adakah anda sedar tentang kepentingan kebajikan haiwan di zoo haiwan jinak? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

11. Are you aware of the Five Freedoms of animal welfare? / Adakah anda sedar tentang Lima Kebebasan kebajikan haiwan? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

https://docs.google.com/forms/d/144JGajDY0X0eFV--B3MFhheak17hNjro3W3VlgmYedfRbz--736018549283691214

https://docs.google.com/forms/d/144JGajDY0X0eFV--B3MFhheak17hNjro3W3VlgmYedfRbz--736018549283691214

6/33

12. Are you aware of any specific animal welfare standards or regulations that petting zoos are required to follow? / Adakah anda sedar tentang sebarang piawaian atau peraturan khusus mengenai kebajikan haiwan yang perlu dipatuhi oleh zoo haiwan jinak? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

13. Are you aware if petting zoos in your area have any certifications or accreditations related to animal welfare? / Adakah anda sedar jika zoo haiwan jinak di kawasan anda mempunyai sebarang pensijilan atau akreditasi berkaitan dengan kebajikan haiwan? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

14. Are animals in petting zoos happy and healthy? / Adakah haiwan di zoo haiwan jinak adalah gembira dan sihat? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

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7/33

15. Are you aware that the petting zoos may engage in conservation efforts and ethical breeding practices? / Adakah anda sedar bahawa zoo haiwan jinak mungkin terlibat dalam usaha pemuliharaan dan amalan pembiakan yang etikal? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

16. Are you aware of the ethical considerations behind keeping animals in captivity? / Adakah anda sedar tentang pertimbangan etika di belakang penahanan haiwan dalam kurungan? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

17. Are you aware of the petting zoo's role in conservation and education? / Adakah anda sedar tentang peranan zoo haiwan jinak dalam pemuliharaan serta pendidikan? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

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18. Are you aware of the importance to maintain a respectful and safe environment for both animals and people during visiting periods? / Adakah anda sedar tentang kepentingan mengekalkan persekitaran yang hormat dan selamat untuk haiwan dan pengunjung semasa tempoh lawatan? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

19. Are you aware that petting zoos may be a valuable educational resource that provides knowledge about animals, their natural behaviors, and their care? / Adakah anda sedar bahawa zoo haiwan jinak mungkin merupakan sumber pendidikan yang berharga yang menyampaikan pengetahuan mengenai haiwan, tingkah laku semulajadi mereka, dan penjagaan mereka? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

20. Are you aware there are campaigns or organizations that promote animal welfare in petting zoos? / Adakah anda sedar bahawa terdapat kempen atau organisasi yang mempromosikan kebajikan haiwan di zoo haiwan jinak? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

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9/33

21. Are you aware about the daily care and needs of animals in petting zoos? / Adakah anda sedar tentang penjagaan harian dan keperluan haiwan di zoo haiwan jinak? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

22. Are you aware about the importance of hygiene for animals in petting zoos? / Adakah anda sedar tentang kepentingan kebersihan bagi haiwan di zoo haiwan jinak? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

23. Are you aware that animals in petting zoos require enrichment? / Adakah anda sedar tentang pengayaan yang diperlukan oleh haiwan? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

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10/33

24. Are you aware of the prohibited food items for animals? / Adakah anda sedar tentang jenis makanan yang selamat atau dilarang untuk haiwan? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

25. Are you aware that different animal species require different care and diet requirements? / Adakah anda sedar bahawa spesies haiwan yang berbeza memerlukan penjagaan dan keperluan diet yang berbeza? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

26. Are you aware of the signs of stress or discomfort in animals? / Adakah anda sedar tentang tanda-tanda terkejut atau ketidakselesaan pada haiwan? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

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11/33

27. Are you aware that animals need to be approached carefully and respectfully? / Adakah anda sedar bahawa haiwan perlu didekati dengan berhati-hati dan penuh hormat? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

28. Are you aware that certain animals are sensitive to bright light and loud noises? / Adakah anda sedar bahawa sesetengah haiwan sensitif terhadap cahaya dan bunyi? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

29. Do you know whom to contact in case of an incident involving animals or visitors? / Adakah anda tahu siapa perlu dihubungi sekiranya berlaku insiden yang melibatkan haiwan atau pengunjung? *

Mark only one oval.

- Yes / Ya
 No / Tidak
 Not sure / Tidak pasti

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12/33

30. Are you aware of the assessment of animal welfare in petting zoos? / Adakah anda sedar tentang ciri-ciri kebajikan haiwan di zoo haiwan jinak? *

Mark only one oval.

- Yes / Ya
- No / Tidak
- Not sure / Tidak pasti

31. Are you aware of how to conduct the assessment of animal welfare in petting zoos? / Adakah anda sedar tentang bagaimana untuk menilai kebajikan haiwan di zoo haiwan jinak? *

Mark only one oval.

- Yes / Ya
- No / Tidak
- Not sure / Tidak pasti

Section C: Perception of Animal Welfare in Petting Zoos

In this section, we aim to assess your understanding of views and opinions on the ethical treatment and welfare of animals in petting zoos. This includes your beliefs about the importance of animal welfare and how well you think these facilities meet ethical standards.

Dalam bahagian ini, kami ingin menilai pemahaman anda tentang pandangan dan pendapat mengenai perlakuan dan kebajikan haiwan secara etika di zoo haiwan jinak. Ini termasuk keyakinan anda mengenai kepentingan kebajikan haiwan dan sejauh mana anda berpendapat kemudahan ini memenuhi piawaian etika.

Choices:

- 1. Strongly agree / Sangat setuju
- 2. Agree / Setuju
- 3. Neutral
- 4. Disagree / Tidak setuju
- 5. Strongly disagree / Sangat tidak setuju

32. Animal welfare is important in petting zoos / Kebajikan haiwan itu penting di zoo haiwan jinak. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

33. Five Freedoms of animal welfare should always be consistently adhered to in petting zoo. / Lima Kebebasan dalam kebajikan haiwan harus sentiasa dipatuhi dengan konsisten dalam zoo haiwan jinak. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

34. It is important for petting zoos to follow specific animal welfare standards or regulations. / Ia adalah penting bagi zoo haiwan jinak untuk mengikut standard atau peraturan kebajikan haiwan yang khusus. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

35. It is important for petting zoos to have any certifications or accreditations related to animal welfare. / Ia adalah penting bagi zoo haiwan jinak mempunyai sebarang pensijilan atau pengiktirafan yang berkaitan dengan kebajikan haiwan. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

36. The animals in petting zoos are well taken care of. / Haiwan-haiwan di zoo haiwan jinak dijaga dengan baik. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

37. All animals in petting zoos are happy and healthy. / Semua haiwan di zoo haiwan jinak adalah gembira dan sihat. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

38. It is beneficial for petting zoos to engage in conservation efforts and ethical breeding practices. / Ia adalah bermanfaat bagi zoo haiwan jinak terlibat dalam usaha pemuliharaan dan amalan pembiakan etika. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

39. The ethical considerations behind keeping animals in captivity is part of maintaining animal welfare. / Pertimbangan etika mengenai penyimpanan haiwan dalam kurungan adalah sebahagian daripada mengekalkan kebajikan haiwan. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju



40. Petting zoo's role in conservation and education is part of maintaining animal welfare. / Peranan zoo haiwan jinak dalam pemuliharaan serta pendidikan adalah sebahagian daripada mengekalkan kebajikan haiwan. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

41. It is essential to maintain a respectful and safe environment for both animals and people during visiting periods. / Ia adalah penting untuk mengekalkan persekitaran yang penuh hormat dan selamat untuk kedua-dua haiwan dan pengunjung semasa tempoh lawatan di zoo haiwan jinak. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

42. Petting zoos are a valuable educational resource that provides knowledge about animals, their natural behaviors, and their care. / Zoo haiwan jinak adalah sumber pendidikan yang berharga yang memberikan pengetahuan tentang haiwan, tingkah laku semulajadi mereka, dan penjagaan mereka. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

43. Campaigns or organizations that promote animal welfare in petting zoos is beneficial in maintaining animal welfare. / Kempen atau organisasi yang mempromosikan kebajikan haiwan di zoo haiwan jinak adalah bermanfaat dalam pemeliharaan kebajikan haiwan. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

44. It is important to know about the daily care and needs of animals in petting zoos. / Ia adalah penting untuk tahu tentang penjagaan dan keperluan harian haiwan di zoo haiwan jinak. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

45. Hygiene is important for animals in petting zoos. / Kebersihan adalah penting untuk haiwan di zoo haiwan jinak. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

47. We should not feed prohibited food items to animals in petting zoos. / Kita tidak patut memberikan makanan terlarang kepada haiwan. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

48. Animals in petting zoos need high-quality, specialized diets to ensure optimal growth and health. / Haiwan memerlukan diet khusus yang berkualiti tinggi untuk memastikan pertumbuhan dan kesihatan yang optimum. *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

50. Animals in petting zoos need to be approached carefully and respectfully. / *Haiwan perlu didekati dengan berhati-hati dan penuh hormat.* *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

51. The relevant parties need to be contacted in case of an incident involving animals or visitors in petting zoos. / *Pihak-pihak yang berkenaan perlu dihubungi sekiranya berlaku insiden yang melibatkan haiwan atau pengunjung.* *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

52. It is important to know the assessment of animal welfare in petting zoos. / *Kita perlu tahu penilaian kebajikan haiwan di zoo haiwan jinak.* *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

53. It is important to conduct the assessment of animal welfare in petting zoos. / *Ia adalah penting untuk melakukan penilaian kebajikan haiwan di zoo haiwan jinak.* *

Mark only one oval.

- Strongly agree / Sangat setuju
- Agree / Setuju
- Neutral
- Disagree / Tidak setuju
- Strongly disagree / Sangat tidak setuju

Section D: Practice of Animal Welfare in Petting Zoos / Bahagian D: Amalan bagi kebajikan haiwan di zoo haiwan jinak.

In this section, we are interested in understanding the practices and behaviors of individuals regarding animal welfare in petting zoos. This includes how visitors and non-visitors engage with and respond to animal welfare issues. Your responses will provide insights into how people's actions and decisions reflect their attitudes towards the care and treatment of animals in these environments.

Dalam bahagian ini, kami berminat untuk memahami amalan dan tingkah laku individu mengenai kebajikan haiwan di zoo haiwan jinak. Ini termasuk bagaimana pengunjung dan bukan pengunjung berinteraksi dengan serta memberi respons terhadap isu-isu kebajikan haiwan. Maklum balas anda akan memberikan pandangan tentang bagaimana tindakan dan keputusan orang mencerminkan sikap mereka terhadap penjagaan dan perlakuan haiwan dalam persekitaran ini.

Choice: / Pilihan:

1. Always / Sentiasa
2. Often / Selalu
3. Sometimes / Kadang-kadang
4. Rarely / Jarang
5. Never / Tidak pernah

54. Do you ensure to follow specific animal welfare standards or regulations such as avoiding disruptive behaviours and following petting zoos guidelines during your visit? / *Adakah anda memastikan untuk mematuhi piawaian atau peraturan kebajikan haiwan seperti mengelakkan tingkah laku yang mengganggu dan mengikuti garis panduan zoo haiwan jinak semasa lawatan anda?* *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

55. Do you practice and adhere to the Five Freedoms of animal welfare whilst visiting petting zoos? / *Adakah anda mengamalkan dan mematuhi Lima Kebebasan kebajikan haiwan semasa melawat zoo haiwan jinak?* *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

56. Do you verify that if a petting zoo has a relevant certifications or accreditations related to animal welfare before your visit? / *Adakah anda menyemak jika zoo haiwan jinak mempunyai pensijilan atau akreditasi berkaitan kebajikan haiwan sebelum lawatan anda?* *

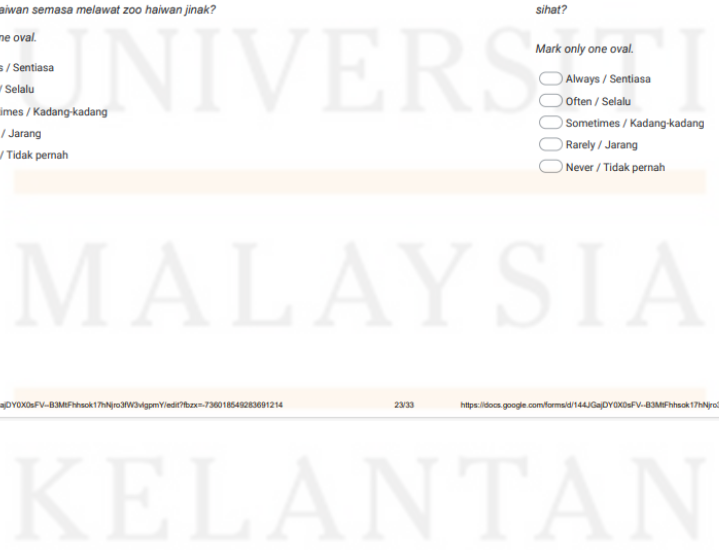
Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

57. Do you observe and assess the health and well-being of animals to ensure they appear happy and healthy? / *Adakah anda memerhati dan menilai kesihatan serta kesejahteraan haiwan untuk memastikan mereka kelihatan gembira dan sihat?* *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah



58. Do you support the conservation efforts and ethical breeding practices that a petting zoo may engage in? / Adakah anda menyokong atau mengaku usaha pemuliharaan dan amalan pembiakan etikal yang mungkin dilaksanakan oleh zoo haiwan jinak? *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

59. Do you incorporate an understanding of ethical considerations into your behavior during visits? / Adakah anda mengaplikasikan pemahaman tentang pertimbangan etika dalam tingkah laku anda semasa lawatan? *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

60. Do you notice the petting zoo's initiatives in conservation and education during visits? / Adakah anda perasan tentang peranan zoo haiwan jinak dalam pemuliharaan serta pendidikan semasa lawatan? *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

61. Do you take actions to help maintain a respectful and safe environment for both animals and visitors during your visit? / Adakah anda mengambil tindakan untuk membantu mengekalkan persekitaran yang hormat dan selamat untuk haiwan serta pengunjung semasa lawatan anda? *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

62. Do you use the educational resources provided by the petting zoos to learn about animals, their natural behaviors, and their care? / Adakah anda terlibat dengan atau menyokong sumber pendidikan yang disediakan oleh zoo haiwan jinak untuk mempelajari tentang haiwan, tingkah laku semulajadi mereka, dan penjagaan mereka? *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

63. Do you participate in or support campaigns or organizations that promote animal welfare in petting zoos? / Adakah anda menyertai atau menyokong kempen atau organisasi yang mempromosikan kebajikan haiwan di zoo haiwan jinak? *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

64. Do you apply your knowledge of animals when interacting with them in petting zoo? / Adakah anda menggunakan pengetahuan anda tentang jenis haiwan yang biasanya terdapat di zoo haiwan jinak semasa berinteraksi dengan mereka? *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

65. Are you mindful of the daily care and needs of the animals during your visit? / Adakah anda peka terhadap penjagaan dan keperluan harian haiwan semasa lawatan anda? *

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah



66. Do you use hand sanitizers or wash hands thoroughly before and after interacting * with the animals? / Adakah anda menggunakan pencuci tangan atau mencuci tangan dengan teliti sebelum dan selepas berinteraksi dengan haiwan?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

67. Do you notice the enrichments provided for the animals during your visit? / Adakah anda perasan pengayaan yang diberikan kepada haiwan semasa lawatan anda?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

68. Do you ensure that you only use food items provided by the petting zoo and avoid * feeding animals prohibited items? / Adakah anda memastikan bahawa anda hanya menggunakan makanan yang disediakan oleh zoo haiwan jinak dan mengelakkan memberi haiwan makanan yang dilarang?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

69. Do you identify and respond to signs of stress or discomfort in animals during your visit? / Adakah anda mengenal pasti dan memberi tindak balas terhadap tanda-tanda tekanan atau ketidakelesaan pada haiwan semasa lawatan anda?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

70. Do you ensure that you approach the animals carefully and respectfully? / Adakah * anda memastikan bahawa anda mendekati haiwan dengan berhati-hati dan penuh hormat?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

71. Do you touch the animals available on display even when prohibited? / Adakah * anda menyentuh haiwan yang dipamerkan walaupun dilarang?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

72. Do you take pictures of the animals with flash? / Adakah anda mengambil gambar * haiwan dengan menggunakan cahaya?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

73. Do you knock the enclosures to attract the attention of the animals when visiting a * petting zoo? / Adakah anda mengetuk kotak kaca untuk menarik perhatian haiwan semasa melawat zoo haiwan jinak?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

74. Do you handle and report incidents involving animals or visitors effectively? / Adakah anda mengendalikan dan melaporkan insiden yang melibatkan haiwan atau pengunjung dengan pantas?

Mark only one oval.

- Always / Sentiasa
- Often / Selalu
- Sometimes / Kadang-kadang
- Rarely / Jarang
- Never / Tidak pernah

75. Do you notice the level of welfare practices while visiting the petting zoo? *
/ Adakah anda perasan amalan kebajikan haiwan semasa mengunjungi zoo haiwan jinak?

Mark only one oval.

- Always / Sentiasa
 Often / Selalu
 Sometimes / Kadang-kadang
 Rarely / Jarang
 Never / Tidak pernah

76. Do you assess the level of welfare practices while visiting the petting zoo? *
/ Adakah anda menilai amalan kebajikan haiwan semasa mengunjungi zoo haiwan jinak?

Mark only one oval.

- Always / Sentiasa
 Often / Selalu
 Sometimes / Kadang-kadang
 Rarely / Jarang
 Never / Tidak pernah

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CRONBACH'S ALPHA

Awareness Section

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.835	.836	21

Perception Section

Case Processing Summary

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.906	.920	22

Practice Section**Case Processing Summary**

		N	%
Cases	Valid	20	100.0
	Excluded ^a	0	.0
	Total	20	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.883	.880	23