TURKISH ADAPTATION OF THE SPECIESISM SCALE: A VALIDITY AND RELIABILITY STUDY

TÜRCÜLÜK ÖLÇEĞİNİN TÜRKÇE UYARLAMASI: GEÇERLİK VE GÜVENİRLİK ÇALIŞMASI

İrem EKER
Assist. Prof. Dr., Muğla Sıtkı Koçman University, Faculty of Letters, Department of Psychology, iremeker@mu.edu.tr

Fatma Ebru KÖSE
Assist. Prof. Dr., Aydın Adnan Menderes University, Faculty of Arts and Sciences, Deparment of Psychology, Durham University, Deparment of Psychology, feates@adu.edu.tr

Makale Bilgisi
Türü: Araştırma makalesi
Gönderildiği tarih: 15 Ocak 2025
Kabul edildiği tarih: 25 Haziran 2025
Yayınlanma tarihi: 25 Aralık 2025

Article Info
Type: Research article
Date submitted: 15 January 2025
Date accepted: 25 June 2025
Date published: 25 December 2025

Anahtar Sözcükler
Türcülük; Genellenmiş Önyargı; Karar Verme; İnsan-hayvan İlişkileri; Ölçek Uyarlaması; Ahlak

Keywords
Speciesism; Generalised Prejudice; Decision-making; Human-animal Relations; Scale Adaptation; Morality

DOI
10.33171/dtcfjournal.2025.65.2.23

Abstract

Speciesism is defined as assigning different moral worth to animals depending on their species and considering humans to be superior to animals. Thus, speciesism can be understood as a type of prejudice that is directed towards animals. In the current study, we aimed to adapt a short scale of speciesism (i.e., Speciesism Scale) and to test its psychometric properties among Turkish samples. In three samples (NSample-1 = 256, NSample-2 = 239, NSample-3 = 227), we demonstrated that the Speciesism Scale has acceptable reliability coefficients and a one-factor structure. We also found that the scale shows high test-retest reliability approximately after four weeks (Sample-1). Evidencing its convergent validity, the scale was positively associated with benevolent sexism (Sample-1), social dominance orientation, right wing authoritarianism, and system justification (Samples 1 and 2). Moreover, we showed that social dominance orientation consistently predicted higher speciesism, suggesting that speciesism has similar roots to prejudices among human groups. Finally, demonstrating the predictive validity, we found that speciesism predicts a preference for humans over animals when making decisions about volunteering time for charities that support either humans or animals (Samples 1 and 2). All the presented results held while controlling for demographics such as age, gender, education, socio-economic level, and political view. In conclusion, the current results align with previous research and confirm that the Speciesism Scale is a valid and reliable tool for measuring speciesism in samples from Turkey.

Öz

Türcülük hayvanlara türlerine bağlı olarak farklı ahlaki değerler atfetmek ve insanları hayvanlardan daha üstün görmek olarak tanımlanmaktadır. Türcülük bu sebeple hayvanlara yönelik bir tür önyargı olarak değerlendirilebilir. Var olan çalışmada Türcülük Ölçeği'nin Türkçeye uyarlanması ve ölçeğin psikometrik özelliklerinin Türk örnekleminde test edilmesi amaçlanmıştır. Türcülük Ölçeği'nin iç tutarlık katsayısının kabul edilebilir olduğu ve ölçeğin tek faktörlü yapısı üç farklı örneklemde (NÖrneklem-1 = 256, NÖrneklem-2 = 239, NÖrneklem-3 = 227) gösterilmiştir. Aynı zamanda, yaklaşık dört hafta sonra alınan ölçümde, ölçeğin yüksek test-tekrar test güvenirliğine sahip olduğu bulunmuştur (Örneklem-1). Ölçek, yakınsak geçerliği kanıtlar şekilde, korumacı cinsiyetçilik (Örneklem-1), sosyal baskınlık yönelimi, sağ kanat yetkecilik ve sistemi meşrulaştırma ile pozitif yönde ilişkilidir (Örneklem-1 ve Örneklem-2). Ek olarak, sosyal baskınlık yöneliminin tutarlı olarak daha yüksek düzeyde türcülüğü yordadığı gösterilmiştir. Bu bulgu, türcülüğün kökeninin insan grupları arasındaki önyargılar ile benzer olabileceğini işaret etmektedir. Son olarak, ölçeğin yordayıcı geçerliğini gösterir şekilde, türcülüğün hayvanlara ya da insanlara yardım eden derneklere gönüllü zaman ayırma kararları bağlamında, insanları hayvanlara tercih etmeyi yordadığı bulunmuştur (Örneklem-1 ve Örneklem-2). Sunulan tüm sonuçlar yaş, cinsiyet, eğitim, sosyo-ekonomik düzey ve politik görüş gibi demografik değişkenler kontrol edilerek elde edilmiştir. Sonuç olarak, mevcut bulgular geçmiş çalışmalarla uyumludur ve Türcülük Ölçeği'nin Türkiye'den gelen örneklemlerde de gerçerli ve güvenilir bir ölçüm aracı olduğunu doğrulamaktadır.

Introduction

Prejudice is defined as "any attitude, emotion, or behaviour towards members of a group, which directly or indirectly implies some negativity or antipathy towards that group" (Brown, 2011, p. 7). Systematic research on prejudice within the scope of intergroup relations dates back to Allport (1954), and over time, this topic has become a central focus of social psychology. For example, Dovidio et al. (2010) noted an exponential increase in the research and publications on prejudice between 1965 and 2008. The vast majority of these studies examine various forms of prejudice within human-human groups (e.g., sexism, racism, and homophobia; Caviola, Everett, & Faber, 2019). However, intergroup relations extend beyond human-human interactions and also encompass relationships between humans and other species. Humans interact with animals in diverse ways, such as adopting some animals as pets, while using others for experiments or clothing—an interaction that echoes the concept of prejudice. Although research on humans' prejudice towards animals has not received much attention in intergroup relations literature until recently (Caviola, et al., 2019), theoretical and empirical work on this topic have increased in recent years (Amiot & Bastian, 2015; Amiot, Lépine, & Zaky, 2019; Caviola et al., 2022; Dhont et al., 2014, 2019; McGuire, Palmer, & Faber, 2022; Salmen & Dhont, 2021, 2023). Within the framework of human-animal intergroup relations, prejudice against animals is referred to as speciesism (Caviola et al., 2019; Singer, 1975). Despite the growing attention to speciesism in the Western context, only one scale has been developed to measure speciesism in Turkish—the Ambivalent Speciesism Scale (Altınal & Tekdemir, 2020). While this scale is a useful tool, the Speciesism Scale (Caviola et al., 2019) is shorter and may offer a more practical alternative for researchers. To address this gap, we aim to adapt the Speciesism Scale[1] into Turkish and test its psychometric properties using samples from Turkey.

With this aim, we first assessed the reliability of the Speciesism Scale. Subsequently, we evaluated its construct validity by testing its original one-factor structure. To examine its convergent validity[2], we inspected the scale's correlations with other forms of prejudice (benevolent sexism and prejudice against refugees) as well as various socio-political beliefs (social dominance orientation, system

[1] Although Altınal and Tekdemir (2020) used the Speciesism Scale in their research, they only examined its reliability.

[2] The Ambivalent Speciesism Scale (Altınal & Tekdemir, 2020) was not included as a part of the validity tests in the current study because the authors failed to notice this publication prior to data collection.

justification, and right-wing authoritarianism). These socio-political beliefs are not only associated with, but are also considered to be the antecedents of different forms of prejudice (for a review, see Mcfarland, 2010). Thus, in addition to evaluating their correlations for convergent validity, we explored whether these socio-political beliefs could predict speciesism. Finally, in the context of predictive validity, we examined whether speciesism could predict behavioural intentions towards animals.

Speciesism

Speciesism is defined as the practise of subjecting animals to different moral evaluations based on their species (Singer, 1975) and belief that the human species is superior and worthier than animals (Caviola et al., 2019; Dhont & Hodson, 2014). In fact, this definition highlights two types of speciesism: *anthropocentric speciesism*, which reflects the conviction that humans are more valuable than animals, and *pet speciesism*, which involves placing a higher moral regard on pets compared to other animals (Caviola & Capraro, 2020). Despite these distinctions, speciesism as a general phenomenon can manifest in various ways. For example, the use of mice and rabbits in experiments is often considered acceptable due to their classification as expendable animals (Plous, 1996). The belief that humans are superior to animals was related to being more sensitive to the well-being of domestic animals, but showing less concern for animals like chickens and cows, which are typically considered as food (Leite, Dhont, & Hodson, 2019). Additionally, individuals scoring higher in speciesism were more likely to include meat in their diets (Dhont & Hodson, 2014). These studies suggest that speciesism aligns with the definition of prejudice, as it involves negative emotions, beliefs, and behaviours directed at animals (Brown, 2011; Caviola et al., 2019; Dhont et al., 2020). Consequently, researchers argue that speciesism is comparable to other forms of prejudice (Caviola et al., 2019; Dhont Hodson, & Leite, 2016; Ryder, 2006).

Speciesism and Other Forms of Prejudice

The idea that speciesism may be related to various other forms of prejudice is grounded in Allport's (1954) concept of generalised prejudice, which suggests that prejudice can extend across different target groups, even when those groups differ. According to this account, a person who holds racist beliefs may also be expected to have sexist, anti-immigrant, and homophobic convictions (Allport, 1954). Numerous studies have supported this proposition, showing positive correlations between prejudice towards ethnic groups, women, people with disabilities, and refugees (e.g., Akrami, Ekehammar, & Berg, 2011; Bergh, Akrami, & Ekehammar, 2012; Zick,

Pettigrew, & Wagner, 2008). A similar pattern has been observed with speciesism. For example, speciesism has been positively associated with sexism, homophobia, and racism (Caviola et al., 2019; Salmen & Dhont, 2021, 2023). Based on these findings, we focused on benevolent sexism and prejudice against refugees to test the convergent validity of the Speciesism Scale. Benevolent sexism refers to the implicit and softer forms of gender role enforcement, often manifesting as men's oppression of women and the legitimisation of traditional gender roles (Glick & Fiske, 1996). Prejudice against refugees can be considered as a form of racism (Wagner, Christ, & Heitmeyer, 2010), and in its classical form, it reflects explicit negative attitudes towards refugees (Brown, 2011; Pettigrew & Meertens, 1995). In the light of the past findings (Caviola et al, 2019; Salmen & Dhont, 2021, 2023), we hypothesized that speciesism will have positive associations with benevolent sexism **(H1)** and classical prejudice towards refugees **(H2)**.

Certain socio-political beliefs, such as social dominance orientation (Pratto et al., 1994), system justification (Kay & Jost, 2003), and right-wing authoritarianism (Altemeyer, 1998) are linked to generalised prejudice and intergroup relations (Bäckström & Björklund, 2007; Jost, 2019). Theoretical accounts and empirical research suggest that these beliefs, which reflect individual differences in how people evaluate the systems and groups, are also related to speciesism (Bastian & Loughnan, 2016; Caviola et al., 2019; Dhont et al., 2016). Thus, these socio-political beliefs could also serve as indicators of the convergent validity of the Speciesism Scale.

Speciesism and Socio-political Beliefs

While social dominance orientation refers to a tendency to favour a hierarchical structure between groups (Pratto et al., 1994), system justification refers to the tendency to view existing social, economic, and political systems as just and fair (Jost & Banaji, 1994). Right-wing authoritarianism involves deferring to authority figures, upholding traditional values, and feeling hostile towards individuals or groups that challenge societal norms (Altemeyer, 1998). All these beliefs reflect individuals' views on how people should live and how groups should be structured within society. As a result, socio-political beliefs about hierarchies and ways of life are linked to generalised prejudice against other groups. For example, higher levels of social dominance orientation and right-wing authoritarianism have been associated with greater prejudice towards various groups, including ethnic minorities, women, and people with disabilities (Bäckström & Björklund, 2007; Duckitt & Sibley, 2007; Ekehammar & Akrami, 2003). In their review, Jost and Hunyady (2015) concluded

system justification is positively related to evaluating one's own group more favourably. Studies on speciesism have similarly shown that those scoring higher in these socio-political beliefs have a more speciesist outlook (Caviola, Everett, & Faber, 2019; Dhont et al., 2016; Dhont & Hodson, 2014). Therefore, in terms of convergent validity, we also hypothesized that speciesism will be positively related to social dominance orientation **(H3)**, system justification **(H4)**, and right-wing authoritarianism **(H5)**.

In addition to their positive associations with prejudice, these socio-political beliefs have also been suggested as underlying factors that sustain prejudice toward other groups and perpetuate intergroup inequality (Kay & Jost, 2003; Mcfarland, 2010). For example, meta-analyses and reviews demonstrate that social dominance orientation, right-wing authoritarianism, and system justification beliefs are robust predictors of prejudice between human groups (Hodson & Dhont, 2015; Hodson, McInnis, & Busseri, 2017; Jost, 2019). Drawing on the generalised prejudice approach (Allport, 1954), researchers argue that speciesism may also be rooted in these socio-political beliefs (Caviola et al., 2019; Dhont et al., 2016; Dhont & Hodson, 2014). In other words, similar to the mechanisms of prejudice between human groups, socio-political beliefs could also underlie speciesism between humans and animals.

Within the framework of the Social Dominance Human-Animal Relations Model (SD-Harm), social dominance orientation is proposed to be a key antecedent of prejudice against animals (Dhont et al., 2016). Other researchers argue that practices like meat consumption, or the continuation of already existing asymmetrical relationships between humans and animals may be crucial for societies to maintain traditional norms (Bastian & Lougnan, 2016). Thus, traditionalism and the desire to preserve the existing social order, as reflected in right-wing authoritarianism may also underlie speciesist attitudes (Dhont & Hodson, 2014). Moreover, Caviola et al. (2019) suggest that the more individuals justify the existing systems, the more they will defend the status-quo which perpetuates a strict hierarchy between humans and animals. Therefore, beliefs that justify the system may be an antecedent of speciesism as well.

However, empirical studies have shown that social dominance orientation is the most consistent predictor of speciesism among these socio-political beliefs (Caviola et al., 2019; Costello & Hodson, 2010; Dhont et al., 2016). In the current study, we go beyond examining convergent validity and explore which of these socio-political

beliefs predict speciesism. While we do not have specific hypotheses regarding these exploratory links, based on existing theoretical accounts (Caviola et al., 2019; Dhont et al., 2016; Dhont & Hodson, 2014), all three socio-political beliefs may positively predict speciesism. Yet, reviewing the empirical evidence (Caviola et al., 2019; Costello & Hodson, 2010; Dhont et al., 2014, 2016) this relationship should be especially consistent regarding social dominance orientation. Finally, to show that speciesism has explicit effects on behaviours through decision-making processes, we focused on its predictive validity.

Speciesism and Decision-making Processes

Previous research has investigated the links between speciesism and attitudes towards meat consumption (e.g., Monteiro et al., 2017), frequency of meat eating (e.g., Dhont & Hodson, 2014), and the use of animal products in daily life (e.g., Altınal & Tekdemir, 2020) using self-report measures. In the current study, we build upon the original study of the Speciesism Scale (Caviola et al., 2019) and examine how speciesism informs people's helping behaviour when choosing between humans versus animals, and domestic versus meat-category (farm) animals. We reasoned that choosing humans over animals could be a behavioural implication of anthropocentric speciesism, whereas preferring domestic animals over farm animals could be a behavioural concomitant of pet speciesism. Thus, the group participants decided to help is considered to be an indicator of behavioural intentions. The Speciesism Scale itself has an anthropocentric approach to speciesism (Caviola et al., 2019). However, in the original study, it predicted a preference for pets over farm animals. Therefore, we hypothesized that those who score higher in speciesism will be more likely to help humans **(H6)** and domestic animals **(H7)**.

Speciesism and Demographic Variables

In addition to the psychological variables we reviewed above, several demographic variables are also known to be associated with speciesism. For example, women generally exhibit more positive attitudes toward animals than men (Taylor & Signal, 2006; Randler et al., 2021; Robbins et al., 2019), and speciesism tends to increase with age (Caviola et al., 2019; McGuire et al., 2022). Individuals scoring higher in right-wing political ideology also tend to display higher levels of speciesism (Dhont & Hodson, 2014; Hoffarth et al., 2019; Hopwood et al., 2025). While Caviola et al. (2019) found no significant relationship between speciesism and education or income, it is plausible that individuals with higher levels of income and education may hold more favourable views toward animals. Higher education, for instance, may

promote critical thinking and ethical reflection, which can challenge traditional speciesist beliefs. Similarly, individuals with greater income may have better access to alternatives such as plant-based diets and cruelty-free products, which could positively influence their attitudes toward animals. Accordingly, we treated these variables as covariates in our analyses when testing our main hypotheses **(H1-H7)**.

METHOD

Participants

The data for the current study were collected from three separate samples, with a total of 722 participants. The survey consisted of more items for Samples 1 and 2. We, therefore, included two attention checks in these samples to ensure data quality. The participants who failed to answer both of the attention checks (eight participants in Sample-1, 21 participants in Sample-2) were excluded from the main analyses reported here. As the survey for Sample-3 was relatively short, no attention checks were presented. In all samples, we included one question to probe participants' dietary choice.

Sample-1 consisted of 256 university students (254 women, 93 men, 9 participants who did not want to specify their gender) whose age ranged between 18 and 56 (M = 21.58, SD = 5.31). The majority of the participants (91%) were omnivorous. To determine the test-retest reliability of the Speciesism Scale, we administered it to 72 of the participants in Sample-1 approximately after a four week interval.

Sample-2 consisted of 239 participants who were adults (154 women, 76 men, 9 participants who did not want to specify their gender), aged from 18 to 70 (M = 29.57, SD = 11.09). Similar to Sample-1, a vast majority of the participants in Sample-2 (90%) were also omnivorous. Sample-3 consisted of 227 vegan and vegetarian participants (191 women, 22 men, 14 participants who did not want to specify their gender) whose age ranged between 18 and 73 (M = 31.99, SD = 9.26). While 52.4% of this sample indicated being vegan, 47.6% was vegetarian.

Measures

In all samples, participants responded to scales ranging from *strongly disagree* (1) to *strongly agree* (7), unless noted otherwise. We tested our hypotheses **(H1-H7)** using Samples 1 and 2, where we measured speciesism, ambivalent sexism, prejudice against asylum seekers, social dominance orientation, system justification, right-wing authoritarianism, and helping intentions towards preferred charities. In Sample

3, our measurement solely included speciesism to further demonstrate the validity and reliability of the scale among vegans and vegetarians. Additionally, we collected demographic information in all three samples.

Speciesism

We measured speciesism with the Speciesism Scale developed by Caviola et al. (2019) which consists of six items. This open-access scale was translated into Turkish by two bilingual social psychologists who are experts in their field, but were independent of the current research. Then, the bilingual authors of the current manuscript finalised the scale by checking these translations in terms of readability and meaning (See Appendix 1). The internal consistency coefficient (*a*) of the scale ranged between .81 and .89 in the original studies (Caviola et al., 2019).

Ambivalent Sexism

The Ambivalent Sexism Scale consists of *Hostile* and *Benevolent* Sexism components (Glick & Fiske, 1996). We used the Turkish version (Sakallı-Uğurlu, 2002) of the *Benevolent Sexism* component in the current study. This component includes 11 items (e.g., "*Men are incomplete without women*", Sakallı-Uğurlu, 2002, *a* = .78). The internal consistency coefficients for this component were calculated as .86 in Sample-1 and .88 in Sample-2 in the current study.

Prejudice Against Asylum Seekers

Anderson (2018) developed the Prejudice Against Asylum Seekers Scale that consists of *Classical* and *Conditional Prejudice* components. We used the Turkish version (Abayhan, Hürriyetoğlu, & Tuna, 2022) of the *Classical Prejudice* component here. The specified component involves 11 items (e.g., "*Refugees should go back to where they came from*", *a* = .90). In the present study, its internal consistency coefficients were .85 for Sample-1 and .90 for Sample-2.

Social Dominance Orientation

The Social Dominance Orientation Scale was developed by Pratto et. (1994).We used its Turkish version (Karaçanta, 2002, *a* = .85) which includes 16 items (e.g., "*No matter what you say, some groups are more valuable than others.*") with the following internal consistency coefficients, .89 in Sample-1; .86 in Sample 2.

System Justification

The eight-item System Justification Scale (a sample item, "*I find our society fair in general.*") was developed by Kay and Jost (2003). We used the Turkish version of

this scale (Yıldırım, 2010, *a* = .88). The internal consistency coefficients of the scale in the current study were .84 for Sample-1 and .78 for Sample-2.

Right-Wing Authoritarianism

We used the Turkish version (Güldü, 2011) of the Right-Wing Authoritarianism Scale (Altemeyer, 1998). The original scale consists of 22 items (e.g., "*Our country needs a strong leader who can do whatever it takes to eliminate radical tendencies and evils that threaten our integrity*"). However, Güldü (2011) recommends using 18 items (excluding items 1, 2, 14 and 20) for the Turkish version of the measure (*a* = .85). Following this recommendation, we found that the 18-item version had the internal consistency of .85 for both Sample-1 and Sample-2.

Charity Preferences

We adopted the method from Caviola et al. (2019) to examine the extent to which speciesism informs behavioural intentions. Participants were briefed that the study also explored decision-making processes and presented with two scenarios in two separate blocks (See Appendix 2). In Block 1, the scenarios described two charities: one that helped animals (Charity A) and one that helped humans (Charity B). Participants were asked which charity they would prefer to volunteer their time for. In Block 2, the scenarios described two other charities: one that helped cows rescued from slaughterhouses (Charity A) and one that helped dogs rescued from the streets (Charity B). Participants were then asked which charity they would prefer to donate their money to. We presented these blocks in the order we described here in Sample-1, but in a randomised order in Sample-2. Because the participants could only choose one charity to help, we obtained binary outcomes from this method.

Demographic form

Demographic form included age, gender (*0* = male, *1* = female), socio-economic level (*1* = low, *5* = high), political views (*1* = extremely left, *7* = extremely right), and education (*1* = did not go to school, *7* = doctorate) which we used as control variables. Among these, education was not measured in Sample-1.

Procedure

This study has been approved by the Aydın Adnan Menderes University Social Sciences Ethics Committee (approval no: 31906847/050.04.04-10). All the studies were conducted using online platforms such as Google Forms and SurveyMonkey. For Sample-1, the study was advertised in the classroom environments. Sample-2 was recruited through the authors' social media accounts (Instagram and Whatsapp

groups). Participants in Sample-3 were recruited via the Instagram account of the Turkish Vegan Association. While the participants in Sample-1 received partial course-credits for their participation, those in the other samples were not compensated. After reviewing the information sheet and providing consent, participants completed the set of questionnaires as outlined in the Measures section. Participants were thanked and debriefed at the end of the study.

Analytic Strategy

Our analyses are divided into two parts: testing the reliability and validity of the Speciesism Scale. We tested its reliability across all three samples and assessed the temporal stability of it in Sample-1. Again, we examined its construct validity in all three samples. The convergent and predictive validity of the scale was tested in Samples 1 and 2. We also explored whether certain socio-political beliefs predict speciesism in Samples 1 and 2. For the construct validity, we performed confirmatory factor analyses (CFAs) with Mplus8 (Muthén & Muthén, 1998-2017) using Maximum Likelihood estimation method. All the other analyses were conducted in SPSS. Means and standard deviations of all the measures we used are displayed in Table 1.

RESULTS

Reliability

To test the reliability of the Speciesism Scale, we calculated Cronbach Alpha internal consistency coefficients. We also inspected the correlation coefficient between the two assessments of the Speciesism Scale to establish test-retest reliability. Prior to the internal consistency analyses, we reverse-coded the Item-5 ("*Chimpanzees should have basic legal rights such as the right to life and prohibition of torture.*"). None of the other items require reverse-coding. The initial results of these analyses demonstrated that Item-5 had quite low inter-item correlations in all three samples (*r*'s ranged from .00 to .27). Clark and Watson (1995) recommend that an average inter-item correlation should fall between .15 and .50 in reliability tests. Because an item's average inter-item correlation being lesser than .15 suggests that the particular item does not measure the same construct as the rest of the measure. Based on this, we calculated the average inter-item correlations for Item-5 in all samples (r = .01, Sample-1; r = .04, Sample-2; and r = .09, Sample-3). These values were dramatically lower than the recommended threshold which implied that Item-5 might not be tapping into speciesism in the way that other items do. Therefore, we did not include this item in the analyses reported here. For the remaining five items,

the internal consistency of the scale was at an acceptable level (Sample-1 = .71; Sample-2 = .72; Sample-3 = .72) evidencing the reliability of the scale. The correlation coefficient between the two measurements of the Speciesism Scale was quite high (r = .79, p < .001) which indicates that speciesism is a form of prejudice that is fairly stable over time.

Table 1.
Means and Standard Deviations of All the Measured Variables Across All Samples

	Sample-1	Sample-2	Sample-3
	M (*SD*)	*M* (*SD*)	*M* (*SD*)
Speciesism[a]	2.02(0.98)	1.88(0.95)	1.19(0.45)
Speciesism[b] (re-test)	1.83(0.83)	—	—
Social dominance orientation	3.01(0.97)	2.83(0.94)	—
System justification	2.28(0.94)	2.30(0.95)	—
Right-wing authoritarianism	3.44(0.95)	3.79(1.00)	—
Benevolent sexism	4.16(1.25)	4.49(1.34)	—
Classical prejudice against refugees	5.83(0.92)	5.78(1.17)	—
Political view	3.07(1.03)	3.49(1.23)	2.59(0.86)
Socio-economic level	2.85(0.84)	2.82(0.89)	2.95(0.91)
Education	—	4.45(0.83)	5.21(0.78)

Note. [a,b] Speciesism includes 5-items.

Construct Validity

Here, we loaded five items onto a latent speciesism factor and tested whether the original one-factor model (Caviola et al., 2019) fitted in the Turkish samples as well. To judge the fit of the tested model to the data, we used a combination of Chi-Square (X^2), Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Square Residual (SRMR), and Tucker-Lewis Index (TLI). The following thresholds are recommended to be indicators of a good model fit: CFI ≥ .93, RMSEA ≤ .07, SRMR ≤ .07, TLI[3] ≥ .95 (Bagozzi & Yi, 2012; Hu & Bentler Marsh, Hau, & Wen, 2004). In addition, a Chi-Square test that does not reach to the level of significance indicates a good fit, however it should be noted that this test is sensitive to sample size (Steiger, 2007).

In the present study, the fit indices were: X^2 (5) = 2.99, p = .70, X^2/df = 0.60, CFI = 1.00, RMSEA = .00, SRMR = .01, TLI = 1.02 for Sample-1; X^2(5) = 8.24, p = .14, X^2/df = 1.65, CFI = .98, RMSEA = .05, SRMR = .03, TLI = .98 for Sample-2; and X^2 (4) = 6.86, p = .14, X^2/df = 1.72 CFI = .99, RMSEA = .06, SRMR = .02, TLI = .98 for Sample-3. The factor loadings of the items are presented in Table 2. When we

[3] Please note that the TLI value may exceed the typical range of zero to one (Brown, 2015).

compare the results with the recommended thresholds for the fit indices, the models tested fit the data well and the scale had a one-factor structure across three samples from Turkey.

Table 2.
Standard Factor Loadings of the Speciesism Scale Across All Samples

	Factor loadings		
	Sample-1	Sample-2	Sample-3
Item 1	.60***	.52***	.60***
Item 2	.67***	.78***	.75***
Item 3	.63***	.63***	.71***
Item 4	.70***	.64***	.76***
Item 6	.46***	.55***	.60***

Note. ***$p < .001$. Please see Appendix 1 for items.

Convergent Validity

To test convergent validity, we examined the correlations between speciesism and other forms of prejudice, as well as socio-political beliefs. The results of these analyses are shown in Table 3 for Sample-1 and Table 4 for Sample-2. In Sample-1, speciesism was positively related to benevolent sexism ($r = .23$, $p < .01$), social dominance orientation ($r = .33$, $p < .001$), system justification ($r = 28$, $p < .001$) and right-wing authoritarianism ($r = .29$, $p < .001$). In this sample, a negative relationship was found between speciesism and classical prejudices against refugees, $r = -.15$, $p = .02$. When we examined the results for Sample-2, speciesism was positively associated with social dominance orientation ($r = .28$, $p < .001$), system justification ($r = .21$, $p < .01$), and right-wing authoritarianism ($r = .14$, $p = .04$). The relationship between speciesism and classical prejudices against refugees was again, negative ($r = -.16$, $p = .02$). In contrast to the result in Sample-1, the relationship between speciesism and benevolent sexism was not significant in Sample-2. These correlations were generally in the hypothesized directions which provided sufficient evidence for the convergent validity of the Speciesism Scale.

Table 3.
Zero-order Correlations in Sample-1

	1	2	3	4	5	6	7	8	9	10
1. Speciesism	—	.23**	-.15*	.33***	.28***	.29***	.03	-.39***	-.05	.06
2. Benevolent sexism		—	.17**	.14	.24***	.44***	.01	-.15*	.02	.07
3. Classical prejudice towards refugees			—	.12+	-.27***	-.08	-.23***	.19	-.03	-.24***
4. Social dominance orientation				—	.17**	.24***	-.04	-.20**	.06	.01
5. System justification					—	.44***	.08	-.18**	.10	.34***
6. Right-wing authoritarianism						—	.09	-.41***	-.08	.32***
7. Age							—	-.22**	.07	.17**
8. Gender[c]								—	.03	-.14*
9. Socio-economic level									—	-.02
10. Political view										—

Note. +*p*< *.10.* **p* < .05. ***p* <.01. ****p* < .001. [c] Gender (*0* = male, *1* = female).

Table 4.
Zero-order Correlations in Sample-2

	1	2	3	4	5	6	7	8	9	10	11
1. Speciesism	—	.07	-.16*	.28***	.21**	.14*	.26***	-.33***	-.07	.19**	-.04
2. Benevolent sexism		—	.35***	.12+	.10	.39***	.09	-.14*	.06	.07	-.01
3. Classical prejudice towards refugees			—	.06	-.20**	.02	-.13*	-.04	.18**	-.15*	.05
4. Social dominance orientation				—	.24***	.34***	-.11	-.17*	-.03	.14*	-.09
5. System justification					—	.36***	.19**	-.06	.00	.27***	-.18**
6. Right-wing authoritarianism						—	.09	-.18**	-.01	.49***	-.21**
7. Age							—	-.13	.06	.25***	-.14*
8. Gender[d]								—	-.04	-.04	.03
9. Socio-economic level									—	.02	.14*
10. Political view										—	-.11
11. Education											—

Note. +*p*< *.10.* **p* < .05. ***p* <.01. ****p* < .001. [d]Gender (*0* = male, *1* = female).

Socio-political Beliefs Underlying Speciesism

Here, we explored whether speciesism is rooted in certain socio-political beliefs. To do so, we performed hierarchical regression analyses in which we first introduced demographic variables. At the second step, we entered socio-political beliefs as predictors of speciesism. The results of these analyses are shown in Table 5 for Sample-1 and Sample-2. In the first sample, social dominance orientation *(B* = .22, *SE* = .06, *p* < .001) and system justification *(B* = .19, *SE* = .07, *p* = .007) predicted higher speciesism. Among the socio-political variables, only social dominance orientation positively predicted speciesism (*B* = .27, *SE* = .07, *p* < .001) in Sample-2. Albeit at a marginal level, right-wing political views positively predicted speciesism in this sample (*B* = .10, *SE* = .05, *p* = .08). Regarding the demographic variables, male gender positively predicted speciesism (Samples 1 and 2), while the relationship between age and speciesism was negative (Sample 2).

Table 5.
Socio-political Beliefs as Predictors of Speciesism (Samples 1 & 2)

	Step 1				**Step 2**			
	B(SE)	***β***	***t***	***p***	***B(SE)***	***β***	***t***	***p***
Sample-1								
Age	-.01(.01)	-.01	-0.65	.52	-.00(.01)	-.02	-0.40	.69
Gender	-.82(.13)	**-.40*****	-6.53	.000	-.62(.13)	**-.30*****	-4.79	.000
Socio-economic level	-.05(.07)	-.04	-0.65	.52	-.07(.07)	-.06	-1.09	.27
Political view	-.01(.05)	-.01	-0.22	.82	-.06(.05)	-.08	-1.31	.19
Social dominance orientation					.22(.06)	**.22*****	3.79	.000
System justification					.19(.07)	**.18****	2.73	.007
Right-wing authoritarianism					.06(.07)	.06	0.88	.38
F		0.97***				11.48***		
R^2		.16				.25		
Δ R^2						.09***		
Sample-2								
Age	.02(.01)	**.21****	3.26	.001	.02(.01)	**.24*****	3.74	.000
Gender	-.60(.13)	**-.30*****	-4.78	.000	-.53(.13)	**-.26*****	-4.25	.000
Socio-economic level	-.08(.07)	-.08	-1.24	.22	-.08(.07)	-.07	-1.24	.22
Political view	.11(.05)	**.14***	2.13	.03	.10(.05)	**.12**$^{+}$	1.75	.08
Education	.03(.07)	.03	0.46	.64	.06(.07)	.05	0.79	.43
Social dominance orientation					.27(.07)	**.26*****	3.99	.000
System justification					.10(.07)	.10	1.45	.15
Right-wing authoritarianism					-10(.07)	-.11	-1.44	.15
F		9.63***				8.95***		
R^2		.18				.25		
Δ R^2						.07***		

Note. $^{+}p< .10.$ $^{*}p < .05.$ $^{**}p <.01.$ $^{***}p < .001.$ Significant *β*s are in bold.

Predictive Validity

To demonstrate that speciesism could manifest in decision-making processes, we examined whether it predicts participants' choices of charities for volunteering time and donating money. Here, we performed binary logistic regression analyses. At Step 1, we included demographic variables. Then, at Step 2, we entered socio-political beliefs. Finally, at Step 3, we introduced speciesism. The first analysis included participants' preference to volunteer for one of the two charities: Charity A (which aids animals) versus Charity B (which aids humans) as the criterion variables (Table 6). According to the results, one-unit increase in the speciesism score was associated with a 2.45 and a 1.72 times increase in the probability of volunteering for Charity B, in Sample-1 and Sample-2 respectively. Speciesism predicted the probability of participants' volunteering preferences independently of the other variables in the analysis. These relationships suggest that speciesism is effective when understanding participants' preferences between humans and animals.

In the second analysis, participants' preferences to donate money to one of the two charities—Charity A (which aids cows rescued from slaughterhouses) versus Charity B (which aids dogs rescued from the streets)—were treated as the criterion variables (see Appendix 3, Table A7). Here, speciesism did not significantly predict the probability of money donation to Charity B (Sample-1: $OR = 0.78$, $p = .14$; Sample 2: $OR = 1.16$, $p = .74$) This finding indicates that, the speciesism scale may not be that effective in predicting preferences between domestic animals (dogs) and farm animals (cows) among samples from Turkey.

Finally, we presented the frequencies of the participants' preferences for volunteering with a charity that helps animals versus humans, and donating to a charity that helps cows versus dogs (Figure 1). We also performed chi-square tests on these frequencies out of exploratory purposes. These tests revealed that the donation preferences for cows versus dogs, and volunteering preferences for animal versus human charity were not significantly different for Sample 1 and Sample 2 (all p's > .05).

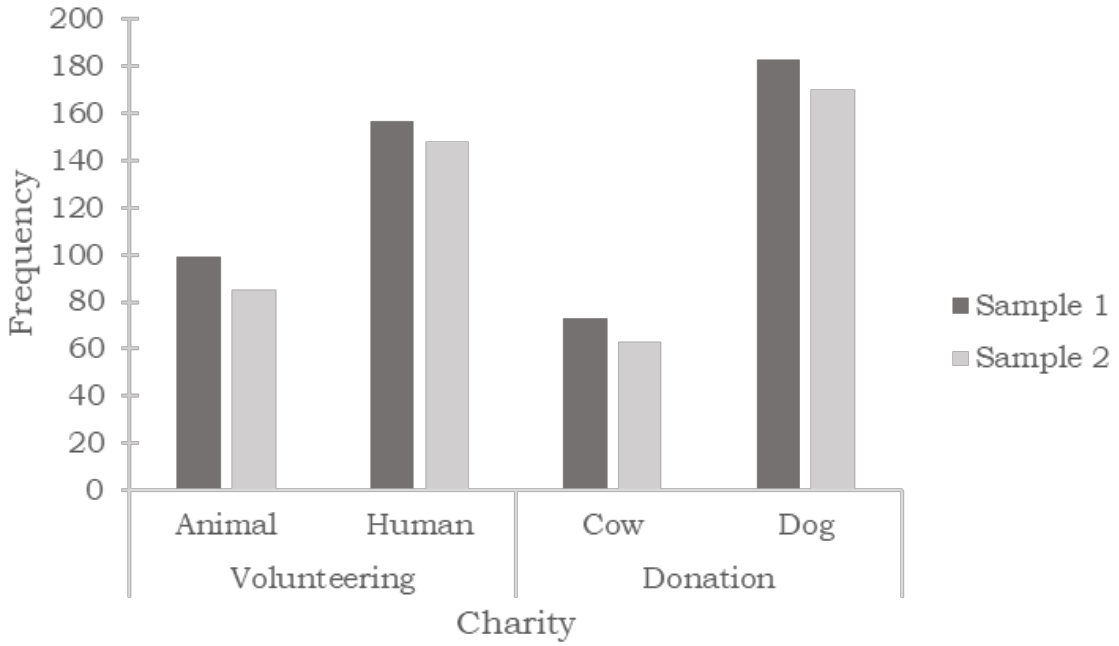
Table 6.
Speciesism in Predicting Volunteering Intentions Between the Charities Aiding Animals versus Humans (Presented in Block1)

	Step 1			Step 2			Step 3		
	B(SE)	***OR***	***p***	***B(SE)***	***OR***	***p***	***B(SE)***	***OR***	***p***
Sample-1									
Age	.07(.04)	**1.08**$^{+}$	.08	.07(.04)	**1.08**$^{+}$	.07	.09(.04)	**1.09**$^{+}$	.05
Gender	-.66(.30)	**0.51***	.03	-.43(.34)	0.65	.20	.12(.37)	1.13	.75
Socio-economic level	-.05(.17)	0.95	.75	-.01(.17)	0.99	.95	.05(.18)	1.05	.80
Political view	.21(.11)	**1.24**$^{+}$	.05	.17(.12)	1.19	.16	.26(.13)	**1.29**$^{+}$	.05
Social dominance orientation				-.17(.15)	0.83	.24	-.37(.17)	**0.69***	.03
System justification				-.22(.18)	0.80	.22	-.43(.19)	**0.65***	.03
Right-wing authoritarianism				.53(.19)	**1.70****	.006	.53(.20)	**1.71****	.009
Speciesism							.89(.21)	**2.45*****	.000
Nagelkerke R^2		0.11			0.15			0.26	
2 log-probability		305.07			296.34			274.28	
ΔNagelkerke R^2					0.04			0.11	
Sample-2									
Age	.02(.01)	1.02	.11	.03(.02)	**1.03**$^{+}$	.08	.02(.02)	1.02	.23
Gender	-.17(.31)	0.84	.57	-.19(.32)	0.83	.55	.06(.34)	1.06	.86
Socio-economic level	-.04(.17)	0.96	.79	-.03(.17)	0.97	.86	-.02(.17)	0.98	.91
Political view	.15(.12)	1.16	.22	.20(.14)	1.22	.16	.15(.14)	1.16	.29
Education	.28(.18)	1.32	.14	.24(.18)	1.27	.19	.22(.19)	1.25	.23
Social dominance orientation				-.01(.17)	0.99	.99	-.15(.18)	0.86	.40
System justification				-.25(.18)	0.78	.15	-.34(.19)	**0.71**$^{+}$	.07
Right-wing authoritarianism				-.02(.18)	0.98	.92	.05(.18)	1.05	.80
Speciesism							.54(.21)	**1.72***	.01
Nagelkerke R^2		0.05			0.06			0.10	
2 log-probability		287.33			284.97			277.62	
ΔNagelkerke R^2					0.01			0.04	

Note. $^{+}p< .10$. $^{*}p < .05$. $^{**}p <.01$. $^{***}p < .001$. *OR* = Odds Ratio. Charity A (Aids Animals) = 0, Charity B (Aids Humans) = 1. Significant *OR* values are in bold.

Figure 1

Frequency of Participants' Choices Between Charities that Aid Animals versus Humans, and Cows versus Dogs (Samples 1 & 2)



Note. The X-axis represents participants' choices between animal versus human charities for volunteering, and between cow versus dog charities for donations. The Y-axis displays frequency of these choices.

DISCUSSION

Although speciesism has been a part of the debate in moral philosophy for many years (Ryder, 2006; Singer, 1975), it has only recently received attention in the field of social psychology and intergroup relations research. As a result, the number of studies investigating human-animal relationships has been increasing in the Western context (Amiot & Bastian, 2015; Amiot et al., 2019; Caviola & Capraro, 2020; Caviola et al., 2022; Costello & Hodson, 2014; Dhont et al. 2019; McGuire et al., 2022; Salmen & Dhont, 2021, 2023). However, there is currently only one scale available to measure speciesism in Turkish (Altınal & Tekdemir, 2020), and studies examining this phenomenon are fewer in number (e.g., Yücel, Yıldırım, & Ceylan, 2024) compared to those in the Western context. While the Ambivalent Speciesism Scale developed by Altınal and Tekdemir (2020) is psychometrically appropriate, it consists of 15 items, and thus could be considered relatively long. The current study aimed to establish the reliability and validity of a shorter Speciesism Scale (Caviola et al., 2019) among samples from Turkey, providing the literature with another novel tool for speciesism research.

With this aim, we first calculated internal consistency coefficients across three samples (Sample-1: students, Sample-2: adults, Sample-3: vegans and vegetarians). Although the internal consistency coefficients in the current study were lower than those reported in the original study (Caviola et al., 2019), they were comparable to that reported by Altınal and Tekdemir (2020) for a Turkish sample. However, it is important to note that they calculated the reliability of the Speciesism Scale using all six items. Here, a more detailed inspection revealed that Item 5 of the scale (*"Chimpanzees should have basic legal rights such as the right to life and prohibition of torture"*) showed low average inter-item correlations across all three samples. While the scale generally referred to animals in general, Item 5 specifically focused on chimpanzees, which may have made it harder for participants to engage due to its distinct phrasing compared to the other items. Therefore, it seems that, at least in the Turkish sample, this item is not a reliable indicator of speciesism.

We demonstrated the construct validity of the Scale in three samples. Consistent with Caviola et al. (2019), our CFAs showed that a one-factor solution is also appropriate for Turkish samples. In the current study, speciesism was positively related to benevolent sexism (Sample-1). This positive relationship suggests that speciesism could be comparable to other forms of prejudice between human groups, aligning with the previous studies (Caviola et al., 2019; Salmen & Dhont, 2021, 2023) and the generalised prejudice approach (Allport, 1954). However, the positive relationship between speciesism and benevolent sexism was not replicated in Sample-2. Salmen and Dhont (2021) found that speciesism was more strongly associated with hostile sexism than with benevolent sexism. This discrepancy could be due to the fact that we only measured benevolent sexism. Nevertheless, our findings regarding sexism partially confirmed our prediction **(H1)**.

Contrary to our **H2** hypothesis, speciesism was negatively related to classical prejudice against refugees (Sample-1 and Sample-2). One possible explanation for this finding could be the influence of political views. Along with the past research (Caviola et al., 2019; Dhont & Hodson, 2014), we found a positive association between speciesism and right-wing political ideology (Sample-2). Globally, anti-refugee attitudes are often linked to having right-wing ideological tendencies (e.g., Anderson & Ferguson, 2018; Verkuyten et al., 2022). In contrast, research in Turkey indicates that individuals who identify with left-wing ideology tend to hold more negative attitudes towards refugees (Konda, 2018; Morgül, Savaşkan, & Mutlu, 2021). Thus,

the negative relationship between speciesism and prejudice against refugees may be a finding that is specific to Turkey.

Supporting **H3**, **H4**, and **H5**, we found positive associations between speciesism and socio-political beliefs (social dominance orientation, system justification, and right-wing authoritarianism) in both Sample-1 and Sample-2. These results are consistent with Caviola et al. (2019) and suggest higher levels of speciesism are associated with a greater acceptance of hierarchical structures between human groups and the systems that sustain these hierarchies. The current findings also posit that individuals with higher levels of speciesism are more inclined to uphold existing authority and traditional lifestyles. The scale's positive correlations with benevolent sexism **(H1)** and socio-political beliefs **(H3**, **H4**, and **H5)** demonstrate that Speciesism Scale is generally consistent within itself and provide evidence for its convergent validity.

Exploratory analyses revealed that social dominance orientation consistently predicted speciesism in both Sample-1 and Sample-2. This finding aligns with the original study of the scale (Caviola et al., 2019) and the SD-Harm framework explaining human-animal relations (Dhont et al., 2016). According to this framework, beliefs that legitimise hierarchies among human groups and sustain group-based superiority also reinforce hierarchies between humans and animals. Another socio-political belief that predicted speciesism in the current study was system justification (Sample 1), which reflects the belief that the status-quo creating hierarchies is fair. These findings highlight that individuals' beliefs about hierarchies may shape not only intergroup relations among humans but also the dynamics between humans and animals.

Additionally, we observed some differences in these exploratory analyses regarding other predictor variables. For example, in Sample 1, system justification positively predicted speciesism, but this relationship was not significant in Sample 2. These patterns may reflect an inconsistency in how system justification predicts speciesism. While general system justification has been associated with higher speciesism in some studies (Caviola et al., 2019), other research has found that this relationship is more pronounced for economic system justification rather than general system justification (Hoffarth et al., 2019). Among the covariates, higher scores on age and political views (indicating a lean toward right-wing political affiliation) positively predicted speciesism in Sample 2, but not in Sample 1. These

differences could be attributed to broader variability in age and political affiliation within Sample 2.

Finally, to demonstrate predictive validity, we tested whether speciesism predicts decision-making in the context of helping which was conceptualised as volunteering and donating intentions. In both Sample 1 and Sample 2, increasing levels of speciesism increased the likelihood of intentions to volunteer time for the charity that helped humans. This finding confirms our prediction **(H6)** and is consistent with the concept of anthropocentric speciesism which was shown to predict affording greater help for humans in comparison to animals (Caviola & Capraro, 2020; Caviola et al., 2019). Importantly, speciesism predicted this behavioural intention independently of the other variables. Thus, speciesism appears crucial in explaining people's preference for their in-groups and discriminatory or less helpful attitudes towards animals in the context of human-animal relations.

While speciesism consistently predicted the intentions to volunteer for a human charity across both samples, the other predictors showed different patterns between Sample 1 and Sample 2. In Sample 1, which consisted of younger university students, factors such as age, right-wing political affiliation, social dominance orientation, and right-wing orientation were also significant predictors of the intention to volunteer for a human charity over an animal charity. One possible explanation for these findings is that younger participants, particularly in a university setting, may be more influenced by individualistic and competitive values (Motivaction, 2018), which align with right-wing or social dominance perspectives (Altemeyer, 1998; Jost & Banaji, 1994). As a result, these factors can be more crucial in shaping their volunteering intentions. In Sample 2, which includes a more general population, only system justification, alongside speciesism, predicted the intentions to volunteer for a human charity. Although age and political views were related to speciesism in Sample 2, the pattern here suggests that participants in this sample may have different motivations for helping. Specifically, individuals from the broader population may not share the same competitive motivations as the university students in Sample 1. These differences in motivations and life perspectives could help explain the variations in other predictors of volunteering intentions.

In contrast to our prediction **(H7)** and previous findings (Caviola et al., 2019), speciesism did not predict participants' intentions to allocate money to the charity helping pets (i.e., rescued dogs, in both Samples 1 and 2). Pet speciesism refers to the tendency to favour domestic animals (e.g., cats and dogs) over farm animals (e.g.,

cows, sheep, and chickens). However, while participants reported significantly more affection for dogs compared to pigs, they only slightly evaluated dogs' moral status over that of pigs (Caviola & Capraro, 2020). Dhont and Hodson (2020) propose that love alone is not enough to protect or help animals. It is possible that our participants did not distinguish morally between rescued dogs and cows, appraising both as morally inferior. This could be one reason why speciesism did not differentially predict participants' choices between rescued dogs and cows. Also, to the best of our knowledge, there is only one shelter in Turkey that aids farm animals rescued from slaughterhouses (Aydın, 2024), which may have made it difficult for participants to endorse the charity helping rescued cows. It is also possible that omnivore participants in Samples 1 and 2 may have found the charity helping cows rescued from slaughterhouses as a less meaningful cause.

Limitations and Suggestions for Future Studies

The current study is not without limitations. While our sample sizes satisfy the 10:1 rule of thumb regarding the subject-to-item ratio (Nunnally, 1978), in the original paper of the Speciesism Scale, Caviola et al. (2019) recruited much larger samples. Therefore, future studies should aim for replicating the current findings with larger datasets. Other limitations of the present study include the unequal gender distribution, with a predominance of women, and the broad age range across samples. While gender imbalance may raise issues about generalizability of the findings, the broad age range may introduce variability that may influence the results. Although we controlled for both gender and age in our analyses, future research should aim for a more balanced gender distribution and examine narrower age ranges to further explore their potential impact on the findings. We only focused on two forms of prejudice (i.e., benevolent sexism and classical prejudice towards refugees) between human-human groups which reflects another limitation. Alternatively, future studies could investigate the relationship between the Speciesism Scale and prejudices such as homophobia, hostile sexism or cognitive variables that are known to be associated with speciesism such as empathy and attributing less mental capacity to animals (Altınal & Tekdemir, 2020; Caviola et al., 2019, 2022). Future studies could also benefit from assessing ethnicity-based prejudice in terms of a specific group (e.g., Kurds, Arabs, etc.) rather than a broad category of refugees when examining its association with speciesism. The current study focused on the psychometric properties of the Speciesism Scale. However, we did not investigate how participants evaluated different animal species in detail.

Drawing on the Stereotype-Content Model (Fiske, 2018), future studies should explore the moral evaluations of different animal species in relation to speciesism (see, Leite et al., 2019). Another limitation of the current study is that we only examined helping intentions in terms of volunteering and donation as for behavioural concomitants of speciesism. One recent correlational study, using the Speciesism Scale here, showed that speciesism among Turkish participants reduces collective action intentions for animals (Yücel, Yıldırım, & Ceylan, 2024). Future research should further investigate collective action on behalf of animals to better understand other behavioural concomitants of speciesism. Such investigations could especially benefit from experimental designs to increase solidarity between humans and animals.

Conclusion

To conclude, the current study demonstrates that the Speciesism Scale is a valid and reliable measurement tool for samples coming from Turkey. Recently, Turkish citizens have been involved in ongoing debates about a controversial amendment in Animal Protection Law which involves the procedure of euthanasia as a means of population control (Sayın, 2024). This amendment has sparked reactionary collective action calls for the rights and welfare of stray animals (Haytap Animal Rights Federation, 2024; Turkish Vegan Association, 2024). These conflicting issues highlight the need for further research on speciesism to better understand and explain the public agenda in Turkey. Given the frequency of contact with stray animals in everyday life, Turkey offers a unique context to investigate the relationships between humans and animals. We hope that the measure we introduced to the field will broaden the scope of intergroup studies from human-human groups to human-animal groups for Turkish researchers.

Summary

Speciesism, the belief in the superiority of humans over animals, has been a significant topic in moral philosophy for decades (Ryder, 2006; Singer, 1975). Recently, the field of social psychology and intergroup relations research has also begun exploring speciesism, leading to an increase in studies examining human-animal relationships (e.g., Amiot & Bastian, 2015; Caviola et al., 2022; Salmen & Dhont, 2021, 2023). Despite these advancements, speciesism remains underexplored in Turkey, with limited studies and only one available measurement scale (Altınal & Tekdemir, 2020). The current study aimed to fill this gap by adapting the Speciesism Scale (Caviola et al., 2019) for Turkish samples, providing a shorter and more practical tool for research on speciesism in Turkey.

We confirmed the reliability and construct validity of the scale in three different samples ($N_{Sample\text{-}1}$ = 256: students, aged 18 to 56, M = 21.58, SD = 5.31; $N_{Sample\text{-}2}$ = 239: adults, aged 18 to 70, M = 29.57, SD = 11.09; $N_{Sample\text{-}3}$ = 227: vegans and vegetarians, aged 18 to 73, M = 31.99, SD = 9.26). To note, initial reliability analyses revealed that Item 5 in the original scale did not effectively measure speciesism compared to the other items. As a result, we proceeded

with further analyses excluding this specific item. Across three samples, with the first two primarily consisting of omnivorous participants, the Speciesism Scale showed acceptable reliability coefficients, and the one-factor solution fitted the data well. To demonstrate the convergent validity of the scale, we tested whether speciesism would be positively correlated with benevolent sexism **(H1)** and prejudice against refugees **(H2)**, as well as socio-political beliefs such as social dominance orientation **(H3)**, system justification **(H4)**, and right-wing authoritarianism **(H5)**. We also considered whether speciesism can predict decision-making behaviours, particularly in contexts where individuals are asked to choose between helping humans or animals and between domestic or farm animals. Therefore, to show the predictive validity, we tested whether increase in the speciesism scores would predict volunteering for a charity that helps humans (vs. animals, **H6**) and donating money to a charity that aids rescued stray dogs (vs. cows, **H7**). We used Sample-1 and Sample-2 for these tests, as both included measurements of all the corresponding variables. Our findings were in line with previous studies (Caviola et al., 2019; Dhont & Hodson, 2014; Salmen & Dhont, 2021, 2023) and generally supported our predictions, with the exception of **H2** and **H7**, providing evidence for the convergent and predictive validity of the Speciesism Scale across samples from Turkey. As for our exploratory analyses, we found that social dominance orientation was a significant predictor of speciesism in both Sample-1 and Sample-2. Consistent with the SD-Harm Model (Dhont et al., 2016) this finding highlights that the attribution of inferiority to animals is underpinned by broader ideologies of hierarchy and power.

Overall, the current research aimed to adapt the Speciesism Scale (Caviola et al., 2019) into Turkish and test its psychometric properties. Our results showed that this scale was a reliable and valid measurement tool which can be used in the context of Turkey. Our research contributes to future intergroup relations studies in Turkey by providing a shorter alternative scale for assessing speciesism, which can be used to examine human-animal relations.

References

Abayhan, Y., Hürriyetoğlu, H., & Tuna, A. (2022). Mültecilere Yönelik Önyargı Ölçeğinin Türkçe formunun geçerlik ve güvenirlik çalışması. *Liberal Düşünce Dergisi*, *108*, 27-43. https://doi.org/10.36484/liberal.1209023

Akrami, N., Ekehammar, B., & Bergh, R. (2011). Generalized prejudice: Common and specific components. *Psychological Science*, *22*(1), 57-59. https://doi.org/10.1177/0956797610390384

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.

Altemeyer, B. (1998). The other "authoritarian personality." In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 30, pp. 47-92). Elsevier. https://doi.org/10.1016/S0065-2601(08)60382-2

Altınal, B. E., & Tekdemir, G. (2020). Çelişik Türcülük Ölçeği: Ölçek geliştirme, geçerlik ve güvenirlik çalışması. *Nesne Dergisi*, *8*(18), 492-506. https://doi.org/10.7816/nesne-08-18-09

Amiot, C. E., & Bastian, B. (2015). Toward a psychology of human-animal relations. *Psychological Bulletin*, *141*(1), 6-47. https://doi.org/10.1037/a0038147

Amiot, C. E., Lépine, O., & Zaky, J. (2019). Compartmentalization of animals: Toward an understanding of how we create cognitive distinctions between animals and their implications. *Analyses of Social Issues and Public Policy*, *19*(1), 150-176. https://doi.org/10.1111/asap.12177

Anderson, J. R. (2018). The prejudice against asylum seekers scale: Presenting the psychometric properties of a new measure of classical and conditional attitudes. *The Journal of Social Psychology*, *158*(6), 694-710. https://doi.org/10.1080/00224545.2017.1404958

Anderson, J., & Ferguson, R. (2018). Demographic and ideological correlates of negative attitudes towards asylum seekers: A meta-analytic review. *Australian Journal of Psychology*, *70*(1), 18-29. https://doi.org/10.1111/ajpy.12162

Aydın, B. (2024, February 2). Angels Farm Sanctuary: Kurtarılmış hayvanlar çiftliği. *theMagger*. https://www.themagger.com/angels-farm-sanctuary-nedir/

Bäckström, M., & Björklund, F. (2007). Structural modeling of generalized prejudice: The role of social dominance, authoritarianism, and empathy. *Journal of Individual Differences*, *28*(1), 10-17. https://doi.org/10.1027/1614-0001.28.1.10

Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, *40*, 8-34. https://doi.org/10.1007/s11747-011-0278-x

Bastian, B., & Loughnan, S. (2016). Resolving the meat-paradox: A motivational account of morally troublesome behavior and its maintenance. *Personality and Social Psychology Review*, *21*(3), 278-299. https://doi.org/10.1177/1088868316647562

Bergh, R., Akrami, N., & Ekehammar, B. (2012). The personality underpinnings of explicit and implicit generalized prejudice. *Social Psychological and Personality Science*, *3*(5), 614-621. https://doi.org/10.1177/1948550611432937

Brown, R. (2011). *Prejudice: Its social psychology*. John Wiley & Sons.

Brown, T. (2015). *Confirmatory factor analysis for applied research, second edition.* Guilford Press.

Caviola, L., & Capraro, V. (2020). Liking but devaluing animals: Emotional and deliberative paths to speciesism. *Social Psychological and Personality Science*, *11*(8), 1080-1088. https://doi.org/10.1177/1948550619893959

Caviola, L., Everett, J. A. C., & Faber, N. S. (2019). The moral standing of animals: Towards a psychology of speciesism. *Journal of Personality and Social Psychology*, *116*(6), 1011-1029. https://doi.org/10.1037/pspp0000182

Caviola, L., Schubert, S., Kahane, G., & Faber, N. S. (2022). Humans first: Why people value animals less than humans. *Cognition*, *225*, 105139. https://doi.org/10.1016/j.cognition.2022.105139

Clark, L. A., & Watson, D. (1995). *Constructing validity: Basic issues in objective scale development. Psychological Assessment, 7*(3), 309-319. https://doi.org/10.1037/1040-3590.7.3.309

Costello, K., & Hodson, G. (2010). Exploring the roots of dehumanization: The role of animal—human similarity in promoting immigrant humanization. *Group Processes & Intergroup Relations, 13*(1), 3-22. https://doi.org/10.1177/1368430209347725

Costello, K., & Hodson, G. (2014). Explaining dehumanization among children: The interspecies model of prejudice. British Journal of Psychology, *53*(1), 175-197. https://doi.org/10.1111/bjso.12016

Dhont, K., & Hodson, G. (2014). Why do right-wing adherents engage in more animal exploitation and meat consumption? *Personality and Individual Differences*, *64*, 12-17. https://doi.org/10.1016/j.paid.2014.02.002

Dhont, K., & Hodson, G. (2020). Loving and exploiting animals. In K. Dhont & G. Hodson (Eds.), *Why we love and exploit animals* (pp. 1-9). Routledge.

Dhont, K., Hodson, G., & Leite, A. C. (2016). Common ideological roots of speciesism and generalized ethnic prejudice: The social dominance human-animal relations model (SD-HARM). *European Journal of Personality*, *30*(6), 507-522. https://doi.org/10.1002/per.2069

Dhont, K., Hodson, G., Costello, K., & MacInnis, C. C. (2014). Social dominance orientation connects prejudicial human-human and human-animal relations. *Personality and Individual Differences*, *61*, 105-108. https://doi.org/10.1016/j.paid.2013.12.020

Dhont, K., Hodson, G., Leite, A. C., & Salmen, A. (2020). The psychology of speciesism. In K. Dhont & G. Hodson (Eds.), *Why we love and exploit animals* (pp. 29-49). Routledge.

Dhont, K., Hodson, G., Loughnan, S., & Amiot, C. E. (2019). Rethinking human-animal relations: The critical role of social psychology. *Group Processes & Intergroup Relations*, *22*(6), 769-784. https://doi.org/10.1177/1368430219864455

Dovidio, J. F., Hewstone, M., Glick, P., & Esses, V. M. (2010). Prejudice, stereotyping and discrimination: Theoretical and empirical review. In In J. F. Dovidio, M. Hewstone, P. Glick, & V.M. Esses (Eds.), *the SAGE Handbook of Prejudice, stereotyping and discrimination The SAGE Handbook of Prejudice, Stereotyping and Discrimination* (pp. 3-28). Sage.

Duckitt, J., & Sibley, C. G. (2007). Right wing authoritarianism, social dominance orientation and the dimensions of generalized prejudice. *European Journal of Personality: Published for the European Association of Personality Psychology*, *21*(2), 113-130. https://doi.org/10.1002/per.614

Ekehammar, B., & Akrami, N. (2003). The relation between personality and prejudice: a variable-and a person-centred approach. *European Journal of Personality*, *17*(6), 449-464. https://doi.org/10.1002/per.494

Fiske, S. T. (2018). Stereotype content: warmth and competence endure. *Current Directions in Psychological Science*, *27*(2), 67-73. https://doi.org/10.1177/0963721417738825

Glick, P., & Fiske, S. T. (1996). The Ambivalent Sexism Inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology, 70*(3), 491-512. https://doi.org/10.1037/0022-3514.70.3.491

Güldü, Ö. (2011). Sağ Kanat Yetkeciliği Ölçeği: Uyarlama çalışması. *Ankara Üniversitesi Sosyal Bilimler Dergisi, 2*(2), 27-51. https://doi.org/10.1501/sbeder_0000000033

Haytap Animal Rights Federation [@haytap]. (2024, June 1). *Beni uyutacaklar, öldürecekler, hapishanelere tıkacaklar ama üretmeye devam edecekler! Sen uyuma! Mitinge davet* [Photograph]. Instagram. https://www.instagram.com/p/C7rHoqvqwHV/

Hodson, G., & Dhont, K. (2015). The person-based nature of prejudice: Individual difference predictors of intergroup negativity. *European Review of Social Psychology, 26*(1), 1-42. https://doi.org/10.1080/10463283.2015.1070018

Hodson, G., McInnis, C. C., & Busseri, M. A. (2017). Bowing and kicking: Rediscovering the fundamental link between generalized authoritarianism and generalized prejudice. *Personality and Individual Differences*, *104*, 243-251. https://doi.org/10.1016/j.paid.2016.08.018

Hoffart, M. R., Azevedo, F., & Jost, J. T. (2019). Political conservatism and the exploitation of nonhuman animals: An application of system justification theory. *Group Processes & Intergroup Relations*, *22*(6), 858-878. https://doi.org/10.1177/1368430219843183

Hopwood, C. J., Olaru, G., Nissen, A. T., Graça, J., Dillard, C., Thompkins, A. M., & Waldhorn, D. R. (2025). A cross-cultural examination of individual differences in human attitudes about animals. *Personality Science*, *6*. https://doi.org/10.1177/27000710251321367

Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Jost, J. T. (2019). A quarter century of system justification theory: Questions, answers, criticisms, and societal applications. *British Journal of Social Psychology*, *58*(2), 263-314. https://doi.org/10.1111/bjso.12297

Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *British Journal of Social Psychology*, *33*(1), 1-27. https://doi.org/10.1111/j.2044-8309.1994.tb01008.x

Jost, J. T., & Hunyady, O. (2005). Antecedents and consequences of system-justifying ideologies. *Current Directions in Psychological Science*, *14*(5), 260-265. https://doi.org/10.1111/j.0963-7214.2005.00377.x

Karaçanta, H. (2002). Üniversite öğrencilerinin sosyal baskınlık yönelimi ve başka bazı değişkenler açısından karşılaştırılması. [Doctoral Dissertation, Ankara Üniversitesi]. https://tez.yok.gov.tr/UlusalTezMerkezi/tezDetay.jsp?id=z3FOHBLqhQ8qaVDXJvk-ww&no=yxhgAwDx4CieRdRh_XGgWA

Kay, A. C., & Jost, J. T. (2003). Complementary justice: effects of" poor but happy" and" poor but honest" stereotype exemplars on system justification and implicit activation of the justice motive. *Journal of Personality and Social Psychology*, *85*(5), 823-837. https://doi.org/10.1037/0022-3514.85.5.823

Konda, (2018). *Seçmen kümeleri: CHP seçmenleri*. [Rapor]. https://konda.com.tr/rapor/42/secmen-kumeleri-chp-secmenleri

Leite, A. C., Dhont, K., & Hodson, G. (2019). Longitudinal effects of human supremacy beliefs and vegetarianism threat on moral exclusion (vs. inclusion) of animals. *European Journal of Social Psychology*, *49*(1), 179-189. https://doi.org/https://doi.org/10.1002/ejsp.2497

Marsh, H. W., Hau, K.-T., & Wen, Z. (2004). In search of golden rules: Comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling: A Multidisciplinary Journal*, *11*(3), 320-341. https://doi.org/10.1207/s15328007sem1103_2

McFarland, S. (2010). Authoritarianism, social dominance, and other roots of generalized prejudice. *Political Psychology, 31*(3), 453-477. https://doi.org/10.1111/j.1467-9221.2010.00765.x

McGuire, L., Palmer, S. B., & Faber, N. S. (2022). The development of speciesism: Age-related differences in the moral view of animals. *Social Psychological and Personality Science*, *14*(2), 228-237. https://doi.org/10.1177/19485506221086182

Monteiro, B. M. A., Pfeiler, T. M., Patterson, M. D., & Milburn, M. A. (2017). The Carnism Inventory: Measuring the ideology of eating animals. *Appetite*, *113*, 51-62. https://doi.org/10.1016/j.appet.2017.02.011

Morgül, K., Savaşkan, O., & Mutlu, B. (2021). *İstanbul'da Suriyeli mültecilere yönelik algı ve tutumlar: Partizanlık, yabancı karşıtlığı, tehdit algıları ve sosyal temas*. [Rapor]. Türkiye Sosyal Araştırmalar Vakfı. https://tr.boell.org/sites/default/files/2021-06/Istanbulda%20Suriyeliler%20Raporu%20BASIM.pdf

Motivaction. (2018). *The disruptive mindset of millennials around the globe* (Flash Report 4). Motivaction. https://www.motivaction.nl/downloads/Glocalities_-_Flash_Report_4_The_disruptive_mindset_of_millennials_around_the_globe.pdf

Muthén, L. K., & Muthén, B. O. (1998-2017). *MPLUS user's guide. Eight Edition.* Los Angeles, CA: Muthén & Muthén.

Nunnally, J. C. (1978). *Psychometric theory*. McGraw-Hill.

Pettigrew, T. F., & Meertens, R. W. (1995). Subtle and blatant prejudice in Western Europe. *European Journal of Social Psychology*, *25*(1), 57-75. https://doi.org/10.1002/ejsp.2420250106

Plous, S. (1996). Attitudes toward the use of animals in psychological research and education: Results from a national survey of psychologists. *American Psychologist*, *51*(11), 1167-1180. https://doi.org/10.1037/0003-066X.51.11.1167

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, *67*(4), 741-763. https://doi.org/10.1037/0022-3514.67.4.741

Randler, C., Adan, A., Antofie, M. M., Arrona-Palacios, A., Candido, M., Boeve-de Pauw, J., ... & Vollmer, C. (2021). Animal welfare attitudes: Effects of gender and diet in university samples from 22 countries. *Animals*, *11*(7), 1893. https://doi.org/10.3390/ani11071893

Robbins, J., Parsons, R., Johnson, A., Jorgensen, M., Danielson, J., & Millman, S. (2019). 321 Socio-demographic factors associated with attitudes towards animals among first-year veterinary students. *Journal of Animal Science*, *97*(Supplement_3), 5-6. https://doi.org/10.7120/09627286.28.1.033

Ryder, R. D. (2004). Speciesism revisited. *Think*, *2*(6), 83-92. https://doi.org/10.1017/S1477175600002840

Ryder, R. D. (2006). *Speciesism in the laboratory.* In P. Singer (Ed.), *In Defense of animals: The second wave* (pp. 87-103). Blackwell.

Sakallı-Uğurlu, N. (2002). Ambivalent sexism inventory: A study of reliability and validity. *Turk Psikoloji Dergisi*, *17*, 47-61.

Salmen, A., & Dhont, K. (2021). Hostile and benevolent sexism: The differential roles of human supremacy beliefs, women's connection to nature, and the dehumanization of women. *Group Processes & Intergroup Relations, 24*(7), 1053-1076. https://doi.org/10.1177/1368430220920713

Salmen, A., & Dhont, K. (2023). Animalizing women and feminizing (vegan) men: The psychological intersections of sexism, speciesism, meat, and masculinity. *Social and Personality Psychology Compass*, *17*(2), e12717. https://doi.org/https://doi.org/10.1111/spc3.12717

Sayın, A. (2024, July 10). Sokak köpekleri teklifi Meclis'e geliyor. *BBC News Türkçe*. https://www.bbc.com/turkce/articles/cx92e4yj9n4o

Singer, P. (1975). *Animal liberation*. HarperCollins.

Steiger, J. H. (2007). Understanding the limitations of global fit assessment in structural equation modeling. *Personality and Individual Differences*, *42*(5), 893-898. https://doi.org/10.1016/J.PAID.2006.09.017

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53-55. http://dx.doi.org/10.5116/ijme.4dfb.8dfd

Taylor, N., & Signal, T. (2006). Attitudes to animals: Demographics within a community sample. *Society & animals*, *14*(2), 147-157. https://doi.org/10.1163/156853006776778743

Turkish Vegan Association [@tvd.org.tr]. (2024, May 28). *"Toplayamazsın, hapsedemezsin, öldüremezsin" demek için 2 Haziran Pazar günü, Türkiye'nin farklı illerinden katılımcılarla gerçekleşecek olan büyük ölçekli Adalet Mitinginde olacağız* [Photograph]. https://www.instagram.com/p/C7gnfcoIZE-/

Verkuyten, M., Kollar, R., Gale, J., & Yogeeswaran, K. (2022). Right-wing political orientation, national identification and the acceptance of immigrants and minorities. *Personality and Individual Differences*, *184*, Article: 111217. https://doi.org/10.1016/J.PAID.2021.111217

Yıldırım, N. (2010). *Sivil toplum kuruluşu gönüllülerinin adil dünya inançları, sosyal baskınlık yönelimleri ve sistemi meşru algılama düzeyleri*. [Master's Dissertation, Mersin Üniversitesi].

Yücel, E., Yıldırım, H. H., & Ceylan, M. Ş. (2024). Türcülük ve hayvan hakları için kolektif eylem yönelimi arasındaki ilişkide hayvanlarla empatinin rolünün sorgulanması. *International Journal of Social Inquiry*, *17*(1), 119-140. https://doi.org/10.37093/ijsi.1372866

Wagner, U., Christ, O., & Heitmeyer, W. (2010). Anti-immigration bias. In J. F. Dovidio, M. Hewstone, P. Glick, & V.M. Esses (Eds.), *the SAGE Handbook of Prejudice, stereotyping and discrimination* (pp. 361–376). Sage.

Zick, A., Pettigrew, T. F., & Wagner, U. (2008). Ethnic prejudice and discrimination in Europe. *Journal of Social Issues, 64*(2), 233-251. https://doi.org/10.1111/j.1540-4560.2008.00559.x

Appendices

Appendix 1:

Türcülük Ölçeği Maddeleri:

1. Ahlaki açıdan hayvanlar insanlardan daha değersizdir.
2. İnsanlar, hayvanları istedikleri gibi kullanma hakkına sahiptir.
3. Hayvanların, insanlar tarafından eğlence için sirklerde tutulması ahlaki açıdan kabul edilebilir.
4. Hayvanların bir mülk gibi ticaretinin yapılması ahlaki açıdan kabul edilebilir.
5. Şempanzeler, yaşam hakkı ve işkence yasağı gibi temel yasal haklara sahip olmalıdır.*
6. İnsanlar üstünde uygulamayacağımız tıbbi deneylerin hayvanlar üzerinde uygulanması ahlaki açıdan kabul edilebilir.

*Not: Bu madde ters kodlanmaktadır. Fakat yapılan geçerlik ve güvenirlik analizleri temel alındığında bu maddenin, ölçeğin geri kalan kısmına dahil edilmemesi daha uygun görünmektedir.

Appendix 2:

Dernek senaryoları (Blok 1):

- Bu dernek, hayvanlara yardım etmektedir. Haftada bir gün, 2 saatinizi bu dernekte gönüllülük yaparak geçirmek ortalama 100 hayvanın beslenmesine yardımcı olacaktır (Dernek A).
- Bu dernek, insanlara yardım etmektedir. Haftada bir gün, 2 saatinizi bu dernekte gönüllülük yaparak geçirmek ortalama 100 insanın beslenmesine yardımcı olacaktır (Dernek B).

Yukarıda bahsedilen derneklerden hangisi için gönüllü olmayı tercih ederdiniz?

A) Dernek A

B) Dernek B

Dernek senaryoları (Blok 2):

- Bu dernek, mezbahadan kurtarılan ineklere yardım etmektedir. 100TL bağışlamak ortalama 5 ineğin beslenmesine yardımcı olacaktır (Dernek A).
- Bu dernek, sokaktan kurtarılan köpeklere yardım etmektedir. 100TL bağışlamak ortalama 5 köpeğin beslenmesine yardımcı olacaktır (Dernek B).

Yukarıda bahsedilen derneklerden hangisi için para bağışı yapmayı tercih ederdiniz?

A) Dernek A

B) Dernek

Appendix 3.

Table A7.

Speciesism in Predicting Donation Intentions Between the Charities Aiding Cows versus Dogs (Presented in Blok 2)

	Step 1			Step 2			Step 3		
	B(SE)	***OR***	***p***	***B(SE)***	***OR***	***p***	***B(SE)***	***OR***	***p***
Sample-1									
Age	.02(.03)	1.00	.95	-.00(.03)	0.99	.89	-.01(.03)	0.99	.83
Gender	.40(.30)	1.49	.19	-.02(.35)	0.98	.95	-.19(.36)	0.83	.60
Socio-economic level	-.03(.17)	0.97	.85	-.03(.17)	0.97	.85	-.05(.18)	0.95	.77
Political view	.25(.11)	**1.28***	.03	.33(.13)	**1.39****	.008	.32(.13)	**1.38***	.01
Social dominance orientation				-.21(.15)	0.81	.17	-.16(.16)	0.85	.31
System justification				-.05(.18)	0.95	.78	.00(.18)	1.00	.99
Right-wing authoritarianism				-.39(.19)	**0.68***	.04	-.39(.20)	**0.68+**	.05
Speciesism							-.25(.17)	0.78	.14
Nagelkerke R^2		0.04			0.08		0.10		
2 log-probability		286.40			277.83		275.60		
ΔNagelkerke R^2					0.04		0.02		
Sample-2									
Age	.00(.02)	1.00	.99	-.00(.02)	0.99	.97	-.00(.02)	0.99	.91
Gender	.00(.33)	1.00	.99	.03(.34)	1.03	.93	.06(.35)	1.07	.86
Socio-economic level	.03(.17)	1.03	.89	.02(.18)	1.02	.90	.03(.18)	1.03	.88
Political view	.14(.13)	1.51	.27	.09(.15)	1.09	.54	.08(.15)	1.09	.57
Education	-.23(.19)	0.80	.23	-.20(.20)	0.82	.31	-.21(.20)	0.81	.29
Social dominance orientation				-.08(.18)	0.92	.64	-.10(.18)	0.91	.59
System justification				.02(.19)	1.02	.94	.01(.19)	1.00	.97
Right-wing authoritarianism				.15(.19)	1.17	.42	.16(.19)	1.17	.40
Speciesism							.06(.18)	1.06	.74
Nagelkerke R^2		0.02			0.02			0.03	
2 log-probability		262.50			261.72			261.61	
ΔNagelkerke R^2					0.00			0.01	

Note. $^{+}p < .10$. $^{*}p < .05$. $^{**}p < .01$. *OR* = Odds Ratio. Charity A (Aids Cows) = 0, Charity B (Aids Dogs) = 1. Significant *OR* values are in bold.