REACTIONS AGAINST FARM ANIMAL ABUSE: THE ROLE OF ANIMAL ATTITUDE AND SPECIESISM

LAS REACCIONES FRENTE AL MALTRATO DE LOS ANIMALES DE GRANJA: EL PAPEL DE LA ACTITUD HACIA LOS ANIMALES Y DEL ESPECISMO

ANDREA VERA[1], CRISTINA RUIZ[1], AND ANA M. MARTÍN[1]

Abstract

The defense of animal rights has contributed to questioning the relationship between humans and animals focusing on animal abuse by humans. Current Spanish law has been reformed to safeguard animals that are either protected fauna or that live under human control, no longer considering them as things but as sentient beings. The aim of this study is to analyze the relationship of speciesism and animal attitudes with people's perceptions of farm animal abuse, considering the role of gender and place of residence and controlling social desirability. A sample of 457 people, aged between 18 and 73 years old, 73% women, participated in this study. There were 63.7% of participants who lived in urban areas and the rest in rural areas of a territory highly protected by environmental law. They answered an online questionnaire including scenarios of farm animal abuse, the Animal Attitude Scale, Speciesism Scale and Social Desirability Scale. The results showed that negative perceptions of farm animal abuse and the willingness to intervene to stop it were more related to animal attitude than to speciesism. Furthermore, although participants living in rural areas leaned more towards speciesism, they did not have more negative attitudes than those living in urban areas. The results are discussed in terms of whether the law should consider all animals alike, irrespective of people's perceptions, as with different human ethnicities and genders or whether distinctions should be made redefining animal instrumentality in terms of biodiversity and sustainability.

Correspondence address [Dirección para correspondencia]: Ana María Martín, Facultad de Psicología y Logopedia Universidad de La Laguna, Spain.
Email: ammartin@ull.edu.es

ORCID: Andrea Vera (https://orcid.org/0009-0005-9708-2624), Cristina Ruiz (https://orcid.org/0009-0005-9708-2624), and Ana M. Martín (https://orcid.org/0000-0003-2093-4364).

[1] Universidad de La Laguna, Spain.

Resumen

La defensa de los derechos de los animales ha contribuido a cuestionar la relación entre humanos y animales, centrándose en el maltrato animal. La ley ha sido reformada para amparar tanto a fauna protegida como a animales que viven bajo control humano, pasando de considerarlos de cosas a seres sintientes. El objetivo de este estudio es analizar la relación del especismo y las actitudes hacia los animales con la percepción del maltrato a los animales de granja, teniendo en cuenta el género y el lugar de residencia, y controlando la deseabilidad social. Participaron en este estudio 457 personas, con edades comprendidas entre los 18 y los 73 años. El 73 % eran mujeres y el 63.7% vivía en zonas urbanas. Respondieron en línea a un cuestionario que incluía escenarios de maltrato de animales de granja, la Animal Attitude Scale, la Especiesim Scale y la Social Desirability Scale. Los resultados mostraron que la percepción del maltrato de animales de granja, y la disposición a intervenir para detenerlo, estaban más relacionadas con las actitudes hacia los animales que con el especismo. Además, los participantes que vivían en zonas rurales fueron más especistas, pero no tuvieron actitudes más negativas que los que vivían en zonas urbanas. Los resultados se discuten en términos de si la ley debería considerar a todos los animales por igual, independientemente de la percepción social, como en el caso de los distintos géneros y etnias, o si debería hacer distinciones redefiniendo la instrumentalidad animal en términos de biodiversidad y sostenibilidad.

Palabras clave: Maltrato animal; Animal de granja; Especismo; Actitudes hacia los animales; Género; Lugar de residencia; Bienestar animal.

Introducción

The debate on animal abuse is having an increasing social impact, reflected in the media, especially when pets are involved (Bernuz & Maria, 2022). The movement in defense of animal rights has contributed by questioning the relationship between humans and non-human animals and by focusing on human behavior that may harm non-human animal welfare. In Spain, the Criminal Code has recently been partially modified (Ley Orgánica 3/2023, de 28 de marzo, de modificación de la Ley Orgánica 10/1995, de 23 de noviembre, del Código Penal, en materia de maltrato animal) to include stricter legislation to safeguard animals that are protected fauna (Arts. 332-336, 338-340) as well as animals that are domestic, tamed, domesticated, or living temporarily or permanently under human control (Art.340bis, 340ter, 340quater, 340quinquies). This reform was motivated by the modification of the legal status of animals, no longer considering them as things but as sentient beings (Ley 17/2021, de 15 de diciembre, de modificación del Código Civil, la Ley Hipotecaria y la Ley de Enjuiciamiento Civil, sobre el régimen jurídico de los anímales). This change in the legal status of animals has had an impact on various laws including the Civil Code, the Mortgage Law, and the Civil Procedure Law in 2021, though not on Criminal Law until 2023. Moreover, in 2023, the law went a step further to protect animal rights and welfare as sentient beings (Ley 7/2023, de 28 de marzo, de protección de los derechos y el bienestar de los animales).

Interest in animal abuse has also increased among academics in several fields of knowledge. In psychology, research on animal abuse has focused mainly on cruelty to pets (e.g., Bailey et al., 2016), whereas criminology has been more involved with international trade in endangered species of wild fauna (e.g., Wyatt et al., 2020). When it comes to farm animals, their study has been related to veganism and vegetarianism by both social scientists and veterinarians (e.g., Mota-Rojas et al., 2023; Rothgerber & Rosenfeld, 2021).

The relationship human-animal depends on the type of animal and the context in which the interaction occurs (Dhont et al., 2019). People perceive differentially the cat-

egories of animals[1], adapting their interaction with one specific animal to the category in which it is included (Sevillano & Fiske, 2020). This variability in the human-animal interactions leads to the same form of abuse being considered illegal or not depending on the animal involved and on the context in which it takes place (Cudworth, 2015). This is particularly the case with animals whose instrumentality is legally and socially accepted, like those used for experimentation or for food, (Bègue & Vezirian, 2022). Until recently, the lives of these animals were subordinated to the benefit of humans, even if this meant a cost to the animals' welfare or even the loss of their lives (Caviola et al., 2021; Hodson et al., 2020).

In order to develop and implement interventions aimed at reducing the abuse of farm animals and increasing their welfare, as provided by law, it is necessary to determine what factors influence the perceptions and behavior related to their abuse. One of these factors is obviously speciesism. The construct of speciesism arises in a context of subordination of animals to humans. It refers to the belief that humans are intrinsically more valuable than animals, and even that certain animals are more appreciated than others (Caviola & Capraro, 2020). Considering animals to be of less value than humans is justified by the conviction that the former have fewer capabilities than the latter (Amiot et al., 2017), especially when it comes to farm animals (Gradidge et al., 2023; Krings et al. 2021). If animals are less valuable than humans, the latter are justified in using and exploiting the former, without affecting the moral status of those who do so or allow it (Amiot & Bastian, 2017; Dhont et al., 2019, Kahane & Caviola, 2023). Therefore, as speciesism justifies the subordination of animals to humans (Dhont et al., 2014), more speciesist people are expected to have a more negative attitude towards farm animals and, when they witness abusive behavior towards these animals, they will evaluate it less severely and will be less willing to intervene to stop it. Some studies show that men are more speciesist than women (Caviola et al.,2019; Graça et al., 2018; Hoffarth et al., 2019; Vezirian & Bègue, 2023), and more supportive of meat consump-

tion and the instrumentalization of animals (Piazza et al., 2015; Vezirian & Bègue, 2023).

Not only beliefs but also attitudes are related to animal abuse (Nurse, 2013). In general, people with more positive attitudes towards animals are more concerned about animal abuse and consider that an abuser deserves severe punishment (Vollum et al., 2004), especially when the people who assign it are women (Signal et al., 2018). Men have more violent attitudes towards animals (Henry, 2004; Zalaf & Egan, 2020) and are involved in animal abuse more often than women (Kronhardt et al., 2021; Zalaf & Egan, 2020). In addition to gender, attitudes toward animals are reported to be related to place of residence. People living in rural settings are more favorable to animal control and dominance than those who live in urban ones. Attitudes towards wolves, for example, are more positive in urban than in rural environments (Bjerke et al., 1998). People from rural settings view animals in a more utilitarian way, so they may tolerate more behaviors that may collaterally cause some harm to animals (Teel & Manfredo, 2010). In Spain, people living in rural surroundings showed more disagreement regarding animals being sentient beings and deserving rights than those living in urban settings (Bernuz & María, 2022). However, to the best of our knowledge, differences in place of residence and in gender have been studied in relation to pets and wild animals but not to farm animals yet.

Therefore, the aim of this study is to analyze the relationship of speciesism and animal attitudes with perceptions about farm animal abuse, considering the role of gender and place of residence (urban, rural). Social desirability will be included in the analysis as a control variable because animal abuse is perceived negatively by some social sectors. Based on the research reviewed above, it is expected that women will have more positive attitudes towards animals (H1), whereas men will be more speciesist than women (H2). Additionally, participants living in urban settings will have more positive attitudes towards animals than participants living in rural settings (H3). Moreover, participants living in rural settings will be more spe-

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[1] Herein, for expositive simplicity purposes, we will use the term animal instead of non-human animals and human instead of human animal.

ciesist than participants living in urban settings (H4). It is also anticipated that the evaluation of animal abuse is related positively to animal attitudes (H5) and negatively to speciesism (H6). Finally, it is expected that negative perceptions about farm animal abuse, and the willingness to intervene to stop it, are related, positively with attitudes towards animals (H7), and negatively with speciesism (H8).

Method

Participants

The sample consisted of 157 people aged between 18 and 73 years old ($M = 28$, $SD = 12$), 73.0 % of which were women. There were 63.7 % living in urban areas and the rest in rural areas of the same territory, which is highly protected by environmental law. Fifty-one per cent had finished high school or the equivalent highest degree in vocational training, 37.8 % had university studies, 6.6 % had secondary and 2.6 % primary, compulsory education.

Instruments

Scenarios describing farm animal abuse.

Ten scenarios describing transgressions against farm animals were prepared, according to law, and based on press releases. Two examples are "A person left their goats locked in a corral without water or food" or "A couple whose pigs were living in overcrowded cages in unhealthy conditions". Participants rated the ten scenarios indicating their frequency, severity, if the behavior was justified, offender's intentionality, indignation they may feel, severity of punishment they would assign to the offender, how likely it would be that they would personally intervene to stop the transgression and how likely it would be that they would call the police. They scored the scenarios using an 11-point Likert-type scale from 0 = *strongly disagree* to 10 = *strongly agree*. The variables for the statistical analysis were calculated averaging participants' answers to the eight questions in the ten scenarios.

The Speciesism Scale (Caviola et al., 2019).

It includes six items that constitute a single factor reflecting the consideration that humans have greater value than animals and that some animals are more valuable than others. Two examples of the items are "Morally, animals always count for less than humans" and "Humans have the right to use animals however they want". The items were translated into Spanish for the study. Participants answered using an 11-point Likert-type scale from 0 = *strongly disagree* to 10 = *strongly agree*. The total score was calculated averaging the scores in the items. Internal consistency of the items in the study by Caviola et al. (2019) was .81.

The Animal Attitude Scale (Herzog et al., 1991).

It includes 20 items, such as: "It is morally wrong to hunt wild animals just for sport", or "I do not think that there is anything wrong with using animals in medical research". The items were translated into Spanish for the study. Participants were asked to answer using an 11-point Likert-type scale from 0 = *strongly disagree* to 10 = *strongly agree*. The total score was calculated averaging the scores in the 20 items. Internal consistency in Herzog et al.'s (1991) study was .88.

The Marlowe–Crowne Social Desirability Scale (Crowne & Marlowe, 1960).

It measures the tendency of participants to respond in a socially appropriate way. Participants answered the short Spanish version by Gutiérrez et al. (2016) that consists of 18 items with dichotomous responses, *true* = 1 or *false* = 0, that are added together to obtain a single final score. Examples of the items are: "I always try to practice what I preach", or "I never hesitate to stop what I am doing to help somebody in trouble". Gutiérrez et al. (2016) reported an internal consistency of .78.

Sociodemographic characteristics.

Participants were also asked about their gender, age, academic level, and place of residence (rural or urban).

Table 1.

Internal consistency and descriptive analyses for the eight scales used to evaluate the Scenarios.

Scales	α	ω	Min-Max	M	SD
Frequency	.91	.91	0-10	4.60	2.34
Severity	.90	.90	0-10	8.87	1.46
Justification	.85	.85	0-10	8.89	1.43
Indignation	.91	.91	0-10	8.85	1.51
Intentionality	.87	.87	0-10	7.85	1.93
Punishment	.92	.92	0-10	8.18	1.94
Pers. Intervention	.94	.94	0-10	6.24	2.64
Call the police	.93	.93	0.3-10	7.28	2.47

Procedure

The instrument booklet including the tools described above was administered online via the Qualtrics[XM] platform, using a link that was provided to students of psychology and social work degrees. These students distributed the link among people of different genders, ages, and places of residence, in their close environment and through social networks, using a "snowball" procedure. They were rewarded for their participation with extra points for a subject. At the beginning of the instrument booklet, it was stated the voluntary and anonymous nature of participation, ensuring the confidentiality of all answers, and requesting express consent for participation. The presentation of the scenarios and the attitude scales were randomized to control for a carry-over effect.

Data analyses

The data were analyzed with statistical packages IBM SPSS Statistics 23.0 and JASP 8.18.1. First, the internal consistency of the eight scales used to evaluate the scenarios were calculated using Cronbach's α and McDonald's ω, and the descriptive analyses of the variables resulting from averaging the items in each of them: *Frequency, Severity, Justification, Indignation, Intentionality* and *Punishment*. Additionally, internal consistency was assessed, using Cronbach's α and McDonald's ω, for the Animal Attitude Scale and Speciesism Scale, before calculating the descriptive analyses of the variables resulting from averaging the items in each of them. In the case of the Marlowe–Crowne Social Desirability Scale, no internal consistency was assessed and the score in social desirability was calculated by adding the items, instead of averaging, because it is an index, not a scale.

Subsequently, two ANCOVAs were carried out with *Gender* and *Place of residence* as the criterion variables, *Social desirability* as covariable, and *Animal attitude* and *Speciesism* as the dependent variables, respectively. Then, two stepwise multiple linear regression analyses were carried out with *Animal attitude* and *Speciesism* as criterion variables, respectively, and *Frequency, Severity, Justification, Intentionality, Indignation, Punishment, Personal intervention, Call the police* and *Social desirability* as predictors.

Afterwards, the variable Perception was calculated by averaging *Severity, Indignation, Justification, Intentionality* and *Punishment*, and the variable *Reaction* by averaging *Call the police* and *Personal Intervention*. Internal consistency, Cronbach's α and McDonald's ω, was calculated for the second set of variables before averaging scores. Finally, two stepwise multiple linear regression analyses were performed with *Animal attitude, Speciesism* and *Social desirability* as predictors and *Perception* and *Reaction* as criterion variables, respectively.

Table 2.

Internal consistency and descriptive analyses for Animal Attitude Scale and Speciesism Scale.

	α	ω	*Min-Max*	*M*	*SD*
Animal attitude scale	.84	.84	2.7-10	7.57	1.35
Speciesism scale	.77[*]	.61[*]	1-8	3.23	1.81

Note. [*]After eliminating Item 5.

Results

The evaluation of Abuse of Farm Animals.

Descriptive analyses and internal consistency for the eight scales used to evaluate the scenarios of the abuse of farm animals are shown in Table 1.

Reliability ranged from .94 for Call the police to .85 for *Justification*. Participants' scores are high in general, close to the maximum, with the exception of the scales assessing *Intentionality*, *Personal intervention* and *Call the police*. The low score in the Frequency scale means that the behavior is perceived as infrequent.

The relationship of Animal Attitude Scale and Speciesism Scale with Gender and Place of residence.

We assessed the internal consistency of each scale, using Cronbach's α and McDonald's ω, and calculated the descriptive analyses of the variables resulting from averaging the items in each of them. Item 5 of the *Speciesism Scale* had to be eliminated to reach acceptable values of internal consistency. No internal consistency was calculated for the *Social Desirability Scale* because it is an index. In this case, the variable was calculated adding the score of the items. Table 2 shows these results.

Two ANOVAs were carried out to test whether there were differences in *Gender* and *Place of residence* in *Animal attitude* and *Speciesism*, including *Social desirability* as covariate. As 54 of the participants resided in the coastal area, they were excluded from these analyses and comparisons were only made with those from rural and urban areas. There were statistically significant differences in *Animal attitude* due to *Gender* [$F(1,392) = 77.67$, $p < .001$, $\eta2 = .11$]. Both women and men had very positive attitudes toward animals, but women scored higher ($M = 7.90$, $SD = 1.19$) than men ($M = 6.88$, $SD = 1.39$), which confirms H1. Neither *Social desirability*, nor the interaction between *Gender* and *Place of residence*, nor the simple effect of *Place of residence* were statistically significant, which rejects H3.

There were statistically significant differences in *Speciesism* for *Gender* [$F(1,392) = 8.96$, $p = .003$, $\eta2 = .02$] and for *Place of residence* [$F(1,392) = 5.00$, $p = .03$, $\eta2 = .01$), but not for the interaction between them, nor for *Social desirability*. Both women and men were only slightly speciesist, but women ($M = 3.43$, $SD = 1.21$) less than men ($M = 3.82$, $SD = 1.30$), which confirms H2. Also, people living in urban places were less speciesist ($M = 3.45$, $SD = 1.17$) than those living in rural places ($M = 3.73$, $SD = 1.40$), which confirms H4.

The relationship between the evaluation of farm animal abuse and Animal attitude and Speciesism.

Correlations were calculated for the eight scales used to evaluate the episodes with *Animal attitude*, *Speciesism* and *Social desirability*. As shown in Table 3, correlations are statically significant in all cases, except for the relationships of *Speciesism* with *Intentionality*, confirming H5 and H6. As participants' attitude towards animals were more positive, they considered the abuse of farm animals as more frequent, serious, unjustifiable, intentional, outrageous, and punishable, and they were more willing to intervene personally and to call the police. By contrast, participants who were more speciesist considered the abuse of farm animals as less frequent, serious, unjustifiable,

Table 3.

Correlation of the scores in the eight scales used to evaluate the scenarios of the abuse of farm animals with Animal attitude, Speciesism and Social desirability.

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1. Animal attitude											
2. Speciesism	-.539**										
3. Frequency	-.198**	.095*									
4. Severity	.380**	-.297**	-.252**								
5. Justification	.419**	-.259**	.108*	.277**							
6. Indignation	.387**	-.290**	-.233**	.879**	.326**						
7. Intentionality	.155**	-.086	-.341**	.409**	.112*	.372**					
8. Punishment	.294**	-.186**	-.254**	.738**	.208**	.701**	.397**				
9. Personal intervention	.298**	-.203**	-.307**	.462**	.014	.478**	.212**	.475**			
10. Call the police	.302**	-.183**	-.195**	.592**	.110*	.599**	.219**	.643**	.665**		
11. Social desirability	.028	-.020	-.066	.071	-.045	.103*	-.035	.054	.139**	.105*	

Note: $^*p < .05$; $^{**}p < .01$

outrageous, and punishable, and they were less willing to intervene personally and to call the police. However, *Speciesism* wasn't related in statistically significant terms with *Intentionality*. *Social desirability* correlated, although very weakly, with *Indignation*, *Personal intervention* and *Call the police*, but not with *Animal attitude* or with *Speciesism*.

The relationship of the perception of and reaction against the abuse of farm animals with Animal attitude and Speciesism

To assess the percentage of variance explained by *Animal attitude* and *Speciesism* in relation to the perception of and reaction against the abuse of farm animals, two variables were calculated collapsing, on the one hand, the perception scales and, on the other hand, the intention of behavior scales. The first variable, *Perception*, was calculated averaging the scores in the scales of *Severity*, *Justification*, *Indignation*, *Intentionality*, and *Punishment*. *Frequency* was not included because it reduces internal consistency. The second variable, *Reaction*, was calculated averaging the scores in the scales of *Personal intervention* and *Call the police* ($r = .66$, $p < .001$). Table 4 shows the internal consistency values for *Reaction* and the descriptive analyses for the two new variables.

Two stepwise multiple linear regression analyses were carried out with *Perception* and *Reaction* as criterion variables, respectively, and *Animal attitude*, *Speciesism* and

Table 4.

Internal consistency for Perception and descriptive analyses for Perception of and Reaction toward farm animal abuse.

	α	**ω**	**Min-Max**	**M**	**SD**
Perception	.79	.81	2-10	8.53	1.23
Reaction	*	*	0.25-10	6.76	2.33

Note: *Two-item scale.

Table 5.

Correlations between Animal attitude and Speciesism with Perception of and Reaction toward the abuse of farm animals.

	Perception	Reaction
Animal attitudes	.42[**]	.33[**]
Speciesism	-.29[**]	-.21[**]
Social desirability	.04	.13[**]

Note: [**] $p < .001$.

Social desirability as predictors. As shown in Table 5, all the correlations between variables were statistically significant, except for *Social desirability* and *Perception*, which confirms H6 and H7. The highest correlations of *Perception* and *Reaction* were with *Animal attitude*. *Social desirability* correlated with *Reaction* but not with *Perception*. Table 3 also shows that the correlation *of Social desirability* and *Animal attitude* and *Speciesism* was not statistically significant.

When *Perception* of the episodes of farm animal abuse was the criterion variable, a statistically significant solution just including *Animal attitude* explained 18% of the variance, $[F(2,454) = 32.10, p < .001]$. As shown in Table 6, *Social desirability* did not enter the equation. For *Reaction* against the episodes of farm animal abuse, the statistically significant solution $[F(1,455) = 99.46, p < .001]$ included *Animal attitude* and, in this case, *Social desirability* to explain 12 % of the variance (see Table 6).

Discussion

The aim of this study is to analyze the relationship of animal attitudes and speciesism with people's perceptions of farm animal abuse, taking into account the role of gender and place of residence (urban, rural). According to expectations, men were more speciesist than women. In addition, women had more positive attitudes towards animals than men. The gender differences found in animal attitudes are in line with previous research in which women are more empathetic and more concerned about the environment (Plant et al., 2019), including animal welfare (Amiot & Bastian, 2017; Martin et al., 2023) than men. Men tend to have more negative attitudes towards animals (Henry, 2004; Zalaf & Egan, 2020), as well as being more speciesist (Caviola et al., 2019; Graça et al., 2018; Hoffarth et al., 2019; Vezirian & Bègue, 2023), more supportive of meat consumption and of the instrumentality of animals (Piazza et al., 2015). Recently, Mata

Table 6.

Results for the stepwise correlation analysis using Perception of and Reaction toward farm animal abuse as the criterion variables and Animal attitude and Speciesism, as well as Social desirability, as predictor variables.

	B	Standard Error	Beta	*t*	*p*	Order cero	Partial	Semi partial
Perception								
(Constant.)	5.604	.298		18.801	.000			
Animal attitude	.386	.039	.424	9.973	.000	.424	.424	.424
Reaction								
(Constant.)	.854	.810		1.055	.292			
Animal attitude	.562	.076	.325	7.405	.000	.329	.328	.325
Social desirability	.146	.051	.125	2.850	.005	.134	.133	.125

et al. (2023) showed that, irrespective of the country, women had stronger pro-animal attitudes than men.

Some authors suggest that these gender differences may be related to sexism and that by expressing these attitudes men may be seeking to assert their masculinity (Nurse, 2020). From this perspective, attitudes against animals would be men's way of showing their power over those they consider weaker, in this case animals, perpetuating their role of superiority in society and the continuity of patriarchy (Nurse, 2013). However, Vezirian and Bègue (2023) found that social dominance orientation does not mediate the link between gender and support for animal experimentation, suggesting that the relationship between gender and animal attitudes is more complex. In this sense, Salmen and Dohen (2023), by reviewing the psychological evidence on the associations between sexism, speciesism, meat, and masculinity, concluded that the assessment of the relation between patriarchal gender and practices of animal exploitation can be a very fruitful approach to research and intervention. Adopting this perspective, future research would benefit from studying the underlying mechanisms that relate gender to animal abuse.

When it comes to place of residence, participants living in rural settings were more speciesist than participants living in urban settings, irrespective of gender, but there were no differences in animal attitude. Previous research (e.g., Bernuz & Maria, 2022; Teel & Manfredo, 2010) has shown that people living in rural environments tend to instrumentalize animals more, normalizing both their exploitation and causing them harm. The lack of statistical significance for animal attitude was unexpected, especially because Zalaf and Egan (2020) had stated that rural lifestyles are linked to animal welfare perceptions. However, these studies did not involve farm animals. Mata et al. (2023) carried out a cross-cultural study on consumers' attitudes toward farm animal welfare concluding that these attitudes reflect not only cultural and economic differences, but also the scientific evidence on the issue available in each country.

It is worth noting at this point that studies on animal attitude compare countries instead of rural vs urban setting inside the same territory, thus differences they found may be between cultures and not between places of residence.

In the present study, although comparisons between places of residence were carried out, scores in animal attitude were very high in general terms, reducing the likelihood of differences between them. Also, as the territory was small (2,034 km^2), urban and rural settings are very close, and limits may be diffuse. Likewise, given this small size of the territory, the contact with nature of people living in urban settings may reduce the differences with those living in the study rural setting (Collado & Sorrel, 2019). These considerations can also be applied to scores in speciesism that showed differences between places of residence, although the effect size was small. Future research should consider these factors to be able to reach valid conclusions on the relationship between people's reaction against animal abuse and their place of residence.

Last, but not least, a relevant result that deserves comments is that negative perceptions of farm animal abuse and the willingness to intervene to stop it were more related to attitudes towards animals than to speciesism. Moreover, it is worth noting that participants' answers were not associated with social desirability, except for the reaction against animal abuse, probably because it is an intention of behavior scale. Even in this case, the relation between animal attitude and reaction against animal abuse was statistically significant and higher than that or speciesism.

It may be argued that the Speciesism Scale focuses on the morality of the relation of superiority of humans over animals and on their instrumentality, whereas the Animal Attitude Scale includes more facets of the relationship human-animals as well as morality. Indeed, moral judgments have been shown to be better predictors of behavior than general attitudes (Martín et al., 2014) and, in addition, research has supported the authors' defense of the unidimensional structure of both scales. Also, although both animal attitude and speciesism were related to perceived justification, indignation, and severity of the abuse of farm animals, the scores were higher for animal attitude than for the speciesism. Future research should delve deeper into the nature of the relationship of both constructs with animal abuse and not only in their predictive capability.

The main limitation of this study is that participants' genders were not balanced. However, as the sample was

large and it was checked that the group variances were homogeneous, the results could be interpreted. Despite this limitation, this study provides evidence on the perceptions of and reactions against farm animal abuse that could be useful for future psycho-legal research on the topic. The Spanish Criminal Code includes in the same category animals that are domestic, tamed, domesticated and that temporarily or permanently live under human control, as opposed to protected fauna. We already know that people react more negatively against the abuse of domestic than of protected animals (Martín et al., 2023), but evidence is scarce on perceptions of the abuse of other types of animals whose instrumentalization is legally and socially accepted.

The Ley 7/2023 currently in force to protect animal rights and welfare as sentient beings applies only to companion and wild animals in captivity, excluding: animals, used in bullfighting shows; production animals; animals used for experimental and other scientific purposes, including teaching, and animals used in veterinary clinical research; wild animals, unless they are in captivity; animals used in professional and specific activities; and finally hunting dogs, herds and auxiliary hunting animals. Also, the companion animals cited directly in the legal text are only cats, dogs, and ferrets, leaving the preparation of a longer list of them for future regulations. It is true that the Spanish government has also approved a royal decree to regulate the application in Spain of the EU normative on the official controls on the welfare of farm animals such as poultry, cattle, sheep, goats, pigs, horses, fur species and farmed fish (Real Decreto 159/2023, de 7 de marzo, por el que se establecen disposiciones para la aplicación en España de la normativa de la Unión Europea sobre controles oficiales en materia de bienestar animal, y se modifican varios reales decretos).

The question that arises looking at these regulations is whether the law in general, and the Criminal Code in particular, should consider all animals alike, irrespective of people's perceptions, as it does with different human ethnicities and genders, or whether it should make distinctions depending on the animal instrumentality for humans. This is a question that concerns psychology to the extent that instrumentality may be redefined in terms of sustainability, as a means of protecting biodiversity. Future psychological research on peoples' perceptions of and reactions against animal abuse could thus be a valuable tool to improve compliance with the actual law and provide evidence that would be useful for its improvement.

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