

2018

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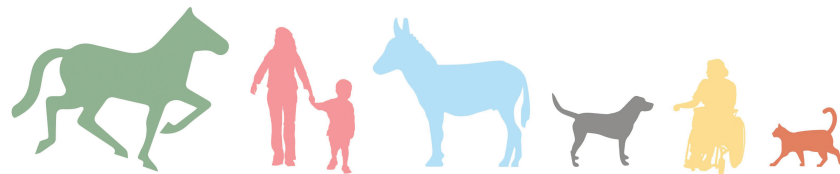
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Recommended Citation

Rusu, Alina Simona; Pop, Denisa; and Turner, Dennis C. (2018) "Geographically Apart, Attitudinally Very Close: A Comparison of Attitudes toward Animals between Romania and Mexico City," *People and Animals: The International Journal of Research and Practice*: Vol. 1 : Iss. 1 , Article 2.

Available at: <http://docs.lib.purdue.edu/paj/vol1/iss1/2>



People and Animals: The International Journal of Research and Practice

Volume 1 | Issue 1 | ISSN: 2575-9078

(2018)

Geographically Apart, Attitudinally Very Close: A Comparison of Attitudes toward Animals between Romania and Mexico City

Alina S. Rusu,¹ Denisa Pop,² and Dennis C. Turner³

Keywords: attitudes toward animals, cross-cultural comparison, human-animal interactions, stray animals, Romania, Mexico City

Abstract Among other regions, Romania and Mexico (particularly Mexico City) are often cited as problematic areas in surveys and reports on the growing population of stray animals in urban areas. The aim of our study was to adapt for Romanian and Spanish languages usage of an instrument that includes significant psychological and social dimensions of the attitudes toward animals (i.e., Attitudes toward Animals questionnaire [ATA]; Fehlbaum, Waiblinger, & Turner, 2010; Turner, 2010) and compare these attitudes between two countries that are confronted with similar situations regarding stray animals (dogs and cats). ATA consists of 27 statements on nature conservation, wild animals, farm animals, companion animals, meat eating, and animal feelings and cognition. The original version of ATA was translated into Romanian and Spanish. Data were collected from 295 Romanian respondents (2013–2014) and 302 respondents from Mexico City (2011–2012). Significant differences in the amplitude of the level of agreement or disagreement (not in the direction of the answers) were found between samples in 20 of the 27 items of the questionnaire, most of them regarding the utility and benefits of pet keeping and the attribution of thoughts and emotions to animals (i.e., Romanians had more favorable attitudes than Mexicans). Both samples expressed similar high levels of likeability toward dogs and cats and agreement about humane strategies of pet management, such as painless euthanasia. Stray dogs and cats are perceived as a public problem by both Romanian and Mexican participants, with the specification that cats are significantly seen as more problematic in Mexico City than in Romania.

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Introduction

While interest in the scientific investigation of human-animal interactions in terms of mechanisms, therapeutic values (i.e., animal-assisted therapy and activities), as well as educational impact is in the direction of promoting responsible ownership, animal well-being, and efficient pet management programs, some aspects regarding the attitudes and optimal behavior toward animals appear to be strongly shaped by culture. The question of how deeply cultural influences can shape attitudes toward animals in the direction of facilitating and/or impeding successful implementation of pet management programs has been partially answered by several cross-cultural studies. Some of these studies have compared attitudes toward animals either between different sub-cultures of the same country (Fehlbaum et al., 2010; Jegatheesan, 2012, 2015), between diverse samples of the same population (e.g., the general community and animal protection community; Signal & Taylor, 2007), or between different countries in the same geopolitical region (e.g., Bradshaw & Limond, 1997; Griffith & Wolch, 2001) or different regions (Miura, Bradshaw, & Tanida, 2002; Turner, 2010; Turner & Al Hussein, 2013).

A cross-cultural study comparing attitudes toward animals in 12 countries (Turner, 2010) revealed that people, regardless of gender, education level, and religious orientation, generally agree that dogs (which are the most common companion animals in much of the world) are likeable animals and that if an animal is suffering and cannot be cured, it should be put down humanely (Turner, Waiblinger, & Meslin, 2013). Most studies in the literature are monocultural, that is, addressing single cases of countries, either reported as problematic in terms of pet management or aiming to screen attitudes toward animals with standardized instruments available in the literature in order to identify those that significantly predict or moderate the optimal human-animal interaction. One of the most common definitions of attitudes to be found in human-animal interaction (HAI) literature is “attitudes are defined as psychological tendencies that are expressed by evaluating a

particular entity with some degree of favor or disfavor” (Eagly & Chaiken, 1993, cited in Serpell & Hsu, 2016). In a recent paper investigating the attitudes to dogs in Taiwan, Serpell and Hsu (2016) depict two major value orientations of expression of human attitudes to animals: an *affective* (emotional) evaluation, based on feelings, perceptions of animal needs, and tendency to anthropomorphize, and an *instrumental* (practical or economic) value (see also Serpell, 2004). These two dimensions allow researchers to identify attitudes that are associated with behavioral and species-specific aspects of companion and wild animals that are detrimental or beneficial to human interests (Serpell, 2004).

The dynamic of attitudes on the two dimensional axes (affective and instrumental) is subject to cultural and individual perceptions, gender, level of education, and awareness regarding healthy human-animal interactions (i.e., well-being of humans and animals), as well as to the high emotional impact of the less functional examples of human-animal interactions such as dog bites, persons killed by groups of dogs in public places, cases of cruelties toward animals, etc.). Serpell and Hsu (2016) point out that, although they might independently develop in terms of amplitude, the two dimensions are not independent in terms of their potential effects on people’s decisions and behaviors (e.g., moral obligations, responsibilities) and these effects might be reflected in private and/or public opposition to actions that are perceived as harming the animals. For example, euthanasia, although often recommended by veterinarians as a practical and humane stray animal management strategy, can be outlawed in some countries (e.g., Italy; Slater et al., 2008) due to the favorable affective public attitudes to dogs (Serpell & Hsu, 2016). Also, a high level of affective likeability to dogs and cats has been reported in a survey of attitudes toward sterilization of companion animals in Romania (Cocia & Rusu, 2010), where the level of favorable attitudes to animals was negatively associated with the level of agreement of sterilization of companion animals, especially of the females.

It is generally believed that surveys of the attitudes to animals might offer important insights on the

affective and instrumental dimensions of the perception of animals (companion, wild, and stray animals), with important diagnostic value for identifying aspects reflecting the level of public preparedness for specific pet management policies, healthy interactions, and nature conservation. Attitudes toward animals have the potential to mediate and facilitate the successful implementation of stray and companion animal management programs, as well as animal protection and attitude training programs aiming to promote responsible ownership and to increase awareness of the well-being of animals and humans interacting with them (e.g., Herzog, Betchart, & Pittman, 1991; Sherman & Serpell, 2008; Signal & Taylor, 2007; Turner & Al Hussein, 2013).

Attitudes toward animals are generally considered an important dimension to assess and shape through education and awareness events when trying to implement programs of stray animal management at the national level. This is especially true in countries that report problematic situations such as aggressive incidents (e.g., dog bites, killing of children by dogs, but also cruelty toward animals), agglomeration of stray animals in urban areas (including overcrowding in urban animal shelters), and high levels of zoonotic risk (Cocia & Rusu, 2010; Serpell & Hsu, 2016; Sherman & Serpell, 2008). Among other countries, Romania and Mexico, although 10,000 km apart and on different continents, are often cited as problematic areas in global surveys and reports on the growing population of stray animals in urban areas, as well as negative human-animal interaction incidents, such as attacks on people by dogs, including fatal ones. Mexico City, the capital, has a similar number of inhabitants as Romania with approximately 20 million people. Despite the dramatic cases reported by mass media (e.g., the case of a little boy killed by a group of dogs in Bucharest near a public park in 2013 and the case of four people killed by dogs near a park in Mexico City in the same year), and despite all of the NGO activities (e.g., by the National Federation for Animal Protection in Romania and of the Street Dog Protection Association in Mexico City) to promote adoption of stray animals, prevent abandonment, and so on, public shelters in

both regions are still overcrowded. Pet management strategies, such as sterilization programs and euthanasia, although supported by local and national legislative bodies, are still neglected in terms of successful implementation in the urban areas of Romania and Mexico City.

Research Question

In this current study, we aim to use a standard instrument, the Attitudes toward Animals questionnaire (Turner, 2010), in order to assess the levels of favorable or unfavorable attitudes toward companion and stray dogs and cats (affective and instrumental dimensions), the position of participants toward euthanasia of suffering animals, as well as the magnitude of the perception of stray dogs and cats as causing problems to people, in two regions of the world facing the same problems and situations of stray dogs and cats in urban areas: Romania (cities: Bucharest, Cluj-Napoca, Timisoara, Baia-Mare) and Mexico (Mexico City). Specifically, the similar problems consist of the high number of stray dogs living in urban areas, periodically reported incidents of dog bites and/or fatalities in public spaces (killing of people by groups of dogs), overcrowded public animal shelters managed by local authorities, and a high level of companion animal abandonment.

Methods

The Attitudes toward Animals questionnaire (ATA) is a 27-item instrument that has already been used in several cross-cultural comparisons of attitudes toward animals (different countries, different cultures in the same country; Fehlbaum et al., 2010; Turner & Al Hussein, 2013; Turner et al., 2013) and has allowed identification of differences and similarities of levels of agreement to specific statements, grouped in the following four categories reflecting the affective and instrumental values of human-animal interactions: animal cognition and feelings, attitudes toward pets (dogs and cats), nature conservation/wild

animals, farm animals/meat eating, and in categories to select from, daily time required to care for a cat and a dog. Five of the items are control questions aimed to assess the understanding of the statements in local languages (i.e., Romanian and Spanish in this study).

The Attitudes toward Animals questionnaire (Turner, 2010) is a three-page survey that has been used previously in several cross-cultural studies mentioned above. On the first page, ATA includes demographic and biographic information such as: gender, age, country of origin, country where participants grew up, religion, ethnic descent, education, and past or current pet ownership. The following two pages contain 27 statements, where each item allows the participants to express their level of agreement on a 5-point Likert scale as follows: 5—Strongly agree, 4—Agree, 3—Neither agree nor disagree, 2—Disagree, 1—Strongly disagree. Five control items are placed on different pages of the questionnaire. The ATA contains items concerning the following areas: nature conservation/wild animals (4 items), farm animals/meat eating (6 items), animal cognition and feelings (7 items), and pets (11 items). The last item asked participants to state how much time per day they thought was required to care for a cat and a

dog; the options were in categories from 10 minutes up to 3 hours.

Data were individually collected from 297 Romanian respondents (2013–2014, age between 18 and 56 years) and from 302 respondents from Mexico City, Mexico (2011–2012, age between 18 and 64 years). Romanian respondents had received an online Romanian version of the ATA. The original English version was provided by the third author and was translated into Romanian and back-translated into English by three specialists in the field of human-animal interactions (two psychologists and one veterinarian), all with a high level of proficiency in English. In Mexico City, the questionnaires were handed out in a paper-pen version and collected by volunteers in the general public (adults of various ages) around that city.

Upon completion, the questionnaires were electronically coded and data were introduced and processed with SPSS version 22. Spearman rank correlation was used to analyze the answers of the participants to the five control items (Table 1). Item-by-item comparisons were performed between the two samples of respondents (Romania and Mexico City), using the Mann-Whitney U-tests after performing a Levene’s test for the homogeneity of variances.

Table 1. Values and statistical significance of the Spearman rank correlations between the control items of the Attitudes toward Animals survey (Turner, 2010) for the two categories of respondents, Romania ($N = 297$) and Mexico City ($N = 302$).

Control items	Number of participants (N)	Spearman correlation coefficient	P value
<i>Keeping animals as pets is useless.</i>	Romania (297)	-0.396	0.0001
<i>Keeping animals as pets brings many benefits to the person.</i>	Mexico City (294)	-0.181	0.002
<i>Cats are very likeable animals.</i>	Romania (297)	-0.636	0.0001
<i>Cats are disgusting animals.</i>	Mexico City (302)	-0.426	0.0001
<i>Dogs are very likeable animals.</i>	Romania (297)	-0.515	0.0001
<i>Dogs are disgusting animals.</i>	Mexico City (297)	-0.454	0.0001
<i>Animals’ feelings are different from those of the people.</i>	Romania (297)	-0.477	0.0001
<i>Animals have the same feelings as people.</i>	Mexico City (297)	-0.126	0.031
<i>Animals cannot think.</i>	Romania (297)	-0.471	0.0001
<i>Animals can think like people.</i>	Mexico City (296)	-0.142	0.016

Results

Demographic Characteristics of the Two Samples

Demographic analysis of the two samples of respondents indicates that the gender composition was female-biased for the Romanian sample and more gender balanced for the Mexico City sample, that is, for Romania ($N = 297$), 84.8% females, 15.2% males; and for Mexico City ($N = 302$), 61.4% females, 38.6% males. The age composition of the two groups reflects a higher proportion of young adults in the Romanian sample (65.7% age between 18 and 29 years) compared to 36.1% of the same age category in the Mexico City sample. The Romanian sample included 20.5% (age 30–39 years), 9.4% (age 40–49 years), 4% (age 50–60 years), and 1% (> 60 years), while the Mexico City sample included 26.2% (age 30–39 years), 17.9% (age 40–49 years), 11.3% (age 50–60 years) and 7.6% (> 60 years). Regarding childhood pet ownership, both categories of respondents had similar high proportions of owners (over 88% of childhood pet owners), as well as current pet ownership (over 92% in both categories). The majority of Romanian respondents (92.8%) had a level of education above high school, that is, more than 12 years of education (students and graduates, PhD diploma holders, etc.), while the percentage of people with education “longer than 12 years” in the Mexico City sample was 53.6%.

Control Items

Negative and statistically significant correlations were obtained for all the five control items both for Romanian respondents and for the Mexico City respondents (Table 1), indicating that the statements were generally well comprehended by the participants in the survey. Overall, the values of Spearman correlation coefficients were higher in the Romanian sample, suggesting that they probably better understood the items compared to the participants from Mexico City. It is important to mention that nearly 40% of the Romanian participants were veterinarians (students and professionals), 46% were

psychologists and special educators, and the rest of the participants were mostly members of animal protection NGOs. This composition of the Romanian sample was most probably a result of the fact that the online questionnaire was distributed through a Facebook page dedicated to an event named the Day of Human-Animal Interaction, which is periodically organized in Cluj-Napoca (i.e., one of the cities included in the survey). Two of the control items appeared to be similarly clear to both categories of respondents, namely “*Dogs/cats are very likeable animals*” and “*Dogs/cats are disgusting animals*” (Table 1). In the Mexico City sample, the lowest correlation coefficients were registered for the control items referring to the cognitive and emotional abilities of animals and to the benefits pets might bring to people. In the Romanian sample, the values of the correlation coefficients for these items were much higher (Table 1). This result might be explained by the fact that a large proportion of the participants were from Cluj-Napoca and Bucharest, two cities that are well known nationally for their programs in the field of animal-assisted therapy and activities, as well as humane education programs to promote responsible pet ownership.

Attitudes toward Nature Conservation and Wild Animals

Significant differences (but in the same direction of agreement) were recorded in three of the four items of this dimension of the ATA questionnaire. Both Romanian (R) and Mexico City (MC) respondents had the same direction of answers regarding the importance of nature conservation, that is, “*Conservation of nature (plants, animals, natural resources) is very important*,” with the Romanians having a significantly higher level of agreement than the Mexico City respondents (R average = 4.84 ± 0.44 , MC average = 4.58 ± 0.91 , Mann-Whitney U test, $p = 0.000$). A slight but significant difference ($t = 2.73$, $p = 0.007$) was registered between the two categories of respondents regarding the item “*Keeping animals captive in zoos should be forbidden*,” with Romanian respondents having a higher level of agreement with this statement

(R average = 3.53 ± 1.12) compared to Mexico City respondents (MC average = 3.26 ± 1.33), while the Mexican respondents tended to rather not agree or disagree with this statement. Another slight, but significant, difference (Mann-Whitney U test, $p = 0.01$) was observed regarding the answers to the item “*It is acceptable that some people eat the meat of endangered wild animals.*” The two categories responded in the same direction of disagreement, with Romanians expressing a stronger level of disagreement (R average = 1.55 ± 1.12) than the Mexico City participants (MC average = 1.99 ± 1.19). Both categories of respondents expressed an identical level of disagreement regarding the item “*Keeping wild animals as pets at home is acceptable,*” with no significant difference between the two categories (R average = 2.23 ± 1.08 , MC average = 2.23 ± 1.21 , Mann-Whitney U test, $p = 0.53$).

Attitudes toward Farm Animals and Meat Eating

No differences were found between the two categories of respondents on one of the six items, that is, Romanian and Mexico City participants had a similar moderate to high level of agreement regarding the acceptability of eating beef (“*It is acceptable that some people eat beef meat,*” R average = 3.55 ± 0.96 , MC average = 3.46 ± 1.1 , Mann-Whitney U test, $p = 0.45$). But significant differences were recorded between the two categories of respondents in their answers to the following five items:

1. “*Raising large numbers of animals for food (for meat or milk) outdoors (not in buildings or cages) is not acceptable.*” Mexico City respondents took the more neutral position of “*neither agree nor disagree*” (MC average = 2.98 ± 1.27), whereas Romanian respondents were more in disagreement with this statement (R average = 2.66 ± 1.25 , Mann-Whitney U test, $p = 0.004$).
2. A slight but significant difference was found between the two categories in their position on the statement “*Raising large numbers of animals for food (for meat or milk) indoors in farm buildings or cages is acceptable.*” Hence, although the answers were

in the same direction of disagreement, Romanian respondents tended to have a higher number of “*neither agree nor disagree*” answers than the Mexico City respondents, who were more oriented toward disagreeing with this statement (R average = 2.66 ± 1.17 , MC average = 2.48 ± 1.24 , Mann-Whitney U test, $p = 0.03$).

3. “*All people should be vegetarian and not eat meat at all.*” Both categories of respondents answered in the same direction of disagreement, but the MC participants had a significantly higher number of values of “*neither agree nor disagree*” than the Romanian participants (MC average = 2.74 ± 1.19 , R average = 2.46 ± 1.09 , Mann-Whitney U test, $p = 0.003$).
4. “*It is unacceptable that some people eat pork meat.*” Both categories answered in the direction of disagreement with this statement, with Mexico City participants offering a significantly higher number of “*neither agree nor disagree*” than the Romanian participants, who disagreed more often (MC average = 2.62 ± 1.16 , R average = 2.31 ± 0.97 , Mann-Whitney U test, $p = 0.001$).
5. Romanian and Mexico City respondents indicated the same direction of disagreement toward the item “*It is acceptable that some people eat the meat of endangered wild animals,*” but Romanian participants expressed a stronger level of disagreement (R average = 1.55 ± 1.12) compared to those from Mexico City (MC average = 1.99 ± 1.19 , Mann-Whitney U test, $p = 0.000$).

Attitudes toward Animal Cognition and Feelings

Significant differences, but the same direction of agreement or disagreement, were observed between the two categories of respondents for the following items:

1. “*Animals have feelings, for example fear, joy, etc.*” Respondents of both categories agreed with this statement, but the Romanian respondents

supported this statement significantly more strongly (R average = 4.81 ± 0.48) than the Mexico City ones (MC average = 4.2 ± 1.02 , Mann-Whitney U test, $p = 0.000$).

2. A significant difference (although there was an overall agreement with the statement) was found between the categories of participants for the control item “*Animals have the same feelings as people*”; Romanian respondents had a significantly higher number of “strongly agree” answers (R average = 4.61 ± 0.69) than those from Mexico City (MC average = 3.75 ± 1.08 , Mann-Whitney U test, $p = 0.000$).
3. “*Animals can not think.*” While both categories tended to disagree with this statement, Romanian respondents disagreed more strongly (R average = 1.62 ± 0.82) than the Mexico City respondents, who tended more toward neither agreeing nor disagreeing (MC average = 2.41 ± 1.28 , Mann-Whitney U test, $p = 0.000$).
4. “*If an animal is killed for food, fur, leather, etc., it does not matter how this is done, painlessly or not.*” While both categories responded in a similar direction of disagreement, Romanian respondents had a significant number of “strongly disagree” answers to this item (R average = 1.44 ± 0.88) compared to the Mexico City respondents (MC average = 2.12 ± 1.17 , Mann-Whitney U test, $p = 0.000$).

No statistically significant differences were registered between the categories of respondents (Romania and Mexico City) for the following items:

1. “*Animals can think like people*”: Both Romanian and Mexico City participants tended toward neither agreeing nor disagreeing (R average = 3.27 ± 1.11 , MC average = 3.19 ± 1.28 , Mann-Whitney U test, $p = 0.39$).
2. “*Animals’ feelings are different from those of people*”: Both categories of respondents neither agreed nor disagreed with this statement. Romanian participants tended to be slightly more oriented toward the similarity of feelings between animals and humans than the Mexican

respondents (R average = 2.6 ± 1.1 , MC average = 2.82 ± 1.35 , Mann-Whitney U test, $p = 0.06$).

3. “*If an animal is suffering (pain or incurable disease) and cannot be cured, it should be killed painlessly.*” Both categories of participants had a similar level of agreement with this statement, with no statistical difference between them (R average = 4.08 ± 0.96 , MC average = 3.99 ± 1.12 , Mann-Whitney U test, $p = 0.76$).

Attitudes toward Pets

The similarities and differences between the two categories of participants regarding the items included in this category of the ATA questionnaire are presented below:

1. “*Keeping animals as pets is useless.*” Although the position toward this statement was in a similar direction of disagreement, a significant difference was recorded between the two categories of respondents (Mann-Whitney U test, $p = 0.000$). Hence, Romanian respondents expressed a significantly higher number of “strongly disagree” answers than did the Mexico City respondents (R average = 1.41 ± 0.85 , MC average = 2.32 ± 1.18).
2. “*Keeping animals as pets brings many benefits to the person*”: Both categories agreed that pets bring many benefits to their owners, but Romanian respondents had a significantly higher number of “strongly agree” answers compared to the Mexican respondents, who tended to agree or neither agree nor disagree (R average = 4.61 ± 0.69 , MC average = 3.75 ± 1.08 , Mann-Whitney U test, $p = 0.000$).
3. “*Cats are very likeable animals*”: While both categories of respondents agreed that cats are likeable animals, Romanian respondents had significantly higher numbers of “agree” and “strongly agree” answers compared to the Mexican respondents (R average = 4.09 ± 0.87 , MC average = 3.74 ± 1.09 , Mann-Whitney U test, $p = 0.000$).

4. Consequently, Romanian respondents expressed a significantly higher level of strong disagreement toward the statement “*Cats are disgusting animals*” than the Mexican respondents (R average = 1.48 ± 0.7 , MC average = 2.16 ± 1.22 , Mann-Whitney U test, $p = 0.000$).
5. “*Dogs are very likeable animals*”: Both categories of respondents agreed that dogs are likeable animals, but Romanian respondents had a significantly higher number of “strongly agree” answers compared to the Mexican respondents (R average = 4.67 ± 0.58 , MC average = 4.20 ± 0.92 , Mann-Whitney U test, $p = 0.000$).
6. Regarding the answers to the corresponding control item, that is, “*Dogs are disgusting animals*,” they were in the same direction of disagreement, where Romanian respondents significantly more strongly disagreed than the Mexican participants (R average = 1.13 ± 0.37 , MC average = 1.89 ± 1.03 , Mann-Whitney U test, $p = 0.000$).
7. “*Dogs make ideal pets*.” Both categories agreed that dogs make ideal pets, but Romanian respondents had a significantly higher number of “strongly agree” answers than the Mexican respondents (R average = 4.53 ± 0.65 , MC average = 4.26 ± 0.87 , Mann-Whitney U test, $p = 0.000$).
8. “*The cat is not an ideal pet*”: Romanian participants had a significantly higher number of “strongly disagree” answers to this statement, indicating that they had more favorable attitudes toward the abilities of cats to be companion animals than Mexican respondents had, that is, Mexican respondents tended to disagree or to neither agree nor disagree with this statement (R average = 1.99 ± 0.94 , MC average = 2.63 ± 1.26 , Mann-Whitney U test, $p = 0.000$).
9. “*Eating dog or cat meat is unacceptable*.” Both categories agreed with this statement, with Romanian respondents expressing a significantly higher level of strong agreement compared to the Mexican respondents, who tended to either disagree or neither agree nor disagree (R

average = 4.39 ± 1.03 , MC average = 3.48 ± 1.54 , Mann-Whitney U test, $p = 0.000$).

The next two statements explored the opinions of the respondents on the magnitude of the problem of stray animals in Romania and in Mexico: (1) “*In this country (where I am now), stray dogs are no problem*”: both categories of respondents similarly disagreed with this statement. Our data indicate that stray dogs are considered a problem in Romania and in Mexico City (R average = 2.13 ± 1.01 , MC average = 2.37 ± 1.35 , no difference, Mann-Whitney U test, $p = 0.26$); “*In this country (where I am now), stray cats cause many problems*”: Romanian respondents expressed a significantly stronger level of disagreement toward this statement (R average = 2.1 ± 0.92), while Mexican respondents tended to neither agree nor disagree and had more “agree” answers (2.86 ± 1.23). The data indicate that Mexican respondents perceived stray cats as being more problematic than did Romanian respondents (Mann-Whitney U test, $p = 0.000$).

Regarding the daily time required for the cats and dogs, the majority of Romanian respondents indicated a period of 120 min/day for dogs, while the majority of Mexico City respondents indicated that 60 min/day should be enough for the daily care of the dogs. No significant differences were recorded between respondents in terms of time estimated for the daily care of the cats, that is, both categories of participants indicated a period of around 30 minutes of care per day. Our data are in line with those reported in the study by Fehlbaum, Waiblinger, and Turner (2010) comparing the attitudes toward animals between the German- and French-speaking parts of Switzerland, in which the authors indicated that all the respondents, regardless of their cultural background, reported a longer period of time required for the daily care of dogs than of cats.

Discussion and Conclusions

Even though heterogeneous in their demographic compositions in terms of age and professional orientation (i.e., the Romanian participants in the

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Attitudes toward Animals survey were predominantly placed within the 18–29 years of age category and they were mostly veterinarians and psychologists with interests in the field of animal-assisted activities, as well as NGO members in the field of animal protection), our data indicate that the two categories of respondents from Romania ($N = 297$) and Mexico City ($N = 302$) always had the same direction of their agreement or disagreement on the statements in the four dimensions of the survey: nature conservation and wild animals, farm animals and meat eating, animal cognition and feelings, pets (companion animals) and perception of stray dogs and cats as a problem. It is important to mention that both categories of respondents had a majority (over 85% each) of childhood pet owners and current pet owners. Where differences occurred (in 21 items out of 27, plus the two questions on the time required for daily animal care), they were at a level of amplitude of agreement or disagreement, but always in the same direction. Similar results in the direction of agreement or disagreement on the statements in the four dimensions of the survey have been found in 12 other countries with diverse religious traditions (Fehlbaum et al., 2010; Turner, 2010; Turner & Al Hussein, 2013; Turner et al., 2013).

The analysis of the control items indicated that, compared to the Mexico City respondents, the items regarding the utility of keeping animals as pets and the attribution of emotions and cognitive abilities to animals appeared to be more clearly understood by the Romanian participants, as indicated by the values of the correlation coefficients. The differences between the two categories of respondents regarding the benefits of pet keeping and the appreciation of the affective and cognitive abilities of animals (which might also indicate the tendency to anthropomorphize the animals) was shown in the significant differences in the degrees of levels of agreement or disagreement with other statements of the questionnaire. Hence, Romanian respondents significantly more strongly agreed that animals have feelings (fear, joy, etc.) and more strongly disagreed that animals' feelings are different from those of people (implying that they more strongly agree that animals have

the same feelings as people). The same difference in amplitude of agreement, but not in the direction of the answers, which was identical between the categories of respondents, was found for the statements regarding the cognitive abilities of animals. These differences might be explained by the fact that the Romanian respondents were predominantly from Cluj-Napoca and Bucharest, two cities that are actively promoting programs in the field of humane education in primary school, as well as animal-assisted therapy and activities programs. Also, since 2008, Cluj-Napoca is the only city in Romania that has been offering a program of academic training in the field of animal-assisted therapy and activities for persons with special needs.

An impressive result of this cross-cultural comparison is that both categories of respondents had a high level of agreement that *“If an animal is suffering (pain or incurable disease) and cannot be cured, it should be killed painlessly,”* with no statistical difference between the values of the Likert answers. This indicates that both categories of respondents are aware and agree that humane and painless procedures, such as controlled euthanasia, could be applied to suffering and incurable animals. Also, both categories of respondents expressed a high level of likeability toward dogs and cats (with Romanian respondents expressing a stronger agreement with the likeability statements). While literature points toward the fact that the affective values of dogs and cats can affect the implementation of euthanasia as a stray pet management program (e.g., the case of Italy; Slater et al., 2008), further investigations are needed to reveal the connections between the expressed level of favorable attitudes toward companion animals and public agreement with specific pet management strategies, such as euthanasia.

Both categories of respondents expressed a similar level of high agreement toward the importance of nature and wild animals conservation. An interesting difference in the amplitude of agreement appeared in the answers to the item *“Raising large numbers of animals for food (for meat or milk) outdoors (not in buildings or cages) is not acceptable,”* with Romanian participants expressing a higher level of disagreement compared

to the Mexico City participants, who tended to neither agree nor disagree with the statement. This result might be explained by the intensive pro-ecology movements in Romania, for example campaigns that are promoting the well-being of utilitarian animals (cows, pigs, hens, etc.), including here the idea of providing animals access to outdoor conditions.

Regarding the daily time required for the cats and dogs, the majority of Romanian participants in the survey indicated a period of approximately 120 min/day (or more) for dogs, while the majority of Mexico City respondents indicated that 60 min/day are enough for their daily care. No significant differences were recorded between respondents in terms of the estimated time for the daily care of the cats, that is, both categories of participants indicated a period of around 30 minutes of care per day. Our data are in line with those reported in the study by Fehlbaum, Waiblinger, and Turner (2010) comparing the attitudes toward animals between the German- and French-speaking parts of Switzerland, in which the authors indicated that all the respondents, regardless of their cultural ties, reported longer periods of time required for the daily care of dogs relative to cats.

An interesting finding of the current study is the anti-zoo opinion of the Romanian respondents reflected in the level of agreement with the item “*Keeping animals captive in zoos should be forbidden*,” while the Mexico City respondents tended to neither agree nor disagree with the statement. This difference in the amplitude of agreement could be explained by the generally negative image of zoos in Romania as reflected in the online and written media over the last two decades, as well as by the fact that only a few zoos in Romania are meeting the animal welfare criteria and functional standards imposed by the European Union and those that are also promoted by the World Association of Zoos and Aquariums. Compared to Romanian zoos, Mexican zoos, particularly those located in Mexico City, are known worldwide as offering appropriate and natural/seminatural living conditions to the captive animals, thus attracting an impressive number of visitors every year.

Probably the most important finding revealed by this study is the expressed positions of both categories

of respondents toward the public problems caused by stray dogs and stray cats. Hence, both Romanian and Mexican participants strongly agreed that stray dogs are considered a problem in their countries. Regarding the stray cats, our data indicated that Mexico City respondents expressed a significantly higher level of disagreement with the item “*In this country (where I am now), stray cats cause many problems*” compared to Romanian respondents. This difference in the amplitude of answers might be based on the fact that campaigns for cat sterilization have been intensively promoted in Mexico City over the last five years, while in Romania, the most highly promoted campaigns are those for cat adoption, mostly using positive public messages regarding the health and social benefits of owning a cat. Hence, based on the findings of this cross-cultural study, we suggest that more attention should be paid in Romania to the information offered to the public regarding the necessity of sterilization of cats (in terms of preventing overpopulation in urban areas). In this light, a positive (and functional) aspect regarding the management of the stray cat population is that several Romanian NGOs have started to sterilize the cats before promoting their adoption.

While the results of this comparative investigation give a general view of the attitudes toward nature, meat-eating habits, companion animal values and functions, as well as on the perception of the problematic status of stray dogs and cats in Romania and Mexico City, several authors (e.g., Poss & Bader, 2007) suggest that these types of studies (i.e., the differences and similarities they are revealing on specific items) should be taken into account when implementing and managing animal welfare programs in areas in which communities from specific countries are cohabiting with residents (i.e., Romanian community cohabiting with Italian residents, Hispanic community cohabiting with American residents). Also, the general screening value of such cross-cultural comparisons, in line with many other similar studies, offers a fertile ground for more detailed analysis of the differences and similarities in attitudes toward animals, as well as an opportunity to pay closer attention to potential covariates, such

as the existence of aggressive encounters with companion and/or stray animals targeted by the surveys, sometimes not in the expected direction. In their study comparing the attitudes of children and adults to dogs in three European countries, Lakestani Donaldson, Verga, and Waran (2011) found that adults who had been bitten by dogs in the past expressed significantly more positive attitudes toward dogs compared to the other respondents! The researchers also found no significant differences in attitudes toward dogs in the three European countries under consideration, between genders, or between children and adults, suggesting that similar approaches can be taken in humane education programs and abandonment prevention and sterilization campaigns when addressing different age groups. A potential confounding variable in most of the studies investigating attitudes toward dogs and cats is that they do not allow distinguishing attitudes toward purebred and crossbred animals, especially for dogs. Having in mind that crossbred dogs (mongrels) are the most common stray animals in Romania and in Mexico City (as well as in other countries around the world), humane education programs in the future should address the potentially positive and rewarding values of stray mongrels, which can be revealed after adoption and interacting with them in a responsible manner.

Summary for Practitioners

Attitudes toward animals are generally considered an important dimension of assessing and shaping through education and awareness events when trying to implement programs of stray animal management at the national level. Among other countries, Romania and Mexico, although 10,000 km apart and situated on different continents, are often cited as problematic areas in global surveys and reports on the growing population of stray animals in urban areas, as well as negative human-animal interaction incidents, such as attacks on people by dogs, including fatal ones. Mexico City, the capital, has a similar number of inhabitants as Romania with approximately 20 million people. Despite the dramatic

cases reported by mass media, for example the case of a little boy killed by a group of dogs in Bucharest near a public park in 2013 and the case of four people killed by dogs near a park in Mexico City in the same year, and despite all of the NGO activities to promote adoption of stray animals, prevent abandonment, and so on, public shelters in both regions are still overcrowded. Pet management strategies, such as sterilization programs and euthanasia, although supported by local and national legislative bodies, are still neglected in terms of successful implementation in the urban areas of Romania and Mexico City.

The major objective of this study was to use a standard instrument, the Attitudes toward Animals questionnaire (ATA; Turner, 2010), in order to assess levels of agreement in favorable or unfavorable attitudes toward companion and stray dogs and cats (affective and instrumental dimensions), the position of participants toward euthanasia of suffering animals, as well as the magnitude of the perception of stray dogs and cats as causing problems to people, in two regions of the world facing the same problems and situations of stray dogs and cats in urban areas: Romania (cities: Bucharest, Cluj-Napoca, Timisoara, Baia-Mare) and Mexico (Mexico City).

ATA (Turner, 2010) is a three-page survey, which has been used in several cross-cultural studies on attitudes toward animals. On the first page, ATA includes demographic and biographic information (gender, age, country of origin, country where participants grew up, religion, ethnic descent, education, and past or current pet ownership). The following two pages contain 27 statements, where each item allows the participants to express their level of agreement on a 5-point Likert scale. Five control items are placed on different pages of the questionnaire. The items concern the following areas: (1) attitudes toward nature conservation/wild animals (4 items), (2) attitudes toward farm animals/meat eating (6 items), (3) attitudes toward animal cognition and feelings (7 items), and (4) attitudes toward pets (11 items). The last item refers to how much time per day the respondents thought was required to care for a cat or a dog. Data were individually collected

from 297 Romanian respondents (2013–2014, age between 18 and 56 years) and from 302 respondents from Mexico City, Mexico (2011–2012, age between 18 and 64 years). Negative and statistically significant correlations were obtained for all five control items in both populations, indicating that the statements were generally well comprehended by the participants in the survey.

Attitudes toward Nature Conservation and Wild Animals

Both Romanian and Mexico City respondents had the same direction of answers regarding the importance of nature conservation (moderate to high agreement). While both categories of respondents agreed that “*Keeping animals captive in zoos should be forbidden,*” Romanian respondents had a higher level of agreement with the statement.

Attitudes toward Farm Animals and Meat Eating

Significant differences, but in the same direction of answer, were recorded between the two categories of respondents for the items “*Raising large numbers of animals for food (for meat or milk) outdoors (not in buildings or cages) is not acceptable*” (Romanian respondents disagreed more) and “*All people should be vegetarian and not eat meat at all*” (both categories disagreed, but the Mexico City participants had a higher number of neutral answers).

Attitudes toward Animal Cognition and Feelings

Significant differences, but in the same direction of answer, were observed between the two categories of respondents for the following items: “*Animals have feelings, for example fear, joy, etc.*” and “*Animals have the same feelings as people*” (Romanian respondents strongly agreed more), “*Animals can not think,*” and “*If an animal is killed for food, fur, leather, etc., it does not matter how this is done, painlessly or not*” (Romanian respondents strongly disagreed more than Mexico City participants).

Attitudes toward Pets

Both categories of respondents agreed that pets bring many benefits to their owners. While both categories of respondents agreed that cats and dogs are likeable animals, Romanian respondents strongly agreed more. Also, Romanian participants strongly disagreed more than the Mexico City respondents that “*The cat is not an ideal pet,*” thus expressing more favorable attitudes toward the abilities of cats as companion animals. For taking care of dogs, Romanian respondents indicated a period of 120 min/day, while Mexico City respondents indicated that 60 min/day should be enough for daily care. No differences were recorded between the categories in terms of time estimated for the daily care of cats, that is, 30 minutes of care per day.

In terms of the magnitude of the perceived public problems caused by stray dogs and stray cats, both categories of participants strongly agreed that stray dogs are considered a problem in their countries. Mexico City respondents expressed a significantly higher level of disagreement to the item “*In this country (where I am now), stray cats cause many problems*” compared to Romanian respondents. This difference in the amplitude of answers regarding the stray cats might be based on the fact that campaigns for cat sterilization have been intensively promoted in Mexico City over the last five years, while in Romania, the most promoted campaigns are those for cat adoption, mostly using positive public messages regarding the health and social benefits of owning a cat. Hence, based on the findings of this cross-cultural study, we suggest that more attention should be paid in Romania to the information offered to the public regarding the necessity of sterilization of cats (in terms of preventing overpopulation in urban areas). An important result of this cross-cultural comparison is that both categories of respondents highly agreed that “*If an animal is suffering (pain or incurable disease) and cannot be cured, it should be killed painlessly,*” indicating that both categories are aware and agree that humane and painless procedures, such as controlled euthanasia, could be applied to suffering and incurable animals. While literature points

toward the fact that the affective values of dogs and cats can affect the implementation of euthanasia as a stray pet management program, further investigations are needed to reveal the connections between the expressed level of favorable attitudes toward pets and public agreement with specific pet management strategies, such as euthanasia.

Acknowledgments

Data collection in Romania was part of the research grant PN-II- PT-PCCA- 2013-4- 0781 (director: ASR). ASR would like to thank Anamaria Basceanu for helping with the data introduction in SPSS. In Mexico City, Cecilia Vega Leon was instrumental in organizing the volunteers to distribute the questionnaires with the kind support of the Fundacion Antonio Haghenbeck y de la Lama, IAP. The ATA Questionnaire (© D.C. Turner) is free to use on other samples under two conditions: (1) It may not be altered in any way other than translating the document into a local language, because that would render comparison with other results impossible; and (2) The author and copyright must be mentioned in the acknowledgments in any publication concerning the study or results. The ATA can be secured in English from dennis@turner-iet.ch.

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