

Attitudes Toward Farmed Animals in the BRIC Countries

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Introduction

Inspired in part by a presentation by the Center for a Livable Future (Johns Hopkins), Faunalytics conducted an exploratory study of attitudinal and behavioral differences among people in the "BRIC" countries – Brazil, Russia, India, and China – plus the United States.

These countries are important for a variety of reasons. In particular, they are among the countries that kill the most animals for food. While the BRIC countries currently have relatively low per capita meat consumption at this time, they are rapidly increasing their consumption of animal products (see <u>OECD</u>, <u>2018</u> for graphs). The U.S. is also a large meat consumer and producer and provides a useful benchmark for comparison with other countries.

The overarching goal of the study was to examine country differences in attitudes and behavior relating to the welfare of farmed

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animals. Specifically, this survey included measures of current meat consumption, recent changes in meat consumption, support for policies to improve farmed animal welfare, attitudes and perceived norms about the importance of farmed animal welfare, and beliefs about the impact of consuming meat.

These results can be used to establish baselines for attitudes and behavior in countries where we have little data. Advocates and donors may be able to better target their efforts and funding with the help of these results by examining differences across countries and also looking at the detailed responses within each country.

Because the survey included core demographics (age, gender, and region), the results will also allow us to identify relatively sympathetic subgroups within the populations of each country surveyed. These are provided in individual country reports. A short overview of overall gender and age breakdowns (averaged across countries) is provided in the appendix of this report.



Key Findings

This report describes all analyses in detail in the Results section. Below we offer the most noteworthy findings.

- 1. **Most people want better welfare for animals, regardless of country:** The majority of people in the BRIC countries and the U.S. said they would support a law requiring the humane treatment of animals used for food.
- 2. Despite wanting better welfare for farmed animals, most people don't believe their meateating is to blame for animal suffering: About half of respondents from Brazil and India believed that eating meat directly contributes to animal suffering, and a third or fewer from Russia, China, and the U.S. did.
- 3. **Brazilians have the most pro-animal attitudes:** Respondents from Brazil were the most likely to say that the care and well-being of farmed animals are important, and tended to be among the more pro-animal across the survey. Respondents from Russia and the U.S. tended to fall in the middle of the range, with India and China at the bottom.
- 4. People assume that other people are less pro-animal than they are: In all countries, the percentage of people who agreed that it is important for farmed animals to be well cared for was higher than the percentage who thought that a typical citizen of their country would agree that it's important. Social norms are a powerful force, so this finding suggests that there is room to increase public support for animal advocacy in all five of these countries by informing people that others also think animal welfare is important.
- 5. More people are reducing than increasing their meat consumption: Most survey respondents said they were eating the same amount of meat as usual. However, of the rest, a reduction was somewhat more common than an increase. The extent of the difference varied from country to country and was largest in the U.S., India, and Russia.

From an interpretive standpoint, it is important to note that people from China did not express many strong opinions. Thus, consistently lower levels of agreement or support from Chinese respondents does not necessarily indicate anti-animal sentiment—they also did not tend to disagree or oppose. Chinese respondents may not have strong feelings on animal issues, or may prefer not to express their opinions. This tendency is described in greater detail in the Methodology section.

There is also a lot of information to be gleaned from the reports for individual countries. These are accessible from the <u>library summary</u>.



Attitudes Toward Farmed Animals in the BRIC Countries Findings from a Faunalytics Study say it's important that farmed say it's important that farmed animals are well cared for 89 animals are well cared for would support a law requiring Brazil would support a law requiring more more humane treatment for humane treatment for farmed 70% farmed animals animals think eating meat directly think eating meat directly contributes to contributes to the suffering of the suffering of animals animals say it's important that farmed say it's important that farmed animals are well cared for animals are well cared for would support a law requiring would support a law requiring India China more humane treatment for more humane treatment for 522farmed animals farmed animals think eating meat directly think eating meat directly contributes contributes to the suffering of to the suffering of animals animals

Data for this study were collected in May and June of 2018, from more than 1,000 adults per country.



Samples

Data for this study were collected by YouGov in May and June of 2018 from five countries: Brazil, Russia, India, China, and the United States. The U.S. sample was nationally representative of adults. The Brazilian and Russian samples were representative of adults based around urban areas. The Indian sample was representative of all urban adults and the Chinese sample was representative of adults online.

The gender and age characteristics for each country's samples are shown in Table 1. Regional breakdowns are provided in individual country reports, as they aren't comparable across countries. All data were weighted to improve their representativeness.

It is clear from Table 1 that the gender and age breakdowns vary substantially across countries, likely as a result of the different types of representativeness. For instance, it appears that samples based around urban areas and online presence were younger on average.

	Brazil (<i>n</i> = 1,027)	Russia (<i>n</i> = 1,002)	India (<i>n</i> = 1,004)	China (<i>n</i> = 1,001)	U.S. (<i>n</i> = 1,184)
Female (%)	52.0%	55.3%	48.8%	45.0%	57.6%
Age (%) 18 - 24 25 - 34 35 - 44 45 - 54 55+	15.5% 23.5% 22.9% 17.9% 20.3%	8.4% 19.2% 20.1% 17.2% 35.2%	27.4% 34.9% 19.9% 10.8% 7.1%	25.8% 35.5% 23.5% 10.6% 4.7%	5.9% 17.5% 18.0% 15.1% 43.5%
Age (Average)	40.8	44.9	33.3	33.1	49.4

Table 1. Gender and Age Characteristics of Survey Samples (Unweighted)



Results

Beliefs about Animal Suffering by Country

"Animals used for food have approximately the same ability to feel pain and discomfort as humans."

As shown in Table 2, most Brazilians (79%) believe that farmed animals suffer on par with humans. In the U.S., Russia, and India, about two thirds of people (62 - 67%) agreed. Far fewer Chinese respondents did (37%), though not because they generally disagreed. Instead, it was because a much larger proportion (50%) remained neutral.

"Eating meat directly contributes to the suffering of animals."

The lower half of Table 2 shows that a minority of respondents in each country believe eating meat contributes to animal suffering: Overall, only 38% agreed.

About half of Brazilians (45%) and Indians (51%) believed in the causal link between eating meat and animal suffering. A third or fewer respondents from Russia (35%), China (31%), and the U.S. (30%) agreed that eating meat directly contributes to animal suffering.

Table 2. Beliefs about Animal Suffering by Country

	Brazil	Russia	India	China	U.S.		
Animals used for food have approximately the same ability to feel pain and discomfort as humans.							
Agree ¹	79%	63%	67%	37%	62%		
Neither agree nor disagree	15%	24%	18%	50%	28%		
Disagree ²	7%	14%	14%	12%	10%		
Eating meat directly contributes to the suffering of animals.							
Agree ¹	45%	35%	51%	31%	30%		
Neither agree nor disagree	28%	33%	28%	45%	36%		
Disagree ²	27%	32%	21%	23%	33%		

¹Included the options *Strongly agree* and *Agree*.

²Included the options Strongly disagree and Disagree.



Attitudes toward Farmed Animal Welfare

"It is important to me that animals used for food are well cared for."

As shown in Table 3, most survey respondents said that it is important for farmed animals to be well cared for (71% overall). Brazilians held particularly strong positive attitudes toward farmed animal welfare, with 89% saying that animal welfare is important to them. Smaller majorities of people from Russia (80%), the U.S. (73%), and India (64%) also agreed. Chinese respondents were the least likely to agree (46%), with many again remaining neutral (43%).

"Low meat prices are more important than the well-being of animals used for food."

This statement was essentially the opposite of the first one, but the mention of meat prices explicitly reminds respondents that higher welfare standards may come at a cost. Phrased this way, the proportion of people giving pro-animal responses (reflected in disagreement with this statement) was substantially smaller (just 49% overall). This smaller proportion provides an estimate of attitudes that is closer to a real-world context in which many factors influence people's decisions.

Two thirds (64%) of Brazilians said that low meat prices are not more important than animal welfare, versus just over half of people from the U.S. (53%), Russia (53%), and India (52%). People from China were the least likely to disagree (24%), most often staying neutral (56%).

Between 15% and 22% of people from all countries indicated that they value low meat prices over the well-being of the animals they eat.

	Brazil	Russia	India	China	U.S.			
It is important to me that animals used for food are well cared for.								
Agree ¹	89%	80%	64%	46%	73%			
Neither agree nor disagree	8%	13%	21%	43%	22%			
Disagree ²	3%	6%	15%	10%	6%			
Low meat prices are more important than the well-being of animals used for food.								
Agree ¹	15%	18%	22%	20%	15%			
Neither agree nor disagree	21%	29%	26%	56%	32%			
Disagree ²	64%	53%	52%	24%	53%			

Table 3. Attitudes toward Farmed Animal Welfare by Country

¹Included the options *Strongly agree* and *Agree*.

²Included the options *Strongly disagree* and *Disagree*.



Perceived Social Norms in Country

"The typical [NATIONALITY] thinks it is important that animals used for food are well cared for."

"The typical [NATIONALITY] thinks that low meat prices are more important than the well-being of animals used for food."

The two items above assessed respondents' perceptions of what others in their country think—that is, the social norms around animal welfare.

People from Russia were the most likely to say that the typical citizen thinks it is important that animals used for food are well cared for, with 65% agreeing. Smaller majorities of people from Brazil (60%) and India (51%) said the typical citizen thinks this is important, and less than half of people from the U.S. (45%) and China (39%).

Even smaller proportions said that the typical citizen of their country values animal welfare over low meat prices (by disagreeing with the second statement). Russians were again the most likely to say the typical citizen is pro-animal (37%). People from India (33%) and Brazil (32%) were the next most likely. Very few people from China (21%) or the U.S. (16%) described the typical citizen of their countries as valuing animal welfare over low meat prices.

Apart from looking directly at perceptions of social norms in a country, these items are most useful for comparison with the similarly-worded attitude items in Table 4. Based on this comparison, it seems that people assume their fellow citizens are less pro-animal than they are. In all countries, the percentage of people who said they think it's important for farmed animals to be well cared for was higher than the percentage who said they think other people do. Similarly, the percentage who said they don't value low meat prices over animal welfare was higher than the percentage who thought other people wouldn't do that.

On the one hand, this sort of finding is commonly observed in psychology studies: People tend to give themselves more credit for good intentions than they give to other people (Helzer & Dunning, 2012). Our respondents may be falling prey to self-serving bias. If that is the case, these social norms estimates may provide the best estimate of true attitudes in each country, because they are immune to that tendency to give oneself too much credit.

On the other hand, psychologists have also found that many people may hold the same attitude while simultaneously believing everyone else holds a different attitude, because no one talks about their privately held beliefs (a phenomenon known as *pluralistic ignorance*; Prentice & Miller, 1996). People tend to avoid talking about the welfare of farmed animals, so many individuals may privately hold more pro-animal beliefs than is apparent from their behavior.

This information is useful to advocates because of the power of social norms. There may be room to increase public support for animal advocacy in all of these countries simply by making people aware that many others also think animal welfare is important. People's attitudes are influenced by the attitudes they see (or think they see) around them.

Because of the possibility of self-serving bias, we suggest that advocates consider the estimates in Table 3 an upper bound on how positive true attitudes may be. For example, *at best* 89% of



Brazilians thinks it is important that animals used for food are well cared for, and *at best* 53% of Russians don't think low meat prices are more important than animal well-being. The estimates in Table 4 may be closer to the lower bound or a true average.

Table 4. Perceived Social Norms in Country by Country

	Brazil	Russia	India	China	U.S.		
The typical [NATIONALITY] thinks it is important that animals used for food are well cared for.							

Agree ¹	60%	65%	51%	39%	45%
Neither agree nor disagree	22%	22%	29%	46%	34%
Disagree ²	18%	14%	20%	15%	21%

The typical [NATIONALITY] thinks that low meat prices are more important than the well-being of animals used for food.

Agree ¹	42%	34%	33%	25%	44%
Neither agree nor disagree	26%	29%	34%	54%	39%
Disagree ²	32%	37%	33%	21%	16%

¹Included the options *Strongly agree* and *Agree*.

²Included the options *Strongly disagree* and *Disagree*.

Support for Welfare Reform

"To what extent would you oppose or support a law in [COUNTRY] that would require animals used for food to be treated more humanely?"

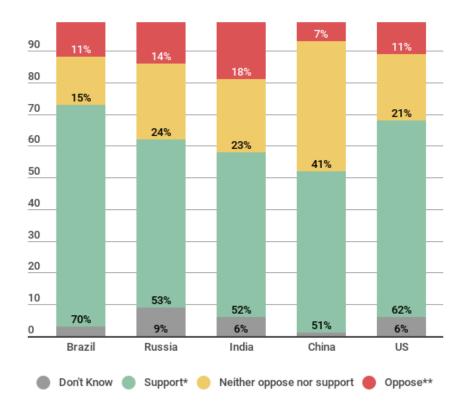
Overall, 58% of survey respondents expressed support for a hypothetical law in their country that would require more humane treatment for farmed animals.

As shown in Figure 1, the proportion expressing support was highest in Brazil (70%) and the U.S. (62%). In Russia, India, and China, approximately half would support it (51 - 53%).

People from China were again particularly likely to choose the neutral option: 41% indicated they would neither oppose nor support the law. However, they were less likely to say "don't know" than people from the other countries (1%).



"To what extent would you oppose or support a law in [COUNTRY] that would



require animals used for food to be treated more humanely?"

*Included the options Strongly support and Support. **Included the options Strongly oppose and Oppose.

Figure 1. Support for Welfare Reform by Country

Current Diet

"Which of the following types of food have you eaten in the past year? Please select all that apply."

Overall, the most commonly eaten animal products were chicken, eggs, fish, and dairy, with more than three-quarters of all respondents having eaten each.

As shown in Table 5, people from India were by far the most likely to be vegetarian or vegan (31%)—this is due to the prevalence of religious vegetarians in that country. Previous research has shown that vegetarianism is far more common among the upper Hindu castes than the lower



castes and non-Hindus ($\underline{Yadav \& Kumar, 2012}$). In addition, although a majority of Indians eat chicken, fish, dairy, and eggs (55 – 66%), other non-insect meat consumption was far lower than in other countries.

In the U.S., 4% of respondents were vegetarian or vegan. However, this was still significantly higher than the 1% of people in Brazil, China, and Russia who avoid meat.

Although the consumption of individual products varies from country to country, a few were particularly notable. First, turkey consumption is much more common in the U.S. (78%) than other countries. Insect consumption is notably higher in China (4%) than other countries. And the proportion of people in India who eat pork (12%) or beef (17%) is much lower than anywhere else.

Table 5. Current Diet by Country

	Brazil	Russia	India	China	U.S.		
Which of the following types of food have you eaten in the past year? Please select all that apply.							
Chicken	95%	96%	65%	86%	91%		
Turkey	29%	56%	5%	10%	78%		
Pork	69%	83%	12%	90%	78%		
Beef	86%	82%	17%	83%	85%		
Fish	82%	93%	55%	85%	73%		
Other seafood (e.g., shrimp, crab)	39%	57%	22%	66%	56%		
Other meat	18%	19%	12%	28%	21%		
Insects	1%	1%	1%	4%	1%		
Dairy products	68%	93%	62%	76%	82%		
Eggs	89%	95%	66%	81%	84%		
Vegetarian (including vegan)*	1%	1%	31%	1%	4%		

*Vegetarian is defined as people who did not select any options but dairy and/or eggs. Vegan is defined as people who selected "none of the above." The proportions of vegans for most countries are too small to reliably estimate separately. The exception is India, where the proportion of vegans was 12%.

Diet Change in the Last Three Months

"In the past three months (i.e., since March 2018), have you eaten more or less meat than you usually do (including chicken, turkey, pork, beef, fish, seafood, and other meats)?"

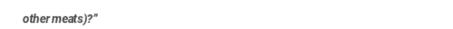
Overall, about half of respondents said that they were eating the same amount of meat as usual (52%).



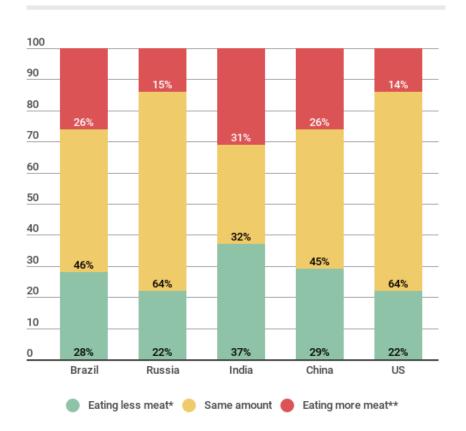
As shown in Figure 2, a relative majority of people in all countries but India said they were eating the same amount of meat as usual. In particular, about two thirds of people (64%) in the U.S. and Russia said there was no change in their meat consumption.

The percentage of people in each country who said they were eating less meat than usual was higher than the percentage who said they were eating more than usual, but to varying degrees. This difference was largest in the U.S. (22% eating less versus 14% eating more), India (37% versus 31%), and Russia (22% versus 15%).





meat than you usually do (including chicken, turkey, pork, beef, fish, seafood, and



Note. Percentages exclude people who selected "Not applicable—I do not eat any meat." *Included the options A lot more meat and A little more meat. **Included the options A lot less meat and A little less meat.

Figure 2. Diet Change in the Last Three Months by Country



Methodology: Survey Equivalence

Survey Development

Participants were presented with nine survey items as part of this study, as described in the sections above. These items were carefully designed and subjected to an expert consultation phase prior to translation, per standard recommendations for cross-cultural surveys (e.g., Straus, 1969). We then used a back-translation procedure to maximize equivalence between countries and languages.

In this procedure, a bilingual person translates the original questionnaire (in this case, in English) into a target language. A second bilingual person then translates this version back into the original language without knowledge of the source document. The initial and revised versions of the source language version are then compared, discrepancies are identified, and appropriate revisions are made. (Johnson, 1998, p. 18)

In addition, we followed recommendations by keeping the wording of survey items as simple and direct as possible, using symmetrical response scales, and using both positively- and negatively-framed items (Brislin, 1986; Jones, 1963; Smith, 1997).

For full details of the development procedure, see the pre-registration for this survey.

Checks of Survey Equivalence

In keeping with recommendations by Johnson (1998, p. 25), we also ran several checks to test the equivalence of the survey between different countries. These analyses looked for differences in the response patterns of individuals from different countries. Differences can indicate that, even if the translations are the same across languages, the questions are interpreted differently or there are cultural differences in what kind of responses are preferred (e.g., using the middle versus the extremes of the scale). The reader should consider these patterns when comparing results from different countries.

Except where otherwise indicated, these analyses used the grid question because the similar structure of the six items allows for the best comparison. Unweighted data were used, as the goal was to examine differences within the sample rather than to produce population estimates.

Neutrality Versus Extremity

There were several differences between countries in respondents' tendencies to use the extremes of the scale (strongly disagree and strongly agree).¹ Using the U.S. as a benchmark, India and

¹ In this analysis, each respondent was assigned a score between 0 and 6 for the number of extreme responses (strongly disagree or strongly agree) they gave on the grid question. Between-country differences were then analyzed using one-way ANOVA with Tukey post hoc correction. All differences were significant, but are described as "substantial" only if they surpassed a minimum effect size of d = 0.2 (small) using the pooled standard deviation for all five countries. Smaller differences are considered non-meaningful.



Russia did not substantially differ in the extremity of their responses. Brazilian respondents used more extreme responses than people from the U.S., and Chinese respondents used far fewer.

The parallel pattern was evident for the neutral scale midpoint: Indian and Russian respondents were as likely as Americans to use the neutral midpoint of the scale. Brazilians were less likely to use it, and Chinese respondents were far more likely to use it.

Although both differences were substantial, the difference between the U.S. and China was almost twice the size of the difference between the U.S. and Brazil.

These results suggest, first, a major preference among Chinese respondents to remain neutral or avoid giving a strong opinion. They also indicate a smaller opposite preference among Brazilian respondents—in favor of giving strong opinions.

This tendency among Chinese respondents limits advocates' ability to draw meaningful conclusions from their results. For future surveys, we suggest that researchers consider ways of encouraging respondents to give their opinion, in case the tendency reflects a reluctance to state a true opinion. However, it would be important not to force an opinion, because it is also possible that they truly feel neutral on these issues.

We suggest that researchers consider one or both of the following methods to encourage a wider range of responses:

- A preamble to the survey encouraging people to give their true opinions, stating that they are confidential, and necessary to obtain high quality results; and/or
- Soft validation of neutral responses: If the respondent selects a neutral scale response, the survey platform would ask them whether they are sure they don't agree or disagree, but would not force them to change their answer.

Frequency of Acquiescence

There can be cross-country differences in preference for acquiescence (a tendency to agree with any statement).² Relative to the U.S., Chinese respondents tended to acquiesce substantially more, and Brazilian respondents tended to acquiesce slightly less. The differences between the U.S. and India and Russia were not substantial.

Frequency of "Don't Know" Responses

Only one item on this survey included a "don't know" response option because we wanted to encourage more meaningful, thoughtful responses. Thus, for this analysis we looked at that item: "To what extent would you oppose or support a law in [COUNTRY] that would require animals used for food to be treated more humanely?"

² In this analysis, only the four items assessing attitudes and perceived social norms were included, because there is one positively-worded and one negatively-worded item in each. This ensures an equal weighting of items that pull for agreement and disagreement. Each respondent was assigned a score between 0 and 4 for the number of items they agreed to (agree or strongly agree). The rest of the procedure was the same as for the previous analysis.



Different proportions of respondents from each country chose the "don't know" option: Russia was the highest (9%), followed by the U.S. and India (6%), followed by Brazil (3%), and finally by China (1%). Relative to the U.S., only China differed substantially enough to be considered meaningful.

It is also notable that while Chinese respondents tend to select neutral options, as described above, they are the least likely to say they don't know. Thus, it is unlikely that they selected neutral responses due to a lack of understanding or poor translation.

Implications of Response Patterns

When comparing the results between countries, it is important to bear in mind these differences in patterns of responding. Differences may be partially due to cultural tendencies toward neutrality, extremity, or acquiescence. Brazil and China, as the two most divergent countries, are particularly difficult to compare.

Correlations

We also compared correlations between dual indicators of a single construct (i.e., beliefs about animal suffering, attitudes toward importance of farmed animal welfare, and perceived social norms) for each country.

Beliefs

The items assessing beliefs about animal suffering ("Animals used for food have approximately the same ability to feel pain and discomfort as humans" and "Eating meat directly contributes to the suffering of animals") were positively correlated for respondents from all countries (all $r_s > 0.4$). This indicates that people who agreed with one statement tended to agree with the other.

Attitudes

The attitudes items ("It is important to me that animals used for food are well cared for" and "Low meat prices are more important than the well-being of animals used for food") were negatively correlated for respondents from the U.S. (r = -0.37), Russia (r = -0.23), and Brazil (r = -0.22). The negative correlation means that people who agreed with the first statement tended to disagree with the second, and vice versa. Interestingly, these items were uncorrelated for respondents from India and China, indicating that responses to the two items are unrelated.

Perceived Social Norms

The items assessing perceived social norms in one's country ("The typical [NATIONALITY] thinks it is important that animals used for food are well cared for" and "The typical [NATIONALITY] thinks that low meat prices are more important than the well-being of animals used for food") were negatively correlated for respondents from the U.S. (r = -0.29), Russia (r = -0.31), and Brazil (r = -0.30). Again, this indicates that people who agreed with the first statement tended to disagree with the second, and vice versa. These items were uncorrelated for respondents from China. There was a small *positive* correlation between the two items for Indian respondents (r = 0.13).



Implications of Correlations

The pattern of correlations suggests that all items are understood similarly by Americans, Russians, and Brazilians. Indian and Chinese respondents may interpret the attitudes and norms items differently, but it is difficult to be more specific about how.

Limitations and Future Directions

This is foundational research: It provides basic information about attitudes and beliefs in the BRIC countries. As such, it is subject to several limitations, but provides a solid starting point for future research to build upon. It also provides some of the first reliable comparative data to advocates in these countries.

The reader should bear in mind that all attitudes and behaviors in this survey are self-reported, so respondents may try to present themselves more positively than accurately (self-serving bias) or answer questions as they believe we would want them to (socially desirable responding). To reduce the likelihood of these biases, we included items that encourage respondents to think about both sides of an issue (e.g., meat prices and animal welfare) and asked them about past behavior rather than predicted future behavior (for changes in meat consumption). However, bias should still be considered in interpreting the results.

We were careful to make different versions of the survey as comparable as possible, within the restrictions of budget and length. However, experts in cross-cultural research agree that it is extremely difficult to attain perfect comparability between cultures and languages, so it is unsurprising that some differences can be seen in how respondents from different countries tended to answer the survey questions. These are described in the Methodology section above.

While the differences are generally fairly small, Chinese respondents' strong preference for neutrality makes it more difficult to interpret their responses relative to the other countries. We recommend that future research on Chinese attitudes take steps to counteract this tendency. Again, more details are provided in the Methodology section.

Finally, the results for each country are representative of the population from which the samples were drawn, which are based around urban areas for Brazil, Russia, and India, and the "online population" for China. Although nationally representative samples for all countries would be ideal, the infrastructure does not exist to cost-effectively obtain such a sample in most countries because internet penetration is so much lower. YouGov's panels are among the best available, particularly for comparison between countries.

If future research looks in-depth at one of the BRIC countries rather than broadly across them, we recommend that researchers look for a local panel company that might be able to provide stronger representativeness, but caution that it is likely to be difficult.

Given the difficulty of cross-cultural, multi-country research, Faunalytics is proud of the effort that went into obtaining reliable, comparable results from five countries, in five languages. We encourage other researchers to use and improve upon our development framework, as best practices will provide the best data for advocate and animals.



References

- Brislin, R. W. (1986). The wording and translation of research instruments. In W. J. Lonner, & J. W. Berry (Eds.), *Field methods in cross-cultural research* (pp. 137-164). Beverly Hills, CA: Sage.
- Helzer, E. G., & Dunning, D. (2012). Why and when peer prediction is superior to self-prediction: The weight given to future aspiration versus past achievement. *Journal of Personality and Social Psychology*, *103*, 38–53. https://doi.org/10.1037/a0028124
- Johnson, T. P. (1998). Approaches to equivalence in cross-cultural and cross-national survey research. In J. Harkness & Zentrum für Umfragen, Methoden und Analysen (ZUMA; Eds.), *Cross-cultural survey equivalence* (pp. 1-40). Mannheim: ZUMA-Nachrichten Spezial.
- Jones, E. L. (1963). The courtesy bias in South-East Asian surveys. *International Social Science Journal, 15,* 70-76.
- OECD (2018), Meat consumption (indicator). doi: 10.1787/fa290fd0-en (Accessed on 15 August 2018)
- Prentice, D. A., & Miller, D. T. (1996). Pluralistic ignorance and the perpetuation of social norms by unwitting actors. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 28, pp. 161–209). San Diego, CA: Academic Press.
- Smith, T. W. (1997). *Improving cross-national survey research by measuring the intensity of response categories*. GSS Cross-National Report No. 17. National Opinion Research Center, University of Chicago.
- Straus, M. A. (1969). Phenomenal identity and conceptual equivalence of measurement in crossnational comparative research. *Journal of Marriage and the Family, 81,* 233- 239.
- Yadav, Y., & Kumar, S. (2012, March 22). The food habits of a nation. *The Hindu*. Retrieved from https://www.thehindu.com/todays-paper/



Appendix: Gender and Age Breakdowns

Results by Gender Across All Countries

- Overall, women were more pro-animal than men. Specifically:
 - More women than men agreed that farmed animals have the same ability to suffer as humans (67% of women vs. 56% of men) and that eating meat directly contributes to the suffering of animals (41% of women vs. 35% of men).
 - More women than men agreed that it is important that animals used for food are well cared for (75% of women vs. 66% of men). Also, more women than men *disagreed* with the statement that low meat prices are more important than the well-being of animals used for food (56% of women vs. 43% of men).
 - 63% of women compared with 53% of men supported the notion of a law that would require animals used for food to be treated more humanely.
 - More women than men had decreased their meat consumption over the past three months (29% of women vs. 20% of men). Men (23%) were more likely than women (17%) to claim they had eaten more meat in the last three months than usual.
- There was not much of a gender difference in beliefs about other people's attitudes toward farmed animals. Similar numbers of women (29%) and men (27%) disagreed with the statement that the typical person in their country thinks that low meat prices are more important than the well-being of animals used for food. Women (53%) were slightly more likely than men (50%) to think that other people in their country think it's important that animals used for food are well cared for.
- In terms of current diet, overall, more men (69%) than women (64%) ate pork in the past year, and the same held true for "other meat" (23% of men vs. 17% of women). However, women outpaced men in consumption of eggs (85% of women compared with 81% of men), dairy products (79% vs. 73%), and "other seafood" (50% of women compared to 47% of men).

Results by Age Across All Countries

- In general, overall, older people tended to be more pro-animal than younger people. Notably:
 - The belief that farmed animals have the same ability to suffer as humans increased significantly with age, from 52% agreement in 18- to 24-year-olds to 68% agreement in people 55 or older. However, people between 35 and 54 were the most likely to believe that eating meat contributes to animal suffering (42% agreed). People under 35 and over 54 were significantly less likely to agree with this statement (35 37% agreed).



- Belief in the importance of ensuring that animals used for food are well cared for also increased significantly with age, from 59% agreement in 18- to 24-year-olds to 83% in people 55 or older. Similarly, 43% to 47% of adults between the ages of 18 and 44 disagreed with the statement that low meat prices are more important than the well-being of animals used for food, versus significantly more older people (51% of people aged 45 to 54 and 58% of people 55 or older).
- Overall, older respondents were significantly more likely to support a law requiring more humane treatment for animals used for food than younger respondents. Almost two-thirds (65%) of those 55 and older expressed support for such a law versus about half (51%) of 18- to 24-year-olds, with other age groups in between the two.
- Overall, older respondents were more likely than younger respondents to have decreased their meat consumption, and less likely to have increased it. Specifically, 31% of the oldest age group reported eating less meat in the last three months, more than people aged 18 to 34 (21 22%). Conversely, only 9% of those aged 55 and older indicated that they have eaten more meat than usual in the last three months, compared to 29% of 18- to 24-year-olds.
- The belief that other people hold pro-animal attitudes also tended to increase with age: 42% of people aged 18 to 24 agreed that people in their country think it is important that animals used for food are well cared for, this percentage was higher for each subsequent age group, peaking at 62% of those 55 and older. Similarly, whereas a quarter (25%) of 18- to 44-year-olds disagreed with the statement that the typical person of their nationality thinks that low meat prices are more important than the well-being of animals used for food, about a third of 45- to 54-year-olds and 55-and-older respondents disagreed (30% and 33%, respectively).
- Interestingly—given their pro-animal responses—the oldest respondents (55 and older) were significantly more likely than other age groups to have eaten most animal products in the past year, including chicken, turkey, pork, beef, fish, dairy, and eggs. However, because this question did not assess the frequency or amount of consumption, it is possible that older adults eat a wider range of animal products without consuming more overall.