Research Survey on Australian Attitudes to Animal Research

REPORT FOR THE AUSTRALIAN & NEW ZEALAND COUNCIL FOR THE CARE OF ANIMALS IN RESEARCH AND TEACHING (ANZCCART)

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1. Introduction/Background

Animals are extensively used in contemporary biomedical research and regarded by many as essential to progress in medical science. Animals are also used in other research settings such as in the agricultural and veterinary science fields. In Australia, there is a broad awareness that there is a general support for research using animals where it is performed in a humane manner for medical research, and where other options are limited. However, the ethical status of animals has become a crucial question as environmental consciousness and awareness of animal sentience has increased amongst the Australian population. There also is an increasing disconnect between support for animal welfare and increased attention to human-animal relations, and instrumental attitudes to use of animals in medical research.

Australian state/territory governments are responsible for animal welfare regulation, including care and use of animals for scientific purposes, under a national Code (NHMRC 2013). Such use is highly regulated (Rose 2011; Rose Grant 2013), with close oversight by institutions performing research and their animal ethics committees (AECs). AECs must include community members intended to contribute independent 'societal' views (Chave, Johnson & Rose 2007), but there is no up-to-date, detailed, or comprehensive information on Australian public understandings of and values associated with animal research.

Although there is widespread international consensus about the governing principles for animal research, there is a clear gap in our understandings of Australian public views on and the values associated with animal research. The 3Rs (Replacement, Reduction, and Refinement, Russell Burch 1959) recognise the responsibilities of those involved with the care and use of animals for scientific purposes to consider and implement alternative approaches that do not use animals where possible, and if use of animals is necessary, to ensure that research is highest quality, safeguards welfare, and is designed to use the least number of animals. There have been Australian studies of researchers, AEC members, animal welfare officers, and licensing authorities about their views on the 3Rs (e.g., Chen 2017; ORIMA 2018), but no comparable work on Australian public views. Research elsewhere (the EU: Lund, Lassen & Sandøe 2012; Lund et al 2014; Crettaz von Roten, 2008, 2009, 2013, the US: Joffe et al 2016a, b, New Zealand: Williams, Decre & Elliott 2007, China: Davey Wu 2007) and global comparative research (Ormandy, Schupli & Weary 2013) is difficult to translate to the Australian context due to different levels of visibility of animal research and activism and diverse sociocultural values.

Australians also have varying levels of trust in government. Since 2007, surveys conducted by the Scanlon Institute have shown that the majority of Australians have been sceptical of politicians and

cautious in their trust of political parties. Although trust rose to 54% in July 2020 during the COVID-19 pandemic response (the highest percentage recorded since surveys started in 2007), trust in the Australian government has declined to 44% in July 2021 (Markus 2021). People between the ages of 18 to 24 and 25 to 34 showed the lowest levels of trust, with only 38% and 33% respectively indicating that they believe the Australian government can be trusted to do the right thing for the Australian people. Conversely, 55% of people over the age of 65 indicated greater levels of trust in the Australian government (Markus 2021).

The Australian regulatory framework for the care and use of animals for scientific purposes stresses that such activities should be responsible, ethical, and humane (NHMRC 2019). The Code governing such research has been revised to take account of both "changing community views and scientific developments" (NHMRC 2013, 85), yet we have limited information to inform a series of key questions including what types of organisms should be used for biomedical research (e.g. chimpanzees, domestic cats or dogs, laboratory-bred mice) and under what conditions, how to gauge when and whether animal research is 'necessary,' and whether current regulatory processes are adequate, especially as lack of transparency and openness have been noted as problematic in the Australian context (e.g. Sharman 2006; O'Sullivan 2008; Rose 2011; Whittaker 2014; Timoshanko, Marston & Lidbury 2017). Publicly available information is limited (a review noted no universities had publicly available 3R strategies, NHMRC 2019), perhaps out of concern for risk to animal researchers. What constitutes 'the public' also is not straightforward: ethnographic analysis reveals that animal welfare experts have different theories of value in relation to various publics, such as citizens and consumers, and different types of animal use (Degeling & Johnson 2015).

Hence Professor Rachel Ankeny and Dr Alexandra Whittaker from the University of Adelaide were contracted by the Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART) to carry out a survey of the Australian public into the public awareness of, and attitudes towards, the use of animals in scientific research to enhance our understanding of how the Australian public views the use of animals in scientific research and to provide a baseline for future qualitative research as well as repeated surveys in the future. The survey also was designed to allow comparison to previous surveys on the same topic in the United Kingdom (Clemence & Leaman 2016). Results may also be used to compare against results from surveys conducted in other locales, such as New Zealand (Williams, Dacre & Elliot 2007). This report presents the findings of the survey which was conducted in April 2022.

2. Project Design/Methodology

The results detailed in this research report were derived through the use of a survey instrument which built upon existing surveys performed in the United Kingdom by the Ipsos MORI Social Research Institute for the UK Department of Business, Energy and Industrial Strategy with their permission (Clemence & Leaman 2016). The instrument was supplemented with questions specifically of relevance in the Australian context as identified through a literature review, consultation with ANZCCART, and our previous knowledge of the field. The instrument was piloted with a group of students for comprehensibility, ease of administration, and timing. Ethics clearance for research with human subjects was obtained via the University of Adelaide's HREC (H-2022-047).

The survey was performed anonymously online with recruitment occurring through an established professional panel company, McNair yellowSquares (Sydney). The use of a professional panel ensured that the sample broadly represented the Australian public in terms of key demographics, completion of the surveys in a timely fashion, and ability to easily download data for analysis. The sample size requested was 2500, based on calculations in relation to the Australian population, with oversampling to allow for sampling error. All responses were deemed appropriate for use, resulting in a total of 2694 survey responses used in the analysis.

The project was broken down into three phases:

3. Project Limitations

There were a few limitations to the current project which are important to highlight. Use of an established instrument from the UK was thought to be the best approach for this initial survey both for comparison of results and also because of the availability of longitudinal data in the UK context. However after conducting the survey in Australia, various limitations both of the original instrument and the limits of its applicability to the Australian context were recognised. Examples of the UK survey's limitations are as follows:

- Different background conditions, particularly less activism, as well as no centralisation and arguably less visibility of animal research regulation in Australia compared to the UK. As a result, the responses to some questions were much more difficult to interpret in the Australian context. For instance, phrasing of many questions in terms of

whether participants agree or disagree with certain statements resulted in meaningful findings in the UK, but in the Australian survey we found that a large number participants choose options in between, likely because of lack of knowledge or familiarity with processes associated with animal research, which in turn made these results difficult to interpret.

- No definitions of key terms were provided including 'replacement,' 'reduction,' 'openness,' 'transparency,' 'secretive,' and 'momentary harm,' which left many questions open to multiple interpretations by the respondents.
- There were some missing questions in the original instrument that would have been useful to include in the Australian context, particularly given the COVID-19 pandemic (e.g., no option associated with 'human health' was included in questions 9 and 10 in the survey).

The COVID-19 pandemic was also likely to have influenced these results, both positively and negatively, in light of increased conversations about medical research and vaccine development occurring in the public sphere, and continued polarisation and differences in views about vaccines. Such conversations may have altered attitudes towards animal use in research, given the recent benefit to human health, but these effects are impossible to determine via responses to a quantitative instrument such as this one.

Survey-based methodology also generally has limits. Closed-ended questions do not allow for researchers to dive deeper into why respondents answered in particular ways, nor do they allow for exploration into the social and cultural factors that may influence responses. However, a quantitative survey of the type performed for this study is appropriate to provide a baseline against which changing attitudes can be measured, as well as to help ground richer qualitative research on topics of particular interest to respondents in the future.

4. Results

4.1 Demographics

The survey was targeted at members of the general Australian population over the age of 18, using a representative sample based on age, gender, and location quotas. Income, ethnic heritage, and diet were used as soft quotas, as to not allow overrepresentation of any particular sub-group. No more than 11% of participants were recruited who self-described as particular types of vegetarians or vegans (see Table 3 below), with the soft quota reflecting the frequency of these dietary preferences in the general population. This factor was included as one of the soft quotas out of recognition that vegetarian or vegan preferences are often associated with stronger views on animal welfare and rights

which in turn would be likely to have flow on effects on participants' views on animal research. We did not hypothesise any other specific tendencies in terms of views on animal research in relation to the other quotas. For all statistical analyses performed, significance was taken to be $p<0.05$.

Table 1: Age and gender of participants

	Male	Female	Prefer to self-describe
18-24 years	132	163	2
25-34 years	285	251	
35-44 years	243	246	1
45-54 years	227	205	
55-64 years	184	242	
65 and over	263	250	
Total (n=2694)	***1,334***	***1,357***	***3***

Table 2: Geographical location of participants

Location	Count
Australian Capital Territory	50
Adelaide	151
South Australia other than Adelaide	47
Brisbane	264
Queensland other than Brisbane	277
Melbourne	514
Victoria other than Melbourne	168
Sydney	548
New South Wales other than Sydney	294
Perth	225
Western Australia other than Perth	63
Tasmania	61
Northern Territory	32

Table 3: Dietary preferences of participants

Dietary descriptor	Count	Percentage
Omnivore	2248	83.4%
Flexitarian	206	7.6%
Pescatarian	51	1.9%
Lacto-ovo	55	2.0%
Lacto-vegetarian	18	0.7%
Ovo-vegetarian	8	0.3%
Vegan	50	1.9%
Other	58	2.2%

Table 4: Number of participants that were pet owners

Yes	**1709**
No	985

Table 5: Ethnic heritage of participants

Participants were able to select all that apply to them.

Ethnic Heritage	Count
Australian	1937
Aboriginal/Torres Strait Islander	45
North-West Europe	388
Southern or Eastern Europe	188
North East Asian	93
South East Asian	119
Southern Asian	81
Central Asian	9
Polynesian, Pacific Islander, Maori	20
North African or Middle Eastern	28
Sub-Saharan African	15
North American	13
South or Central American or Caribbean Islander	15
Other	40
Prefer not to say	14

Table 6: Religious affiliations of participants
Participants were able to select all that applied to them.

Religious Affiliations	Count
Christianity	1143
Hinduism	58
Buddhism	45
Islam	44
Judaism	19
Other	43
None	1286
Prefer not to say	69

4.2 Knowledge and awareness about the use of animals in scientific research

4.2.1 Key findings

- A large majority of participants say they care about use of animals, but don't feel well informed.
- 64% of participants were interested in finding out more about the research being done into alternatives to using animals in research, and 70% were interested in finding out more about what is being done to improve the welfare of animals used in research.
- A significant proportion of respondents were uncertain about which types of animal research were permitted in Australia (with ethics approval), ranging from 40-59% depending on the specific type of application.

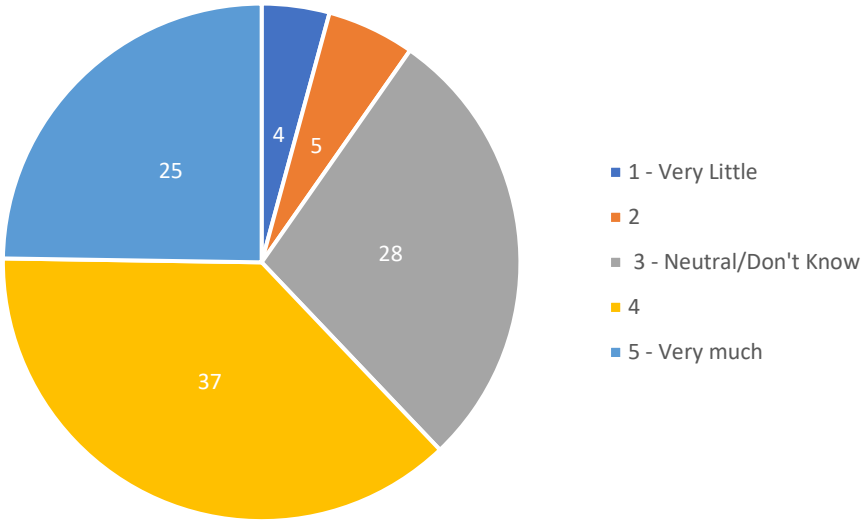

Figure 1: Responses to question 1 "The use of animals in scientific research is an issue I care about"

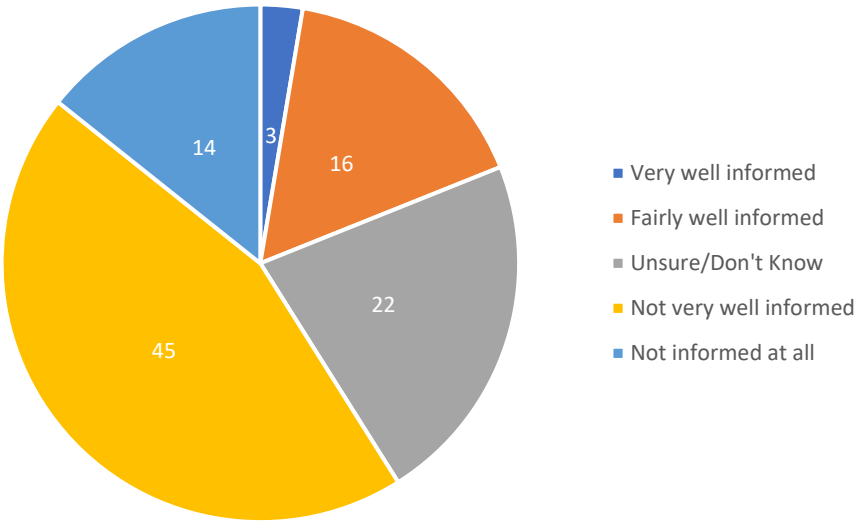

Figure 2: Responses to question 2 "How well informed do you feel, if at all, about the use of animals in scientific research in Australia?"

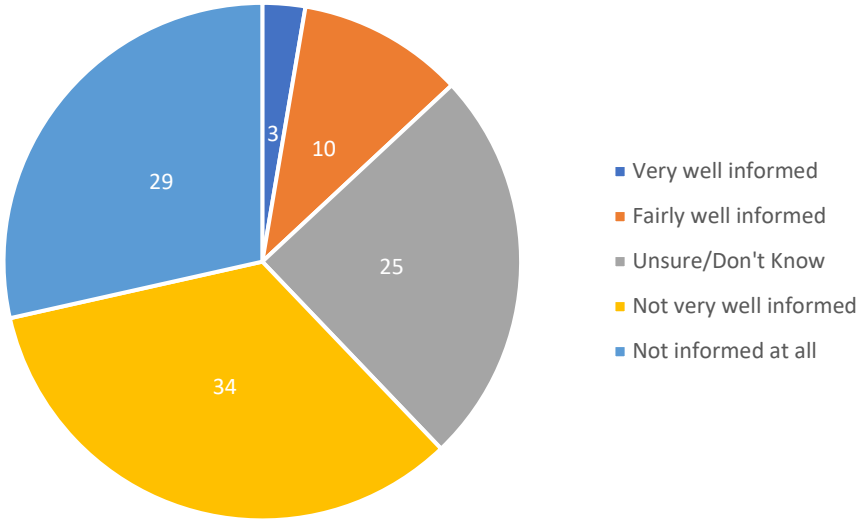

Figure 3: Responses to question 2 continued "How well informed do you feel, if at all, about the process required for scientists to gain approval for animal research in Australia?"

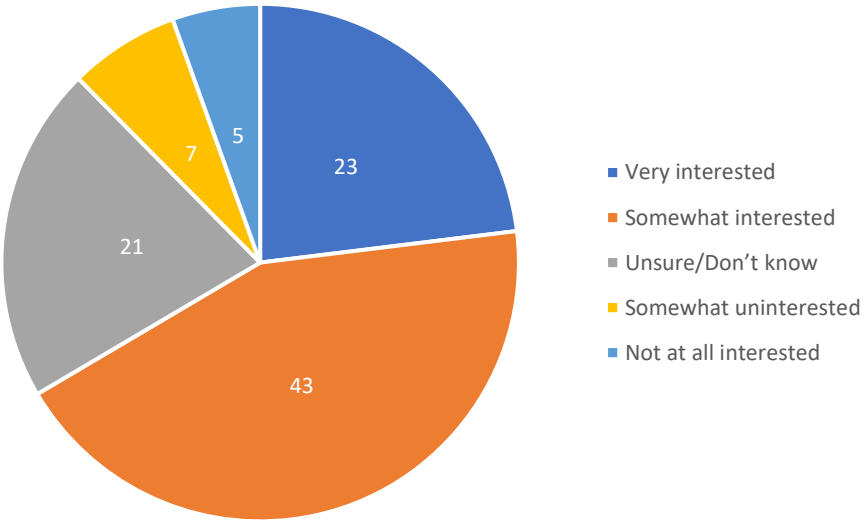

Figure 4: Responses to question 3 "How interested would you be, if at all, in finding out more about the ongoing work to find alternatives to using animals in scientific research?"

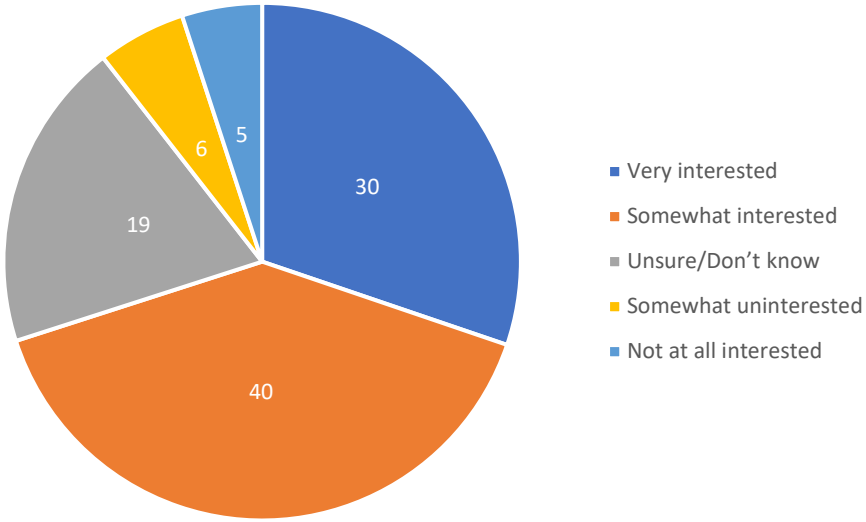

Figure 5: Responses to question 3 continued "How interested would you be, if at all, in finding out more about the ongoing work to improve the welfare of animals used in scientific research?"

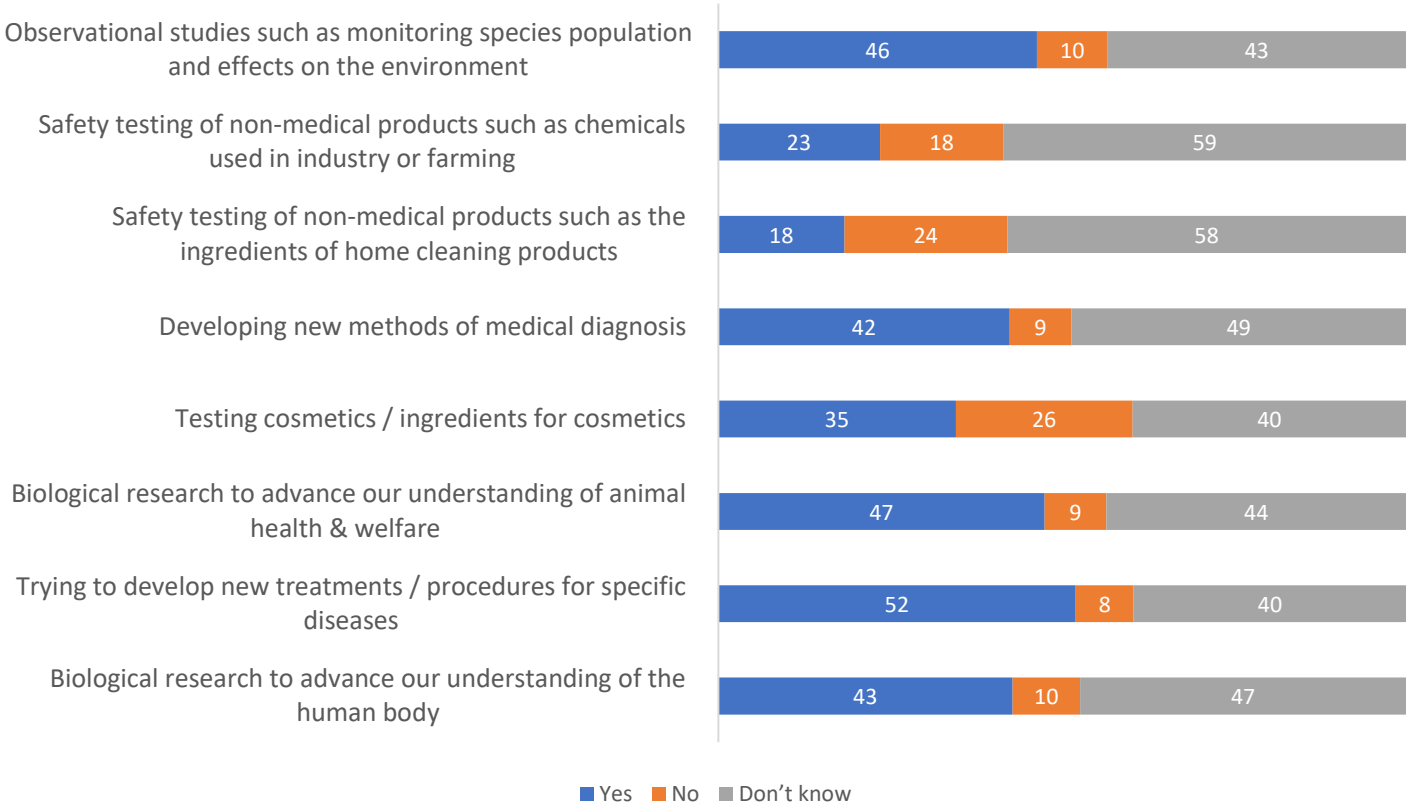

Figure 6: Responses to question 7 "As far as you know, for which of these types of research, if any, are researchers currently allowed to use animals in Australia (with the applicable approval)?"

4.3 Viewpoints on animal use in research

4.3.1 Key findings: Public acceptance of using animals in research

- Members of the public are unsure about animals being used in any kinds of research, but acceptability increases if research is done for medical reasons, if there are no alternatives, or if there is no unnecessary suffering to the animals.
- While there were individual variations in age-related associations between questions, as a generalisation, younger people were typically less accepting of using animals in research, and placed greater emphasis on animal welfare. Younger respondents also felt that more work was needed into alternatives to use of animals for research, and felt as though they were well-informed about the use of animals in research. This fits with previous research performed internationally with suggestions that older populations are more likely to instrumentalise animals, or responses are related to a cohort effect where those with a shared history are likely to respond similarly (see review of Ormandy and Schuppli 2014).
- 70% of participants are happy for animals to be used in scientific research so long as there is no animal suffering and no alternative, while 66% are comfortable with using animals in research for medical purposes where there are no alternatives available.
- 57% said they disagree with the statement "it does not bother me if animals are used in scientific research," with 20% saying that they neither agree nor disagree with this statement.
- Results suggest that members of the public are apprehensive and unsure about the use of animals in research, perhaps due to a lack of knowledge or confidence in the system (see highlighted results in Figures 7-9).
- In short, the use of animals in research seems to be conditional: 37% of the public agree that it is acceptable to use animals in all types of research where there is no alternative, with 30% disagreeing and 33% sitting on the fence or unsure. That the use of animals in research is conditional is further underscored by the fact that a majority of the public say that they are bothered by the use of animals in research: 57% disagree that it does not bother them that animals are used in experimentation while only 20% agree that it is of no concern to them.
- There are consistent gender differences around the willingness to accept the use of animals in research, with females being less accepting of their use (for example, when asked whether "I can accept the use of animals in scientific research as long as it is for medical research purposes where there is no alternative," Mann–Whitney U = 732875, P < 0.001 two-tailed), see Figure 8.

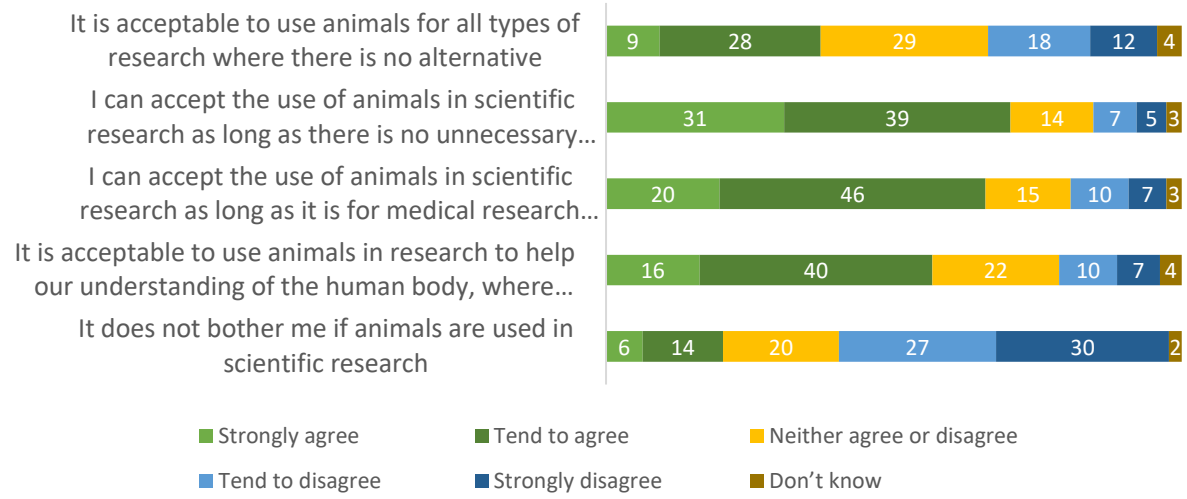

Figure 7: Responses to question 4 "How strongly do you agree or disagree with these general statements about the use of animals in scientific research in Australia?"

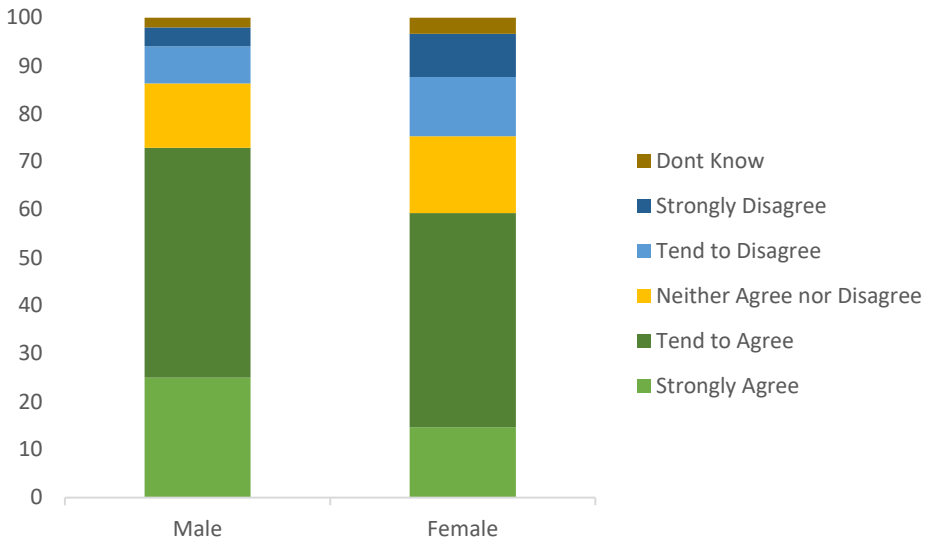

Figure 8: Gender-based responses to statement "I can accept the use of animals in scientific research as long as it is for medical research purposes where there is no alternative" in question 4

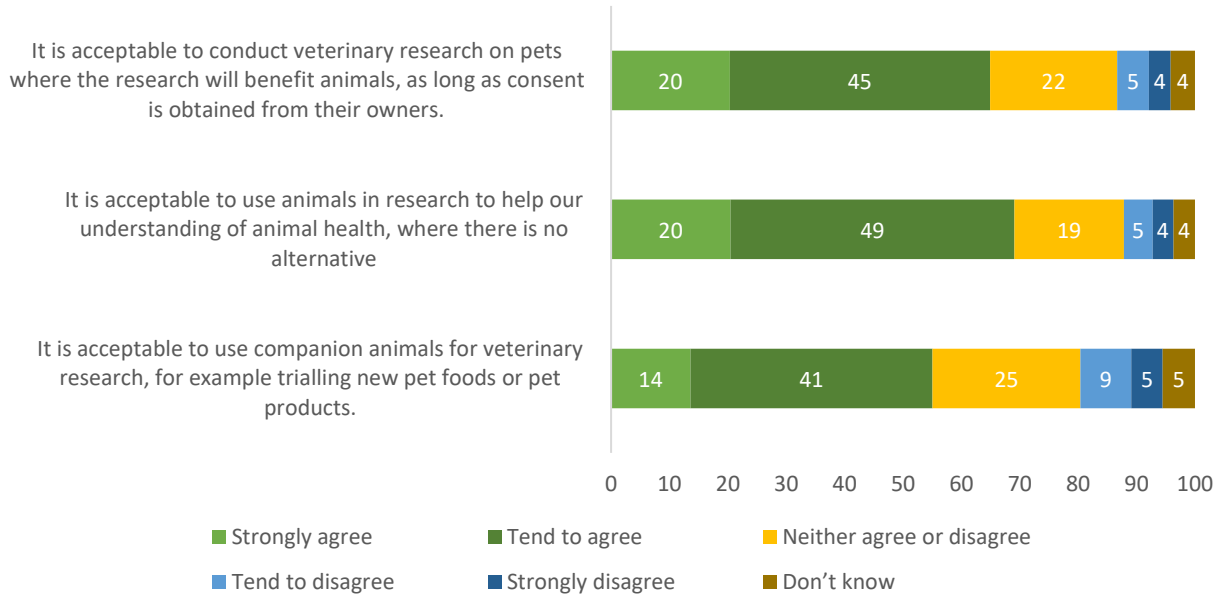

Figure 9: Responses to question 4 continued "How strongly do you agree or disagree with these general statements about the use of animals in scientific research in Australia?"

4.3.2 Key findings: Support for looking into alternatives to using animals

- There was overwhelming support for looking into alternatives to using animals in scientific research, with 76% of participants agreeing with the statement, with only 32% supporting a ban on animal research altogether.
- Several demographic factors clearly contributed to responses as to whether respondents agreed with the statement that 'the Australian government should ban the use of animals for any form of research'; ordinal logistic regression analysis was conducted in SPSS (version 28.0.1.0) which showed that the following factors contributed:
    1. Age (for more details, see Figure 10, overall significance $p < 0.001$)
    2. Pet ownership [ordered log-odds (Estimate)= -0.548, SE=0.07, Wald= 58.5, $p < 0.001$]. The estimated odds ratio suggested pet owners were 1.7 times more likely to *agree* with the statement compared to non-owners.
    3. Practising Hinduism [ordered log-odds (Estimate)= 0.533, SE=2.38, Wald= 5.035, $p = 0.03$]. The estimated odds ratio suggested that proponents of Hinduism were 1.7 times more likely to *disagree* with this statement compared to respondents with no religious affiliation. There were no other religions with significant associations when compared to the reference (no religious affiliation), and ethnicities also did not have significant associations.
    4. All forms of specific dietary preference led to highly significant associations ($p < 0.001$ for all) with agreement with this statement, when compared with those who identified as omnivores. Practising any of the other dietary choices articulated in the survey was associated with increased agreement with this statement with odds ratios ranging from 2.4 to 12.

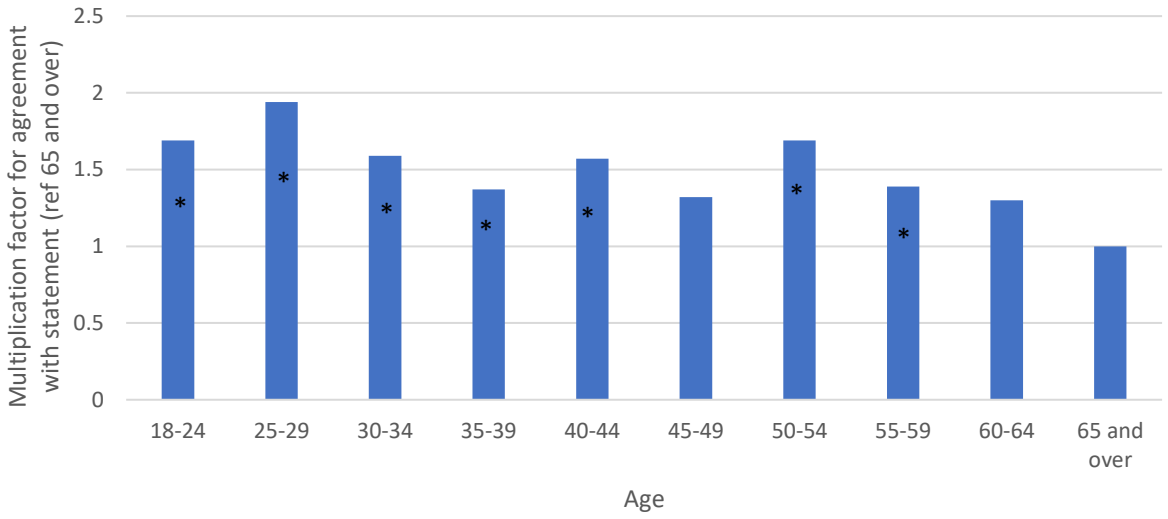

Figure 10: Differences between age groups in agreement with statement that 'The Australian government should ban the use of animals for any form of research'. The 65 and over group is taken as the reference group. * represents significance in agreement with respect to the 65 and over reference group. As an example, the 18-24 years age group are 1.7 times more likely to show agreement with this statement than the 65 and over group.

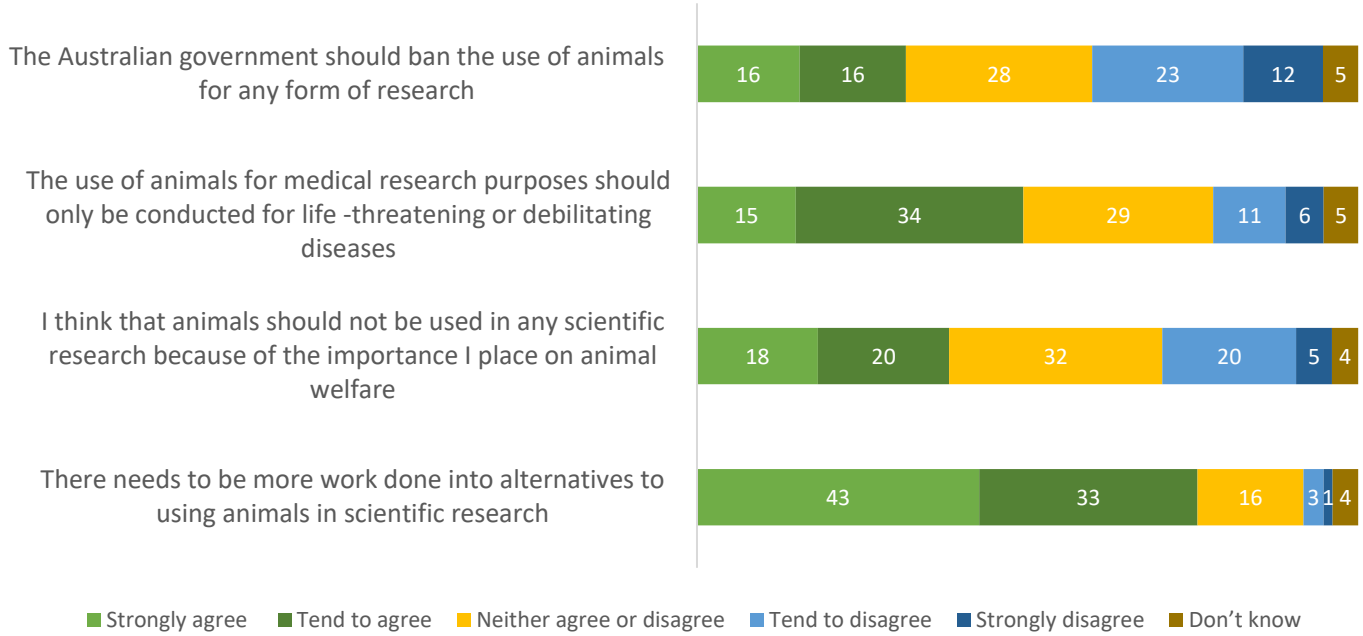

Figure 11: Responses to question 4 "How strongly do you agree or disagree with these general statements about the use of animals in scientific research in Australia?"

4.3.3 Key findings: Researchers could be doing more to reduce use of animals for research

- Despite up to 25% of participants indicating that they don't know about what researchers are doing to reduce using animals in their research, 69% believe they could be doing more to reduce the suffering of animals used in scientific research. 56% believe that the use of animals for medical research purposes is important for human health.
- 56% of participants believe that the use of animals for medical research purposes is important for human health. When asked about where they have heard information about the use of animals in research, many said in reporting about testing of COVID-19 vaccinations, and the high levels of reporting on COVID-19 during the period in which the survey was performed may have influenced this result.
- However many respondents indicated that they felt they didn't know, and these topics warrant more detailed exploration likely in a qualitative follow up study in order to excavate what is at issue in this domain.

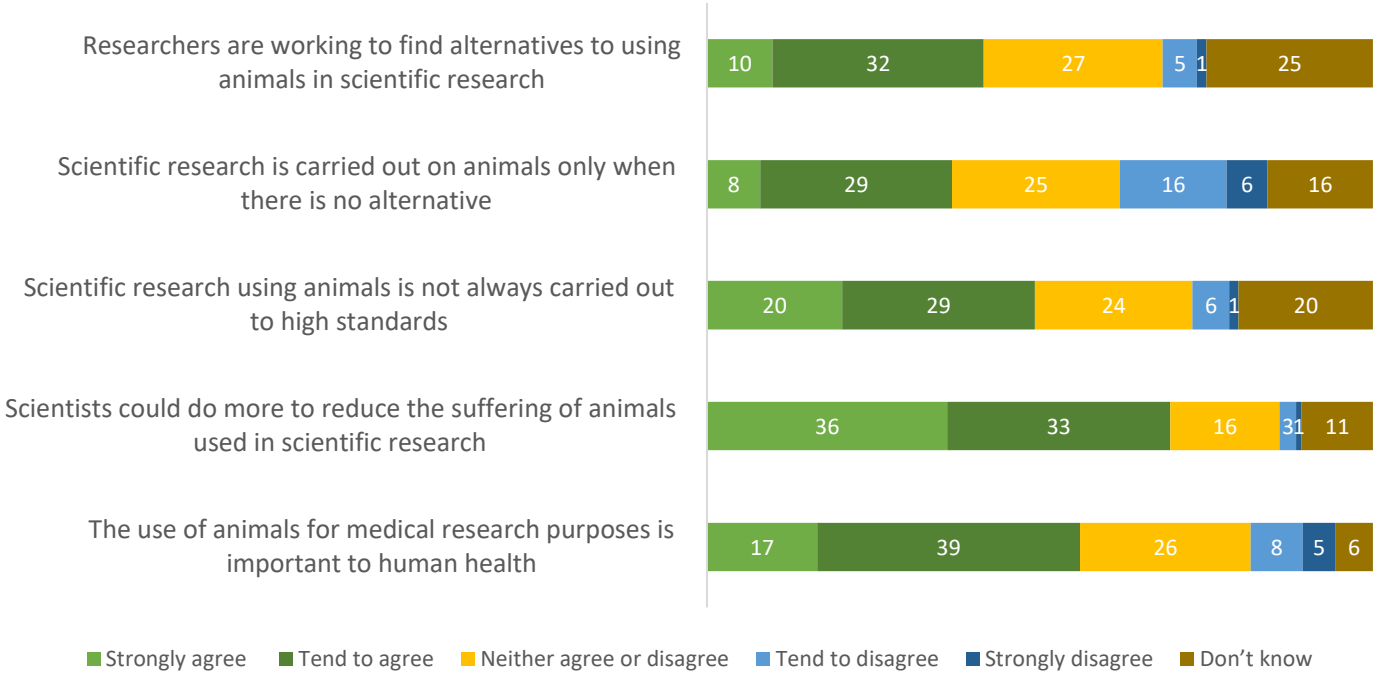

Figure 12: Responses to question 5 "How strongly do you agree or disagree with the following statements?"

4.3.4 Key findings: Research type acceptability and type of animal used

- Participants generally disagree with the use of animals in research exploring the harm of chemicals
- A question in the survey investigated whether public acceptance of animal research is contingent on the species of the animal used and in relation to three areas of research:
    - Medical research to benefit people
    - Research into animal health
    - Environmental research (e.g., effect of chemicals on food, health etc.)
- From the list of animals, rats and mice were the most acceptable for all types of research listed: close to 60% think it is acceptable to use rats and mice in medical research to benefit people. However, only around 40% believe it is acceptable to use rats and mice in teaching where procedures cause momentary stress or harm.
- Interestingly, the pattern seen in response to the various types of animals used in research is not necessarily related to sentience or the usual characteristics associated with ethical standards of animal research. Instead the responses in this study potentially are related to the perception of charismatic megafauna or animals, particularly those with which participants are more familiar, as being more problematic to use for research.
- There were much lower levels or acceptability in using all species for teaching purposes where procedures cause momentary stress of harm. These findings are consistent with the acceptability of research if there is no unnecessary suffering (see Figure 7).
- However, 20% of participants say they "don't know" about the use of a particular species in any of the areas of research.
- There is greater acceptability in using any species in research relating to animal health, perhaps because people can see direct applicability of research outcomes to the species or do

not envisage these types of research as potentially causing harm to the animal. Again, these topics need to be followed up with qualitative research in order to explore these issues.

- There is clear resistance to use of animals for teaching purposes but there are several things interconnected in the way the question is phrased, making it difficult to interpret, namely
    - where is the teaching taking place – participants may be thinking about high school or their own experiences
    - negative public attitudes towards universities, demonstrated elsewhere amongst responses to this survey
    - problems with the definition of "momentary harm or stress" – with the statement being too arbitrary.

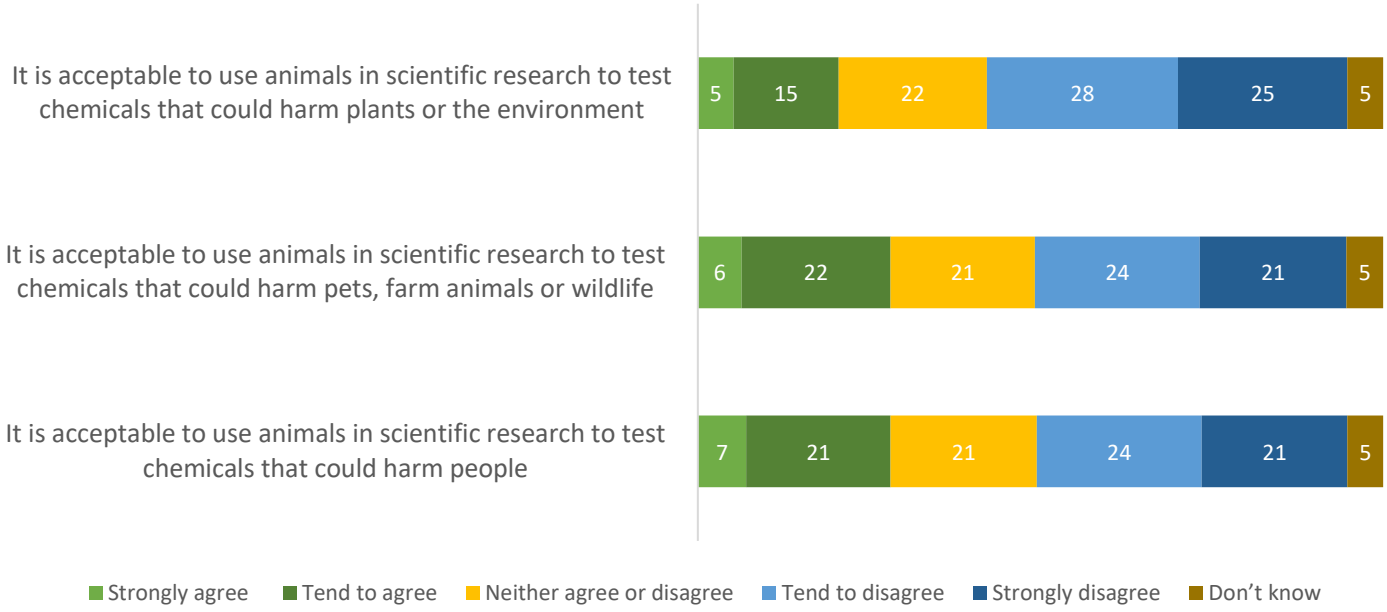

Figure 13: Responses to question 6 "How strongly do you agree or disagree with the following statements?"

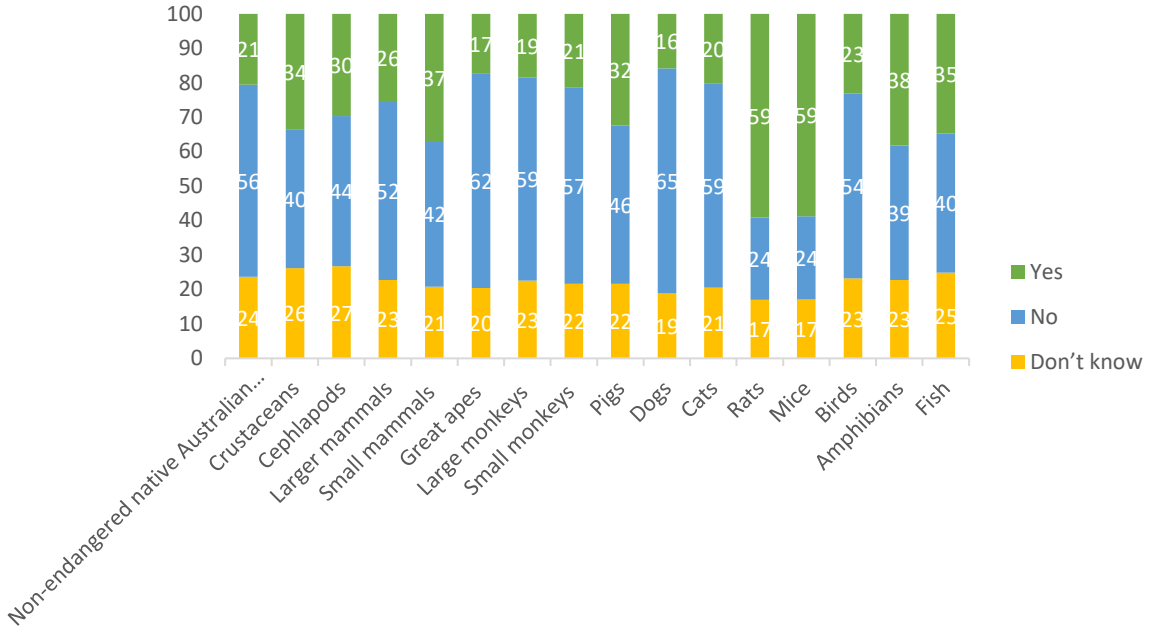

Figure 14: Responses to question 8 "Which, if any, types of animals do you think it is acceptable to use for experimental medical research to benefit people?"

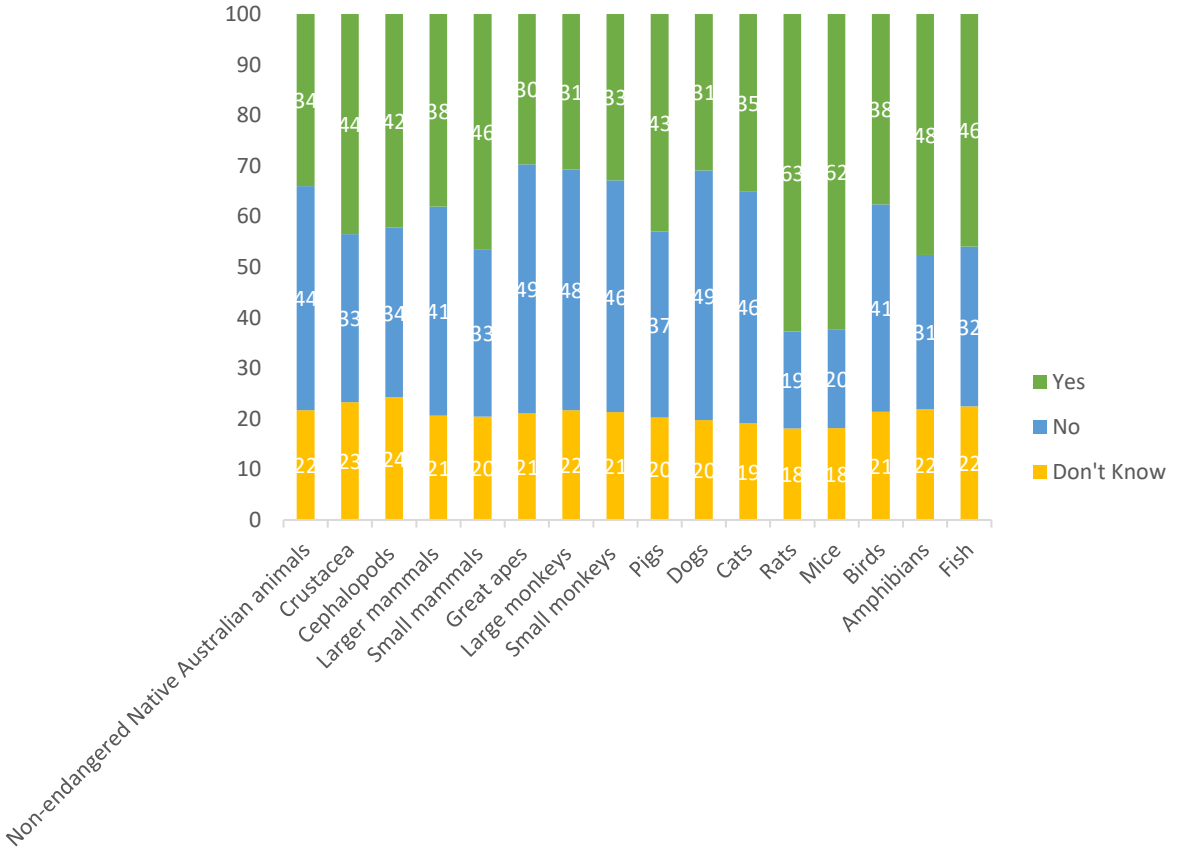

Figure 15: Responses to question 9 "Which, if any, types of animals do you think it is acceptable to use for research into animal health?"

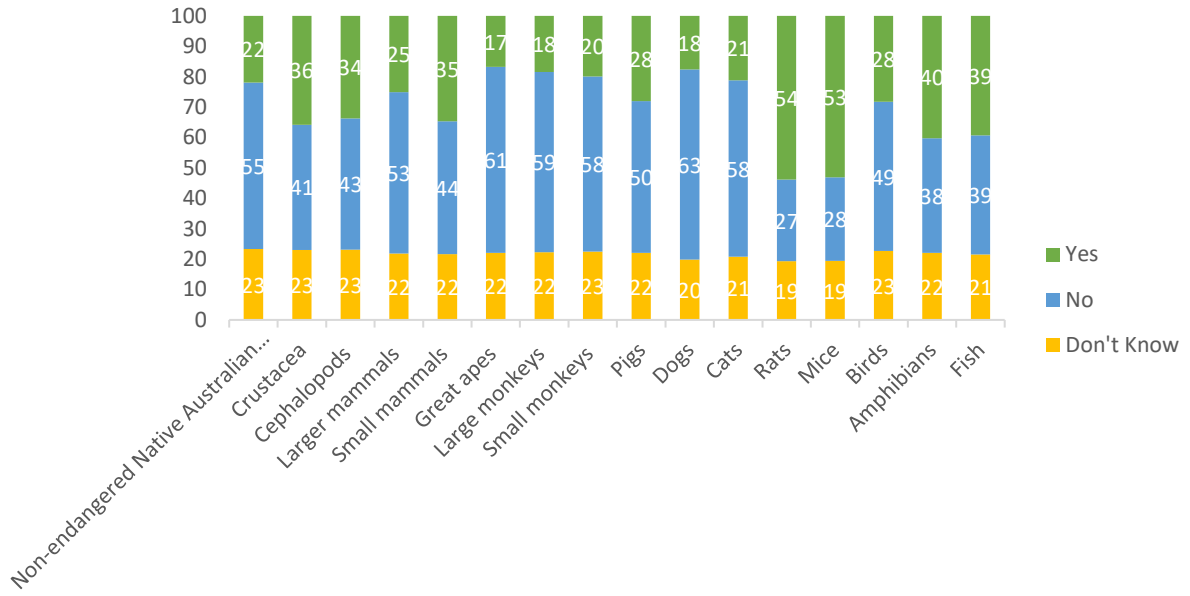

Figure 16: Responses to question 10 "Which, if any, types of animals do you think it is acceptable to use for environmental research (for example, to look at the effect of chemicals on the food chain or the effect of air pollution on health)?"

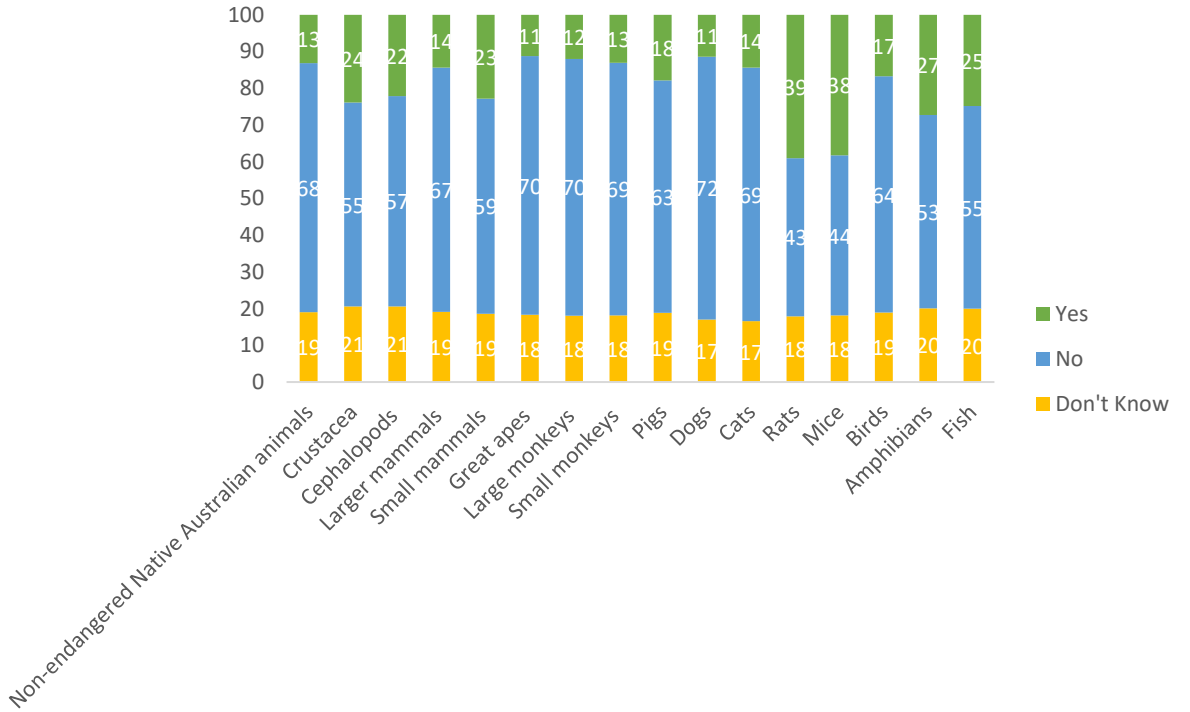

Figure 17: Response to question 11 "Which, if any, types of animals do you think it is acceptable to use for teaching where the procedures cause more than momentary harm or stress?"

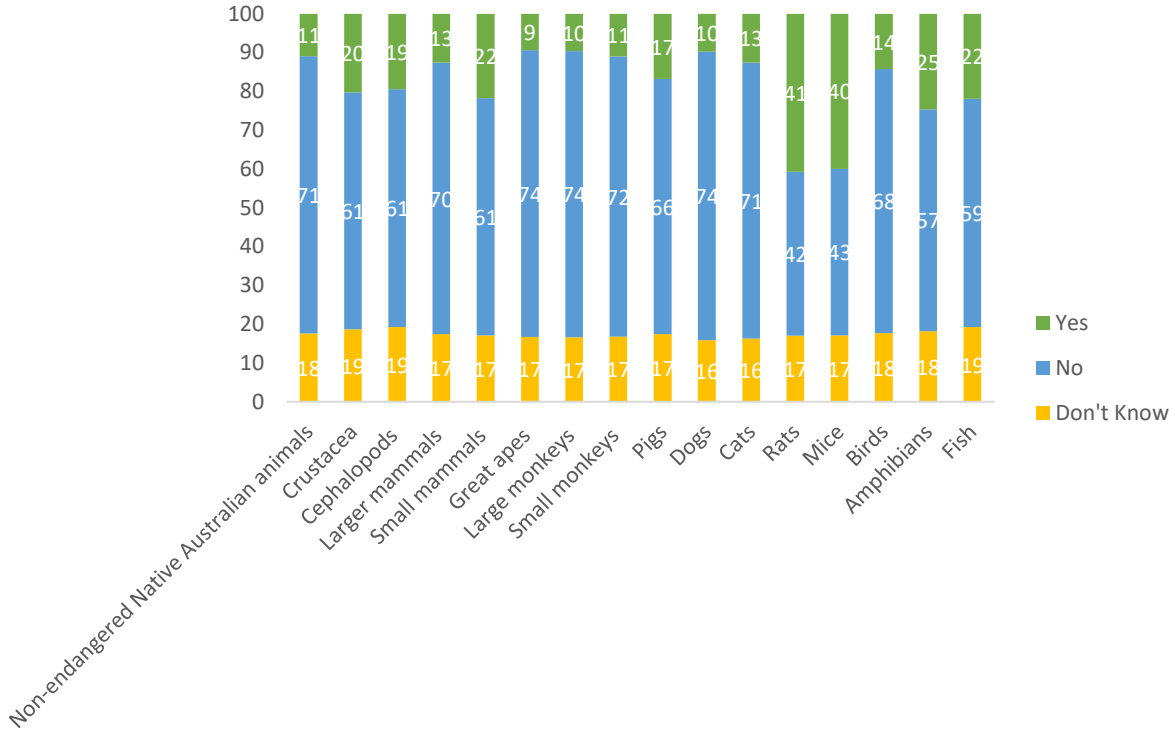

Figure 18: Responses to question 12 "Which, if any, types of animals do you think it is acceptable to use for safety testing of non-medical products? E.g., cleaning products, sanitary items, food additives"

- Ordinal logistic regression was performed to determine whether there were differences in response between pet owners and non-pet owners for acceptability of using dogs, cats or large mammals in experimental medical research (Q8). No significant differences were found. Similarly, there were no differences between these populations in consideration of the same groupings in relation to animal health research (Q9).
- Interestingly, there were no differences between those with an affiliation with Islam and non-Islamic respondents on the acceptability of using pigs in medical research (Q8h), or between Hindus and non-Hindus on using large mammals in medical research (Q8m). However, in interpreting these data consideration should be given to the small sample sizes representing Islamic and Hindu respondents.

4.4 Governance and transparency of research

4.4.1 Key findings

- A quarter of participants stated they neither agreed nor disagreed with the statements, except in the case where 82% of respondents wanting institutions to be more transparent about their use of animals (see Figure 19).
    - 54% of participants say they want greater involvement in the public around decision making
    - 54% also believe that the approval of animal research by an AEC, rather than government, is satisfactory
- In question 13, respondents were provided with a brief summary about the requirement of researchers applying to animal ethic committees to obtain approval to use animals in research, the membership requirements of an AEC, and the role of AECs in monitoring research.

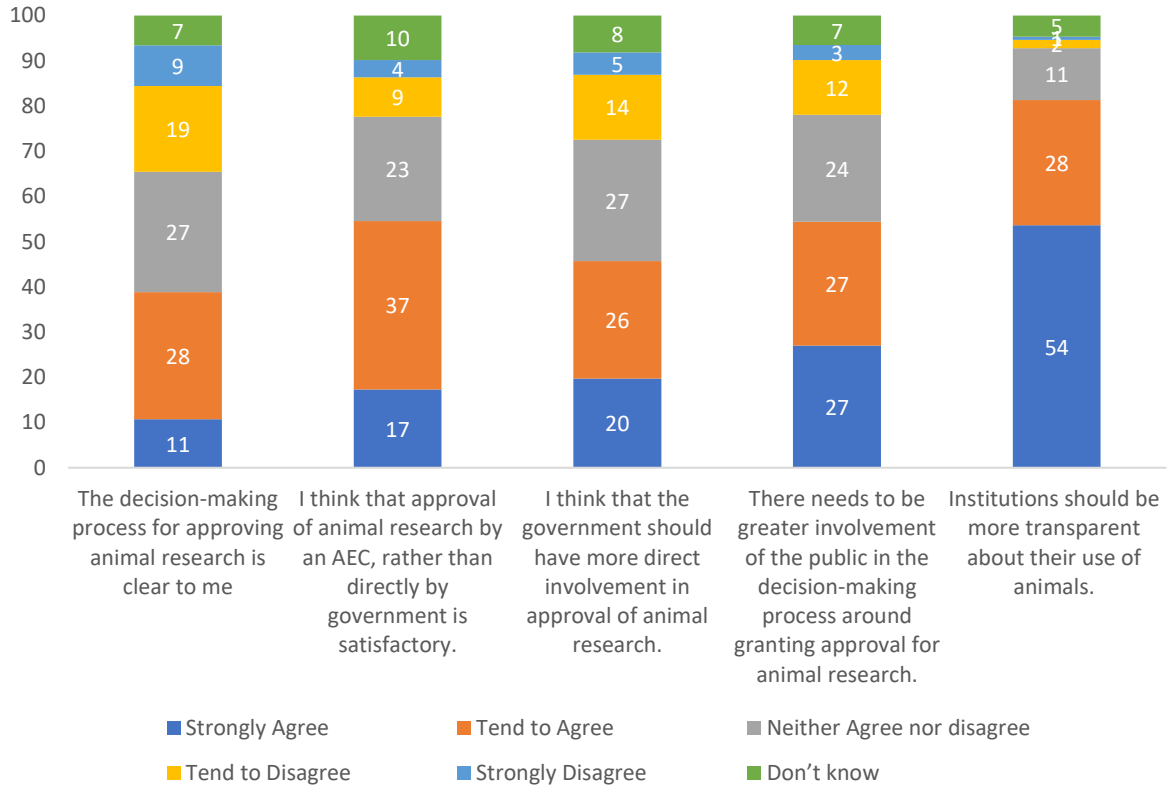

Figure 19: Responses to question 13 "How strongly do you agree with the following statements?"

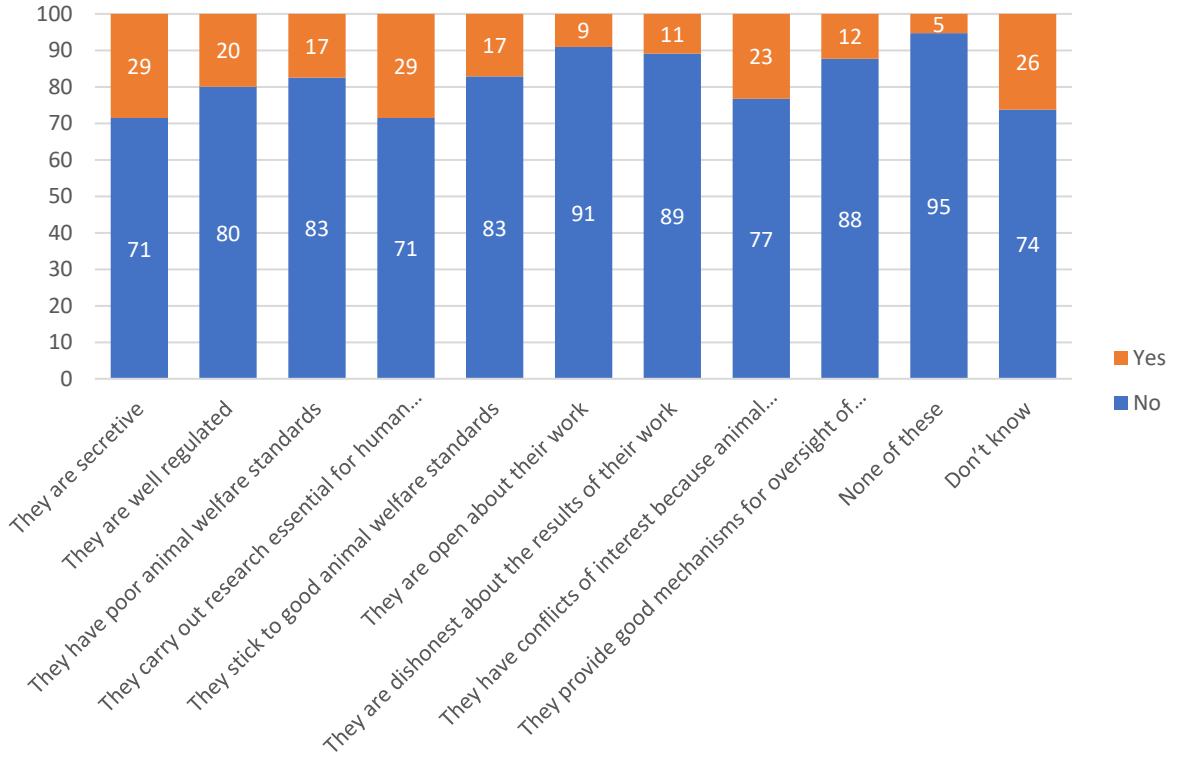

Figure 20: Responses to question 14 "Which, if any, of the following fit your view of organisations that use animals for scientific research in Australia?"

- 29% say they neither trust nor distrust the regulatory system around the use of animals in scientific research in Australia which highlights a level of uncertainty around how the regulatory system works. This is further supported by 28% saying they neither agree nor disagree that the rules on using animals in scientific research in Australia are well enforced. 21% say that they do trust the regulatory system with 37% of participants saying they do not trust the system.

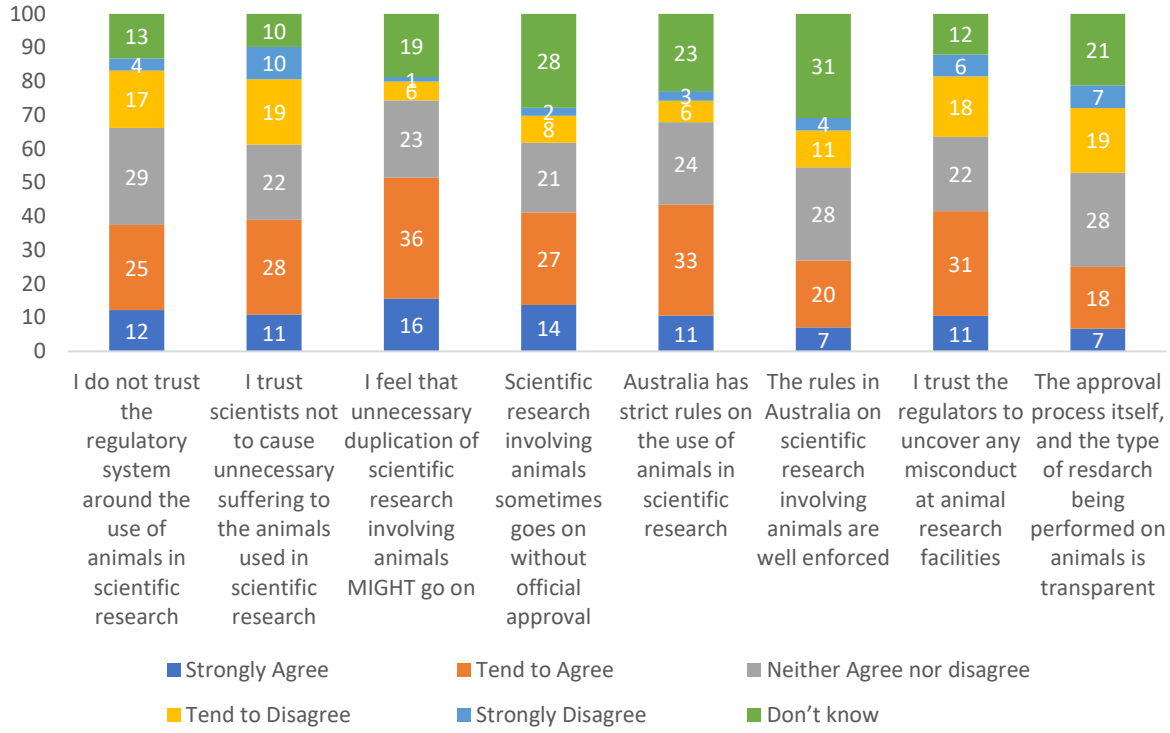

Figure 21: Responses to question 16 "How strongly do you agree or disagree with the following statements about the rules and regulations on the use of animals in scientific research in Australia?"

4.5 Sources of information and attitudes towards activism

4.5.1 Key findings

- Animal welfare organisations are most trusted, followed by vets. Universities and research institutions rank considerably lower down the list. It is somewhat unclear how participants define each of these types of organisations
- Qualitative research could help to tease out attitudes, for instance on whether researchers are considered to be only working in industry or also in universities/public institutions.
- Participants get their information from websites, followed by TV and social media.
- Participants favour more passive and less disruptive forms of protest such as handing out leaflets, and find active protesting or demonstrations to be more problematic.

Figure 22: Responses to question 17 "In which, if any, ways would you personally like to receive information about the use of animals in scientific research?"

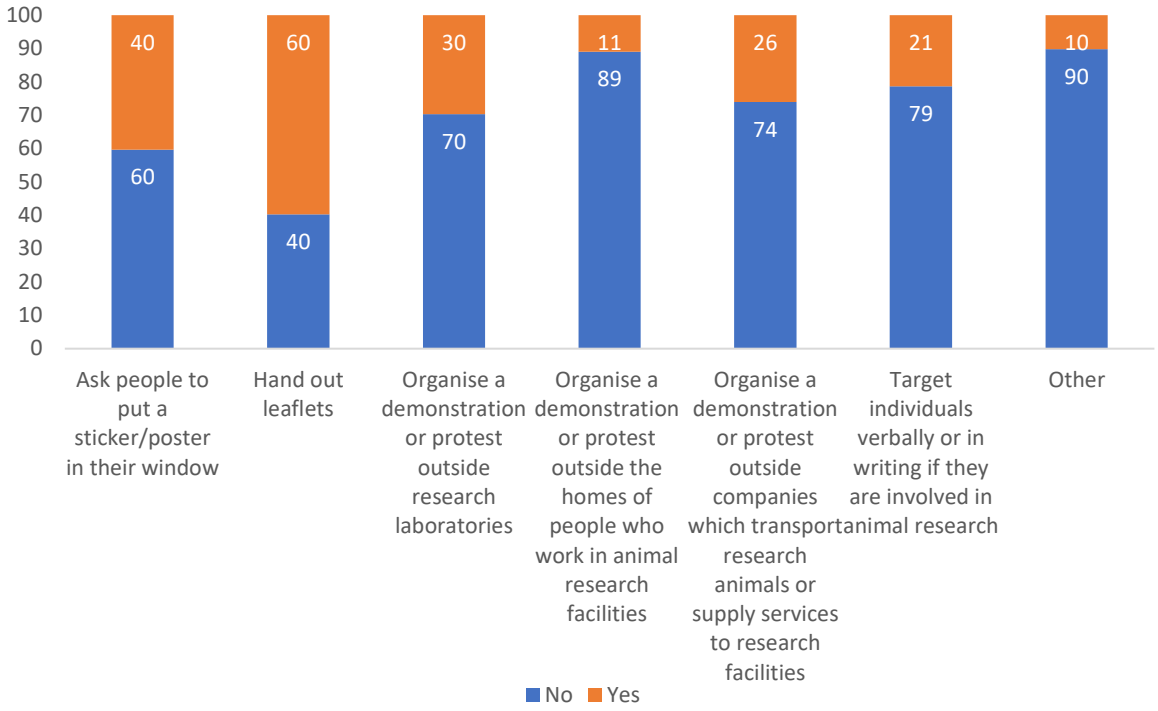

Figure 23: Responses to question 19 "Which, if any, of the following do you feel are acceptable things for organisations supporting animals to do?

5. Summary

The results presented here highlight some of the attitudes that Australians have towards the use of animals in research. This preliminary research provides significant opportunities for ANZCCART and others involved in animal research, including data that can help to guide increased public engagement around the following key issues:

- the organisation itself, including what it does, why, and who is involved;
- how the regulatory processes associated with animal research work, including activities based at university AECs;
- the use of different species, including more engagement about how certain species are more appropriate than others for certain purposes;
- the importance of animals for teaching purposes in certain contexts and processes in place to ensure that suffering is minimised; and
- discussions about the 3Rs, particularly replacement and reduction, including what the public thinks 'replacement' might or should involve, and how it works.

While this survey asked how respondents would like to receive information (question 18), it did not ask whether respondents would like more information or what type of information they would like (or what they would prefer not to be exposed to). We suspect (but would need to confirm this hypothesis via further research) that the type of information that members of the public want will have limits. These limits potentially will parallel findings associated with farm animal welfare and what is called the "meat paradox" (Joy 2010) where people want to know more about some things relating to animal production but not about confronting issues such as slaughter. Future research should include exploration into the type of information which the Australian public wants with regards to the use of animals in research in order to help shape communication and engagement strategies.

ANZCCART also could use this survey as a basis for development of future research activities aimed at increasing our understanding about public attitudes towards animal use in research. As previously mentioned, survey-based methodology generally has limits. Closed-ended questions do not allow researchers to explore why respondents respond in such a way, nor do they allow for exploration into the social and cultural factors that may influence responses. To gain greater insights into attitudes about the use of animals in research, it is recommended that this survey be followed up with a qualitative study using focus groups and/or interviews, or a more detailed and refined survey that includes less closed-ended response formats and also scenarios in order to develop a richer understanding of the attitudes and values expressed, and to better inform approaches to animal research and engagement about it.

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Appendix 1: Survey Questions, including survey programming instructions.

ANZCCART Australian Survey Questions

SCREENER QUESTIONS

1. What is your current age (select appropriate age bracket)? [Must be 18yrs or older to participate, Hard quotas]

18-24
25-29
30-34
35-39
40-44
45-49
50-54
55-59
60-64
65+

2. What is your gender? [hard quota]

Male
Female
Prefer to self-describe [TEXTBOX]

3. What is your postcode? [Hard quota, Mix of rural and urban from across Australia]

4. In the past 5 years, have you conducted research on animals, or been involved in primary, secondary or tertiary level teaching (with the exception of being a student) that has used animals? [Must not have been involved in animal research in the past 5 years]

Yes
No

5. Which ONE of the following best describes your current diet? [No more than 11% Lacto-veg/Ovo-veg/Lacto-ovo veg/Vegan]

Omnivore (consumes both plant and animal-based foods)
Lacto-vegetarian (consumes dairy, but no meat or eggs)
Ovo-vegetarian (consumes eggs, but no meat or dairy)
Lacto-ovo vegetarian (consumes dairy and eggs, but no meat)
Pescatarian (consumes fish, but no red meat)
Vegan (consumes no food of animal origins)
Flexitarian (consumes a primarily vegetarian diet, but occasionally eats fish or meat)
Other (please specify): TEXTBOX

6. What best describes your ethnic heritage (please select all that apply)? [soft quota]
Australian
Aboriginal or Torres Strait Islander
North-West European (pop-up – UK, Ireland, Germany, France, Swiss, Scandinavia, Benelux etc)
Southern or Eastern European (pop-up – Spain, Portugal, Italy, Greece, Poland, Russian, Hungarian, Slavic, Baltic etc.)
North-East Asian (pop-up – Chinese, Japanese, Korean etc)
South-East Asian (pop-up – Thai, Vietnamese, Indonesia, Filipino)
Southern Asian (pop-up – Indian, Sri Lankan, Nepalese, Bengali, Punjabi, Pakistani etc)
Central Asian (pop-up – Armenian, Georgian, Afghan etc)
Polynesian, Pacific Islander, Maori
North African or Middle Eastern
Sub-Saharan African
North American
South or Central American or Caribbean Islander
Other (please specify): TEXTBOX
I prefer not to say
[reasonable mix]

7. Do you affiliate yourself with any of the following religions? [soft quota]
Christianity
Islam
Buddhism
Hinduism
Judaism
Other (please specify): TEXTBOX
No religious affiliation
Prefer not to say

8. Do you own or live with any pets?
Yes
No

9. Do you work with animals?
Yes
No
If yes, please select the appropriate profession DROP DOWN
Farmer
Veterinarian
Zoo/wildlife
Other

[NEW PAGE]

KNOWLEDGE AND VIEWPOINTS ABOUT USE OF ANIMALS IN SCIENTIFIC RESEARCH

1. The use of animals in scientific research is an issue I care about [5pt Likert scale from "very little" to "very much" – please indicate centre/midpoint as neutral/don't know]

2. How well informed do you feel, if at all, about [5pt Likert scale, from "very well informed" to "not informed at all" (very well informed, fairly well informed, unsure/don't know, not very well informed, not informed at all)]
- The use of animals in scientific research in Australia?
- The process required for scientists to gain approval for animal research in Australia?

3. How interested would you be, if at all, in finding out more about: [5pt Likert scale from "very interested" to "not at all interested" – please indicate centre/midpoint as neutral/don't know]
    - The ongoing work to find alternatives to using animals in scientific research
    - The ongoing work to improve the welfare of animals used in scientific research

[NEW PAGE]

4. How strongly do you agree or disagree with these general statements about the use of animals in scientific research in Australia? [5pt Likert scale, from "strongly agree" to "strongly disagree"(Strongly Agree, Tend to Agree, Neither Agree nor Disagree, Tend to Disagree, Strongly Disagree, Don't Know) – include option for "don't know"]
    - I can accept the use of animals in scientific research as long as it is for medical research purposes where there is no alternative
    - There needs to be more work done into alternatives to using animals in scientific research
    - I can accept the use of animals in scientific research as long as there is no unnecessary suffering to the animals where there is no alternative
    - I think that animals should not be used in any scientific research because of the importance I place on animal welfare
    - It does not bother me if animals are used in scientific research
    - The use of animals for medical research purposes should only be conducted for life -threatening or debilitating diseases
    - The Australian government should ban the use of animals for any form of research
    - It is acceptable to use animals in research to help our understanding of processes in the human body, where there is no alternative
    - It is acceptable to use companion animals for veterinary research, for example trialling new pet foods or pet products.
    - It is acceptable to use animals in research to help our understanding of animal health, where there is no alternative
    - It is acceptable to conduct veterinary research on pets where the research will benefit animals, as long as consent is obtained from their owners.
    - It is acceptable to use animals for all types of research where there is no alternative

4a. In the previous question, you said you don't know how strongly you agree or disagree with some of the statements. Please explain why. [TEXT BOX, please make this question available to participants who answer "don't know" to FOUR or MORE of statements in question 4]

5. How strongly do you agree or disagree with the following statements? [5pt Likert scale, from "strongly agree" to "strongly disagree" (Strongly Agree, Tend to Agree, Neither Agree nor Disagree, Tend to Disagree, Strongly Disagree, Don't Know) – randomise statements]
   - The use of animals for medical research purposes is important to human health
   - Scientists could do more to reduce the suffering of animals used in scientific research
   - Scientific research using animals is not always carried out to high standards
   - Scientific research is carried out on animals only when there is no alternative
   - Researchers are working to find alternatives to using animals in scientific research

6. How strongly do you agree or disagree with the following statements? [5pt Likert scale, from "strongly agree" to "strongly disagree" (Strongly Agree, Tend to Agree, Neither Agree nor Disagree, Tend to Disagree, Strongly Disagree, Don't Know) - randomise statements]
   - It is acceptable to use animals in scientific research to test chemicals that could harm people
   - It is acceptable to use animals in scientific research to test chemicals that could harm pets, farm animals or wildlife
   - It is acceptable to use animals in scientific research to test chemicals that could harm plants or the environment

[NEW PAGE]

7. As far as you know, for which of these types of research, if any, are researchers currently allowed to use animals in Australia (with the applicable approval)? [Yes, No, DK responses - randomise]
   - Research to advance our understanding of processes in the human body
   - Trying to develop new treatments / procedures for specific diseases
   - Biological research to advance our understanding of animal health & welfare
   - Testing cosmetics / ingredients for cosmetics
   - Developing new methods of medical diagnosis
   - Safety testing of non-medical products such as the ingredients of home cleaning products
   - Safety testing of non-medical products such as chemicals used in industry or farming
   - Observational studies such as monitoring species population and effects on the environment

8. Which, if any, types of animals do you think it is acceptable to use for experimental medical research to benefit people? [Yes, No, DK responses - randomise]
    - Fish
    - Amphibians e.g. frogs, toads, newts
    - Birds
    - Mice
    - Rats
    - Cats
    - Dogs
    - Pigs
    - Small monkeys such as marmosets
    - Large monkeys such as macaques
    - Great apes e.g. chimpanzees and gorillas
    - Small mammals e.g. rabbits, ferrets
    - Larger mammals e.g. sheep, cows
    - Cephalopods e.g. octopus or squid
    - Crustaceans such as lobsters, yabbies or crayfish
    - Non-endangered Native Australian animals

8a. In the previous question, you said it was not acceptable to use the species listed for experimental research to benefit people. Could you please explain why you said no? [TEXT BOX Show this question only if participant answers no to all species in previous answer]

9. Which, if any, types of animals do you think it is acceptable to use for research into animal health? [Yes, No, DK responses - randomise]
    - Fish
    - Amphibians e.g. frogs, toads, newts
    - Birds
    - Mice
    - Rats
    - Cats
    - Dogs
    - Pigs
    - Small monkeys such as marmosets
    - Large monkeys such as macaques
    - Great apes e.g. chimpanzees and gorillas
    - Small mammals e.g. rabbits, ferrets
    - Larger mammals e.g. sheep, cows
    - Cephalopods e.g. octopus or squid
    - Crustaceans such as lobsters, yabbies or crayfish
    - Non-endangered Native Australian animals

9a. In the previous question, you said it was not acceptable to use the species listed for research into animal health. Could you please explain why you said no? [TEXT BOX Show this question only if participant answers no to all species in previous question]

10. Which, if any, types of animals do you think it is acceptable to use for environmental research (for example, to look at the effect of chemicals on the food chain or the effect of air pollution on health)? [Yes, No, DK responses – randomise]

- Fish
- Amphibians e.g. frogs, toads, newts
- Birds
- Mice
- Rats
- Cats
- Dogs
- Pigs
- Small monkeys such as marmosets
- Large monkeys such as macaques
- Great apes e.g. chimpanzees and gorillas
- Small mammals e.g. rabbits, ferrets
- Larger mammals e.g. sheep, cows
- Cephalopods e.g. octopus or squid
- Crustaceans such as lobsters, yabbies or crayfish
- Non-endangered Native Australian animals

10a. In the previous question, you said it was not acceptable to use the species listed for environmental research. Could you please explain why you said no? [TEXT BOX Show this question only if participant answers no to all species in previous answer]

11. Which, if any, types of animals do you think it is acceptable to use for **teaching** where the procedures cause more than momentary harm or stress? [Yes, No, DK responses – randomise]

- Fish
- Amphibians e.g. frogs, toads, newts
- Birds
- Mice
- Rats
- Cats
- Dogs
- Pigs
- Small monkeys such as marmosets
- Large monkeys such as macaques
- Great apes e.g. chimpanzees and gorillas
- Small mammals e.g. rabbits, ferrets
- Larger mammals e.g. sheep, cows

- Cephalopods e.g. octopus or squid
- Crustaceans such as lobsters, yabbies or crayfish
- Non-endangered Native Australian animals

11a. In the previous question, you said it was not acceptable to use the species listed for teaching. Could you please explain why you said no? [TEXT BOX, Show this question only if participant answers no to all species in previous answer]

12. Which, if any, types of animals do you think it is acceptable to use for safety testing of non-medical products? E.g. cleaning products, sanitary items, food additives [Yes, No, DK responses - randomise]
- Fish
- Amphibians e.g. frogs, toads, newts
- Birds
- Mice
- Rats
- Cats
- Dogs
- Pigs
- Small monkeys such as marmosets
- Large monkeys such as macaques
- Great apes e.g. chimpanzees and gorillas
- Small mammals e.g. rabbits, ferrets
- Larger mammals e.g. sheep, cows
- Cephalopods e.g. octopus or squid
- Crustaceans such as lobsters, yabbies or crayfish
- Non-endangered Native Australian animals

12a. In the previous question, you said it was not acceptable to use the species listed for safety testing of non-medical products. Could you please explain why you said no? [TEXT BOX Show this question only if participant answers no to all species in previous answer]

[NEW PAGE]

GOVERNANCE AND TRANSPARENCY OF RESEARCH

13. Australian law requires scientists to apply to a body known as an Animal Ethics Committee (AEC) to obtain approval to use animals for research.

The AEC is also involved in monitoring of research.

Membership of the AEC must include a veterinarian, a scientist, an animal welfare member, and a member of the public (lay person) who has never been involved in research on animals.

While the government is not directly involved in decision-making by AECs, it plays a role in the regulation of animal research through issuing licences to institutions such as universities that conduct the research, and by requiring those institutions to submit annual reports.

Based on the above, how strongly do you agree with the following statements? [5pt Likert scale, from "strongly agree" to "strongly disagree" (Strongly Agree, Tend to Agree, Neither Agree nor Disagree, Tend to Disagree, Strongly Disagree, Don't Know) – include option for "don't know" – randomise statements]

- The decision-making process for approving animal research is clear to me
- I think that approval of animal research by an AEC, rather than directly by government is satisfactory.
- I think that the government should have more direct involvement in approval of animal research.
- There needs to be greater involvement of the public in the decision-making process around granting approval for animal research.
- Institutions should be more transparent about their use of animals.

14. Which, if any, of the following fit your view of organisations that use animals for scientific research in Australia? [select more than one]

- They are secretive
- They are well regulated
- They have poor animal welfare standards
- They carry out work essential for human health
- They stick to good animal welfare standards
- They are open about their work
- They are dishonest about the results of their work
- They have conflicts of interest, because animal research is an aspect of their business
- They provide good mechanisms for oversight of animal research
- None of these
- Don't know

15. Over the past twelve months, have you seen or heard anything about the use of animals in scientific medical research in the Australia? [Yes, No]

    Where did you hear about that from? [TEXT BOX]

16. How strongly do you agree or disagree with the following statements about the rules and regulations on the use of animals in scientific research in Australia? [5pt Likert scale, from "strongly agree" to "strongly disagree" (Strongly Agree, Tend to Agree, Neither Agree nor Disagree, Tend to Disagree, Strongly Disagree, Don't Know) – include option for "don't know" – randomise statements]

- I do not trust the regulatory system around the use of animals in scientific research
- I trust scientists not to cause unnecessary suffering to the animals used in scientific research
- I feel that unnecessary duplication of scientific research involving animals MIGHT go on
- Scientific research involving animals sometimes goes on without an official approval
- Australia has strict rules on the use of animals in scientific research
- The rules in Australia on scientific research involving animals are well enforced
- I trust the regulators to uncover any misconduct at animal research facilities
- The approval process itself, and the type of research being performed on animals is transparent.

[NEW PAGE]

INFORMATION SOURCES/ACTIVISM

17. Which, if any, sources of information would you trust to give balanced information about the use of animals in scientific research? [selection boxes – randomise – can select all that apply]

- Universities
- Animal welfare organisations, such as the RSPCA
- Animal rights organisations, such as PETA
- Organisations that support the use of animals in research
- Companies and businesses which carry out the research with animals
- Companies and businesses which sell products developed from animal research
- Politicians / MPs
- Government research institutes
- Non-Government research institutes
- Environmental organisations
- People with a knowledge of the subject
- Farming organisations

- Medical research charities
- Patient groups
- Vets who look after the animals used in research
- None of these
- Other (please specify) [TEXT BOX]

18. In which, if any, ways would you personally like to receive information about the use of animals in scientific research? Please pick up to three. [selection boxes]

- Billboards / Posters
- General interest magazines
- Specialist magazines (e.g. science or medical journals)
- Local newspapers
- National newspapers
- Websites
- Local radio
- National radio
- School / College
- Social media (e.g. Twitter, Facebook, online blogs, online chat rooms, etc.)
- Meetings / public meetings / talks with experts (eg researchers, specialist charities)
- Telephone information line
- Television
- Do not want more information
- Don't Know
- Other (please specify) [TEXT BOX]

19. Which, if any, of the following do you feel are acceptable things for organisations supporting animals to do? [selection boxes – randomise – can select all that apply]

- Ask people to put a sticker / poster in their window
- Hand out leaflets
- Organise a demonstration or protest outside research laboratories
- Organise a demonstration or protest outside the homes of people who work in animal research facilities
- Organise a demonstration or protest outside companies which transport research animals or supply services to research facilities.
- Target individuals verbally or in writing if they are involved in animal research
- Other (please specify) [TEXT BOX]