

Humankind's Best Friend vs. Humankind's Best Food: Perceptions of Identifiable Dog vs. Pig Victims

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Current animal victimology and speciesism research has predominantly focussed on anthropocentric speciesism (prejudice favouring humans over animals) and neglects pet speciesism (prejudice favouring pets over non-pets). Moreover, research rarely explores whether identifiability of *animal* victims affects perceptions of them in line with the identifiable (*human*) victim effect. Drawing on speciesism and dehumanization theories, the current experiment addressed these gaps in the literature by comparing 160 adult participants' perceptions of a dog vs. pig victim of kidnapping. As predicted, a MANOVA confirmed that people feel more empathy for, and are more willing to help, dogs (vs. pigs). Conversely, people expressed greater victim derogation towards pigs (vs. dogs). Participants also displayed more second-hand forgiveness for perpetrators of crime against pig (vs. dog) victims. However, species had no effect on victim blaming and identifiability of the animal victim had no effect on perceptions of the animal, and there were no significant species x identifiability interactions. The current experiment uniquely extends our human-based knowledge to perceptions of dog vs. pig victims and further evidences the existence of pet speciesism. It also highlights that the identifiable (*human*) victim effect may not apply to animal victims, thus distinguishing animal victimology as a distinct area of investigation. Theoretical implications for animal victimology and pet speciesism literature, and practical implications for policy and public perceptions of animal victims, are discussed.

Keywords: pet speciesism, anthropocentric speciesism, dog, pig, identifiable victim effect

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Animal victims are commonplace. Legally, animals are slaughtered and/or harmed in animal product manufacturing, animal research and pest control. Over 70 billion land animals are slaughtered annually for food (Sanders, 2018). Animals are stolen from owners, are victims of hoarding and subject to animal cruelty, among other crimes. There were over 90,000 animal cruelty complaints in 2019 alone (RSPCA, 2019). Worryingly, dog victims of kidnapping increased by 170% during Covid-19 as demand for ‘pandemic puppies’ increased (charity DogLost, as cited in Thomas, 2021).

Despite these statistics, victimology research has predominantly focussed on human victims and neglected *animal* victims (Flynn & Hall, 2017; Vollum et al., 2004). Yet, like perceptions of humans (Cuddy et al., 2007), perceptions of animals inform behaviours towards them (Sevillano & Fiske, 2016a) in ways relevant to animal victimology. For instance, people are more willing to actively help, and less willing to actively harm, animals they view as warm (e.g., having positive intent) and competent (e.g., able to enact intent; Sevillano & Fiske, 2016a). Thus, people may act less favourably towards animal victims they view negatively (vs. positively), with potentially severe behavioural consequences such as actively harming and/or ignoring harm towards certain animal victims. Indeed, these consequences are already observed in real-world events including meat consumption, pest control and animal research.

Perceptions of animals are likely informed by at least two factors: the animal’s *species* and *identifiability* (e.g., the animal’s recognisability as an individual). Firstly, the effect of *species* on perceptions of animals is known as ‘speciesism’: negative perceptions of animals, and positive perceptions of others, due to their species classification alone (Singer, 1995). Speciesism takes at least two forms: ‘anthropocentric speciesism’ (prejudice against animals and in favour of humans) and ‘pet speciesism’ (prejudice favouring pets over non-pets, such as favouring dogs over pigs; Caviola & Capraro, 2020). However, both victimology (e.g., Daly et al., 2014; Dukes, 2007; Filippi et al., 2010; Levin et al., 2017) and non-victimology (e.g., Bastian et al., 2012; Dhont et al., 2016) research has predominantly focussed on *anthropocentric* instead of pet speciesism, even though pet and anthropocentric speciesism are distinct (see Gradidge & Zawisza, 2021). For instance, to the authors’ best knowledge, victimology research has only compared perceptions of human to animal victims (e.g., Levin et al., 2017) without considering species-related nuance, thus assuming homogeneity across animal species. Similarly, general speciesism research has rarely explored dog vs. pig pet speciesism (the focus of the current paper): Whilst some studies have explored perceptions of different categories of animals (e.g., Krings et al., 2021; Possidónio et al., 2019; Sevillano & Fiske, 2016a, 2016b), to the authors’ knowledge, only three papers have empirically compared perceptions of dogs vs. pigs specifically (Bilewicz et al., 2011; Caviola & Capraro, 2020; Leite et al., 2019). These studies explored dog vs. pig speciesism only in emotional attribution, liking and obligation to feel moral concern, without considering behavioural intentions or perceptions of animal victims and perpetrators. Exploring dog vs. pig pet speciesism across different variables and with animal victims would thus help further distinguish pet speciesism as independent from anthropocentric speciesism and introduce nuance into our perceptions of different species of animal victims.

For the current study, we aim to compare perceptions of dogs and pigs specifically as these animals share multiple ostensible similarities. For example, they have similar levels of intelligence, emotionality, sociability, appearance and behaviour, yet, despite these similarities, people typically view these animals differently. For instance, people within Western societies typically value dogs as family members: 25% of UK households have a dog (Statista, 2020) and dogs are often deemed ‘psychological kin’ (Topolski et al., 2013). In fact, there are approximately 12.5 million pet dogs within the UK (PFMA, 2021). Conversely, whilst exact statistics on pig pet ownership are non-existent due to pigs’ legal inability to be classified as pets (DEFRA, 2010), small holdings of pigs (those constituting 1-25 pigs, including pet pigs and small farms) total approximately 28,000 within the UK (APHA, 2019). Thus, there is only a *maximum* of 28,000 pet pigs within the UK, unlike millions of pet dogs. Additionally, pigs are typically deemed ‘food’.

For instance, 964,000 pigs were slaughtered in the UK for meat in July 2020 alone (DEFRA, 2020). In contrast, dog meat consumption is illegal. Due to these factors, dogs are typically deemed more familiar and similar to us than pigs and are viewed as ‘pets’, whilst pigs are deemed as ‘profit’ animals (Gradidge et al., under review).

Due to these different standpoints within society (dogs as ‘pets’ and pigs as ‘profit’ animals; dogs as more familiar and similar to us than pigs), theoretical and empirical literature review suggests pet speciesism is likely to occur across the following key perceptual dimensions: empathy, willingness to help, victim derogation (negatively reinterpreting a victim’s character to overcome perceived situational threat to justice, whereby situational threat arises from injustice against the victim; Bal & van den Bos, 2010), victim blaming (attributing responsibility to a victim for causing the crime against them; Sleath & Bull, 2010) and second-hand forgiveness for the perpetrator (forgiving the perpetrator of a crime against someone else; Brown et al., 2008). For instance, people empathise more with ‘pets’ than ‘pests’ or ‘profit’ animals (Signal et al., 2018), are more willing to help (Dunn, 2000) or support conservation efforts (Batt, 2009; Metrick & Weitzman, 1996; Skibins et al., 2013, 2017) for species deemed more similar or relatable to humans, blame (Feldman et al., 1998) and derogate (Aguiar et al., 2008) victims less when there is greater perceived similarity between the victim and observer, and demonstrate less second-hand forgiveness when they identify more (vs. less) strongly with a harmed group (Brown et al., 2008). Extending upon previous literature (Bilewicz et al., 2011; Caviola & Capraro, 2020; Leite et al., 2019), these variables also capture various positive and negative psychological dimensions, including: affective components (empathy), behavioural intentions (willingness to help), perceptions of victims (victim derogation, victim blaming) and perceptions of the perpetrator (second-hand forgiveness).

Building upon the above previous literature, we hypothesise that, due to dogs being classified as ‘pets’ and more similar and familiar to us than pigs (Gradidge et al., under review), people will: empathise more with dog (vs. pig) victims (**H1a**), be more willing to help dog (vs. pig) victims (**H1b**), derogate (**H1c**) and blame (**H1d**) pig victims more than dog victims, and show less second-hand forgiveness of perpetrators of crimes against dog (vs. pig) victims (**H1e**).

The above perceptions may also vary depending on an animal victim’s *identifiability*. These positive effects of identifiability are termed the ‘identifiable victim effect’ (IVE; Schelling, 1968), whereby people view and respond to individual, identifiable victims more positively than several, non-identifiable victims (Kogut & Ritov, 2005). Explanations for the IVE consist of at least one of two distinct components: 1) the existence of one individual victim (vs. several victims), and 2) identifiability (vs. non-identifiability) of a victim/s.

We focus within this paper only on the identifiability (vs. non-identifiability) of a *single* victim (e.g., the second component above), and not on contrasting single vs. multiple victims (e.g., the first component above). This focus on identifiability is for two reasons. Firstly, a recent meta-analysis indicates victim identifiability increases helping *only* when there is one victim (termed the ‘singularity effect’; Kogut & Ritov, 2005) vs. a group of victims (Lee & Feeley, 2016). Secondly, very little research has explored identifiability of animals (e.g., Butterfield et al., 2012; Kunst & Hohle, 2016). Therefore, focussing on identifiability only allows the role of ‘minimal humanity cues’ (Vaes et al., 2016) on perceptions of animals to be tested, whereby ‘minimal humanity cues’ refers to the smallest units of language which confer personhood (e.g., names and ‘he’/‘she’ pronouns vs. no names and ‘it’ pronoun).

Previous research indicates the IVE applies to our chosen perceptual dimensions. For instance, seeing a photograph of a live animal (vs. meat), or using linguistically-based identifying variables (e.g., describing an animal as a ‘cow’ instead of ‘beef’), increases empathy (Kunst & Hohle, 2016), people are more willing to help dogs described in anthropomorphic (vs. non-anthropomorphic) terms (Butterfield et al., 2012), homogenous (less identifiable) groups of human victims are derogated more than heterogenous (more identifiable) groups (Deska, 2018), victim

blaming is greater when a victim's name and gender are not stated (vs. stated; Anastasio & Costa, 2004), and people propose harsher punishments for perpetrators of crimes against identifiable (vs. non-identifiable) human victims (Gino et al., 2010). Expanding upon this research, we therefore hypothesise that people will: empathise more with identifiable (vs. non-identifiable) animal victims (**H2a**), be more willing to help identifiable (vs. non-identifiable) victims (**H2b**), derogate (**H2c**) and blame (**H2d**) identifiable (vs. non-identifiable) victims less, and, as perpetrator punishment and second-hand forgiveness rely on the same underlying psychological mechanisms (e.g., anger; Brown et al., 2008), demonstrate less second-hand forgiveness for perpetrators of crime against identifiable (vs. non-identifiable) animal victims (**H2e**).

As previous research indicates anthropomorphised (e.g., identifiable) dogs elicit greater willingness to help than non-anthropomorphised (e.g., non-identifiable) dogs (Butterfield et al., 2012), we also predict statistically significant interactions between species and identifiability. Specifically, when the dog victim is identifiable, this animal should be viewed with greater empathy (**H3a**) and willingness to help (**H3b**), and lower victim derogation (**H3c**) and victim blaming (**H3d**) than when the dog victim is non-identifiable. Additionally, perpetrators of crime against the identifiable (vs. non-identifiable) dog victim should elicit lower second-hand forgiveness (**H3e**).

Overall, the current research aims to uniquely test if pet speciesism and the IVE apply to animal victims across a range of psychological dimensions and thus develop both animal victimology and pet speciesism literature. To achieve these aims and test our above hypotheses, we investigated effects of species (dog vs. pig) and identifiability (name/'she' vs. no name/'it') on perceptions of animal kidnapping victims, asking: How do species and identifiability of animal victims affect psychological perceptions of them?

Method

Participants

A volunteer sample of 220 participants was recruited through SONA, social media, flyers, Anglia Ruskin University's online news board and word-of-mouth. However, 54 responses were eliminated due to being partial responses and six were eliminated due to failed intervention checks. These exclusions left 160 participants for statistical analysis (all 18+; female = $n=122$ or 76.25%; $M_{\text{age}}=27.16$, $SD_{\text{age}}=11.08$). This sample size was sufficient to detect medium effect sizes per an a priori G*Power power analysis as it exceeded the minimum required sample size of 128 (effect size $f = .25$; α error rate of 0.05; power of .8). No participants withdrew their data. Undergraduate psychology students received 0.5 research participation credits, with no other reimbursement. Vegetarians and vegans (collectively known as veg*ns) could participate only if they were veg*n for non-ethical reasons (e.g., health, religion). Ethical veg*ns were prohibited from participating as they view animals differently to non-veg*ns (Lund et al., 2016). The overall sample consisted of 97.5% non-veg*ns and 2.5% non-ethical veg*ns. Gender was approximately balanced across all four conditions (8-11 males per condition).

Design

The experiment follows a 2 (*species*: dog vs. pig) x 2 (*identifiability*: identifiable vs. non-identifiable) between-subjects design, with empathy, victim derogation, victim blaming, second-hand forgiveness of the perpetrator and willingness to help as the dependent variables (DV's). This experiment received ethical approval from the lead authors' institutional review board.

Materials

Vignettes

Short fictional vignettes (see appendix) describing a kidnapped animal were designed to resemble real-life newspaper excerpts regarding a missing animal. Vignettes differed across conditions in terms of the animal victim's species (dog vs. pig) and identifiability (Bella and 'she' vs. no name and 'it'). Vignettes were tested in a pilot study ($N=102$; female: $n=78$ or 76.47%;

$M_{age}=27.9$, $SD_{age}=12.16$). As expected, vignettes where the animal was not found and perpetrator not caught elicited significantly greater perceived injustice ($M=18.25$, $SD=4.12$) compared to vignettes where the animal was found and the perpetrator caught ($M=15.33$, $SD=4.17$), $t(100) = -3.55$, 95%CI [-4.55, -1.29], $p = .001$, partial $\eta^2 = .11$ (large-sized), showing people feel greater injustice when the perpetrator is not caught (Hafer, 2000). Note that small, medium and large effect sizes are defined throughout this paper as approximately partial $\eta^2 = .01$ (small), partial $\eta^2 = .06$ (medium) and partial $\eta^2 = .14$ (large; Richardson, 2011). As vignettes where the animal is not found (vs. found) and perpetrator not caught (vs. caught) are likely to elicit stronger reactions in response to victimhood, only these vignettes were used in the main experiment.

Intervention Checks

Two questions constituted post-vignette intervention checks: ‘*What type of animal was kidnapped?*’ (potential answers: ‘dog’, ‘pig’, ‘rabbit’, ‘*I can’t remember*’) and ‘*What was the name of the animal that was kidnapped?*’ (potential answers: ‘Kevin’, ‘Bella’, ‘Rosie’, ‘no name’, ‘*I can’t remember*’). Overall, six participants were eliminated due to failed intervention checks.

Victim Derogation

Victim derogation was measured using three statements adapted from Harvey et al. (2014), which were amended by changing the victim from ‘James’ to ‘animal victim’ here. These statements have previously been found to have adequate reliability ($\alpha > .74$ across studies; Harvey et al., 2014). However, our reliability analysis indicated lower reliability ($\alpha=.64$; 95% CI [.53, .73]), suggesting that results with this scale should be interpreted with caution. Participants rated each statement on a Likert scale from one to seven. An example item is ‘*Overall, would you say that you like or dislike the animal victim?*’. After reverse coding the final item, higher scores indicate greater victim derogation. These items were combined and summed to create an overall composite score for victim derogation.

Victim Blaming

Victim blaming was measured using four items adapted from Harvey et al. (2014), which were amended by changing the victim from ‘James’ to ‘animal victim’ here. Wording in one of the items was also changed from ‘accident’ to ‘incident’, as the animal kidnapping is not accidental. Participants rated the items on a Likert scale from one (‘*strongly disagree*’) to seven (‘*strongly agree*’), with higher scores indicating greater victim blaming. An example item is ‘*I believe the animal victim is responsible for what happened to them*’. No items are reverse scored. These items have acceptable internal consistency ($\alpha > .74$ across studies; Harvey et al., 2014) and achieved excellent reliability here ($\alpha=.98$; 95% CI [.97, .98]) so were combined and summed to create an overall composite score for victim blaming.

Empathy

Empathy was measured using the empathy for the victims scale (Brown et al., 2008), with participants rating their agreement with four items on a Likert scale from one (‘*strongly disagree*’) to seven (‘*strongly agree*’). The items were amended by changing wording for all conditions from ‘the victims’ to ‘the animal victim’ and rewording ‘the attack’ to ‘this crime’ to ensure relevance here. An example item is ‘*I feel sorry for the animal victim of this crime*’. Higher scores indicate greater empathy, with the third item being reverse scored. This scale has adequate reliability ($\alpha=.74$; Brown et al., 2008), corroborated by our reliability analysis (good reliability; $\alpha=.88$; 95% CI [.84, .91]), so these items were combined and summed to create an overall composite score for empathy.

Willingness to Help

Willingness to help was measured through six items adapted from Bellmore et al. (2012), whereby participants were asked how likely it was that they would ‘*ignore the situation*’, ‘*keep watching*’, ‘*leave the situation*’, ‘*tell the police*’, ‘*tell the perpetrator to stop*’ and ‘*try to comfort the victim*’. Participants rated their likelihood of engaging in each behaviour on a Likert scale from one (‘*definitely no*’) to five (‘*definitely yes*’). Whilst Trach et al. (2010) and Bellmore et al. (2012) analysed these items individually, our reliability analysis indicates these items form a scale with adequate reliability ($\alpha=.70$; 95% CI [.62, .77]). We therefore include analyses on these items summed into one composite scale, with the first three items reverse scored and higher scores denoting greater willingness to help.

Second-Hand Forgiveness

Second-hand forgiveness was measured with the second-hand forgiveness scale (Brown et al., 2008). Participants rated how much they agreed or disagreed with the seven items on a Likert scale from one (‘*strongly disagree*’) to seven (‘*strongly agree*’). An example item is ‘*I forgive those responsible for this crime*’. Higher scores indicate greater second-hand forgiveness after items two, three, five and seven had been reverse scored. We amended original wording from an ‘assault’ or ‘attack’ to a ‘crime’ to ensure relevance here. These items have good reliability ($\alpha=.81$; Brown et al., 2008), corroborated by our reliability analysis ($\alpha=.79$; 95% CI [.73, .83]). These items were combined and summed to create an overall composite score for second-hand forgiveness.

Procedure

All participants took part in this experiment online via Qualtrics. Having provided informed consent, participants provided their demographics (age, dietary preference, gender) and a memorable code for data withdrawal if required. Participants were then randomly allocated to one of four vignettes for at least one minute to enable sufficient reading time: identifiable dog ($n=42$), non-identifiable dog ($n=40$), identifiable pig ($n=38$) or non-identifiable pig ($n=40$). After reading the vignette, participants answered the attention check items and completed the five DV scales as listed in the order above. Having completed these scales, participants were debriefed, instructed they could withdraw their data by a specific date and given the researcher’s contact details.

Results

Preliminary Analyses

As all DVs statistically significantly correlated together, we conducted a 2(species: dog vs. pig) x 2(identifiability: identifiable vs. not) between-subjects MANOVA with the five DVs (empathy, victim derogation, victim blaming, second-hand forgiveness and willingness to help) to control for Type 1 error. No DVs correlated with each other above .9, indicating no multicollinearity. Some relationships between the DVs were non-linear. However, despite lack of linear relationships, MANOVA can still be run albeit with reduced power (Tabachnick & Fidell, 2014). To retain control of Type 1 error, we therefore continued with the MANOVA and accepted the reduced power. There were two multivariate outliers, as measured using Mahalanobis-Distance values. Additionally, as assessed by visually inspecting boxplots for each condition, all DVs except victim derogation had univariate outliers. Including or excluding univariate and multivariate outliers did not change main conclusions. We therefore report the MANOVA including outliers. Normality as assessed by Kolmogorov-Smirnov tests of normality was sometimes violated. However, skewness was within acceptable ranges (between -2 to 2; Kim, 2013; West et al., 1995) for most DVs and MANOVAs are robust to violations of normality (Blanca et al., 2017). Box’s M

test revealed homogeneity of covariance matrices, $p = .48$. Additionally, Levene's test of equality of error variances revealed homogeneity of variances for all DVs, $ps > .05$.

Empathy

Agreeing with **H1a**, there was a statistically significant main effect of species on empathy, $F(1, 156) = 6.53$, $p = .01$, partial $\eta^2 = .04$. Specifically, people empathised more with the dog ($M=21.8$, $SD=5.3$) than the pig victim ($M=19.67$, $SD=5.31$). However, contrary to **H2a**, there was no statistically significant main effect of identifiability on empathy, $F(1, 156) = .31$, $p = .58$, partial $\eta^2 = .002$ ($M_{identifiable} = 20.56$, $SD_{identifiable} = 5.41$, $M_{non-identifiable} = 20.96$, $SD_{non-identifiable} = 5.41$). Additionally, contradicting **H3a**, there was no statistically significant interaction between species and identifiability on empathy, $F(1, 156) = .74$, $p = .4$, partial $\eta^2 = .01$.

Willingness to Help

In line with **H1b**, there was a statistically significant main effect of species on willingness to help, $F(1, 156) = 8.27$, $p = .01$, partial $\eta^2 = .05$. Specifically, people were more willing to help the dog ($M=22.94$, $SD=3.33$) than the pig ($M=21.19$, $SD=4.35$) victim. In contrast to **H2b**, there was no statistically significant main effect of identifiability on willingness to help, $F(1, 156) = .56$, $p = .46$, partial $\eta^2 = .004$ ($M_{identifiable} = 21.89$, $SD_{identifiable} = 3.78$, $M_{non-identifiable} = 22.29$, $SD_{non-identifiable} = 4.12$). Additionally, there was no statistically significant interaction between species and identifiability on willingness to help, $F(1, 156) = .76$, $p = .38$, partial $\eta^2 = .01$, contradicting **H3b**.

Victim Derogation

Supporting **H1c**, there was a statistically significant main effect of species on victim derogation, $F(1, 156) = 8.56$, $p = .004$, partial $\eta^2 = .05$. Specifically, people derogated the pig ($M=9.55$, $SD=3.21$) more than the dog victim ($M=7.88$, $SD=3.89$). However, in contrast to **H2c**, there was no statistically significant main effect of identifiability on victim derogation, $F(1, 156) = 1.13$, $p = .29$, partial $\eta^2 = .01$ ($M_{identifiable} = 8.38$, $SD_{identifiable} = 3.77$, $M_{non-identifiable} = 9.01$, $SD_{non-identifiable} = 3.54$). Contradicting **H3c**, there was also no statistically significant interaction between species and identifiability on victim derogation, $F(1, 156) = .15$, $p = .7$, partial $\eta^2 = .001$.

Victim Blaming

Contrary to **H1d**, the main effect of species on victim blaming was non-significant, $F(1, 156) = .03$, $p = .86$, partial $\eta^2 < .001$ ($M_{dog}=7.63$, $SD_{dog}=5.44$, $M_{pig}=7.5$, $SD_{pig}=4.68$). Similarly, contradicting **H2d**, there was no statistically significant main effect of identifiability on victim blaming, $F(1, 156) = .21$, $p = .65$, partial $\eta^2 = .001$ ($M_{identifiable} = 7.37$, $SD_{identifiable} = 4.92$, $M_{non-identifiable} = 7.76$, $SD_{non-identifiable} = 5.24$). In contrast to **H3d**, there was also no statistically significant interaction between species and identifiability on victim blaming, $F(1, 156) = 1.06$, $p = .3$, partial $\eta^2 = .01$.

Second-Hand Forgiveness

In line with **H1e**, there was a statistically significant main effect of species on second-hand forgiveness, $F(1, 156) = 4.22$, $p = .04$, partial $\eta^2 = .03$. Specifically, people subjected the perpetrator of the crime against the pig to greater second-hand forgiveness ($M=21.94$, $SD=7.63$) than the perpetrator of the crime against the dog ($M=19.68$, $SD=6.78$). Contradicting **H2e**, there was no statistically significant main effect of identifiability on second-hand forgiveness, $F(1, 156) = 3.81$, $p = .05$, partial $\eta^2 = .02$ ($M_{identifiable} = 21.82$, $SD_{identifiable} = 6.74$, $M_{non-identifiable} = 19.74$, $SD_{non-identifiable} = 7.67$). Finally, in contrast to **H3e**, there was no statistically significant interaction between species and identifiability on second-hand forgiveness, $F(1, 156) = 2.96$, $p = .09$, partial $\eta^2 = .02$.

Discussion

The current experiment aimed to explore if the species and identifiability of animal victims affect psychological perceptions of them. Adding to the pet speciesism and animal victimology literature, the current results suggest species influences perceptions of animal victims. Specifically, pigs are subject to lower empathy (**H1a**) and willingness to help (**H1b**), and higher victim derogation (**H1c**) than dogs. Additionally, perpetrators of crime against pigs are subject to greater second-hand forgiveness than perpetrators of crime against dogs (**H1e**). All findings are medium-sized, except for the effect on second-hand forgiveness (small-to-medium-sized). Note that the effect on victim derogation should be interpreted cautiously due to somewhat lower reliability on this short scale.

The above findings support previous research (e.g., Signal et al., 2018), evidence the occurrence of pet speciesism in a victimhood context (Caviola & Capraro, 2020) and mostly support **H1**. However, there was no significant effect of species on victim blaming. This lack of effect contrasts with previous findings with human victims (e.g., Feldman et al., 1998) and our hypothesis **H1d**. It is possible that participants did not view the animal victim as a moral agent (beings capable of intentionally acting in a moral way), regardless of species. For example, animals are typically rated as having high experience but low agency, indicating animals are deemed moral *patients* (beings capable of being treated by others in a moral way by being helped or harmed) but not moral *agents* (Gray et al., 2007). As victim blaming implies moral agency, Gray et al.'s (2007) results may explain our non-significant effect of species on victim blaming.

Unlike species, identifiability did not affect evaluations, disagreeing with our hypothesis **H2** and indicating the IVE (Kogut & Ritov, 2005) is inapplicable to animal victims. Additionally, contradicting **H3**, there were no significant species x identifiability interactions on any perceptions. This lack of interactions may be due to identifiability not informing perceptions of animal victims. These findings therefore suggest pet speciesism occurs regardless of animal victim identifiability.

These non-significant identifiability effects may be because greater identifiability of a human victim improves perceptions of the victim *only* when that victim is within the observer's ingroup (Ritov & Kogut, 2017). Thus, an *animal* victim, regardless of species, may be deemed the outgroup and identifiability may not therefore inform perceptions of them. Alternatively, whilst identifiability of human victims enables people to relate to the victim, identifiability of animal victims may not. That is, animal victims, whether identifiable or not, may be fundamentally non-relatable. However, previous research indicates people empathise with dogs just as strongly or even more strongly than fellow adult humans (Levin et al., 2017) and that dogs are deemed 'psychological kin' (Topolski et al., 2013). Thus, people do seemingly relate to (at least some) animals (e.g., dogs), and therefore the absence of significant effects of identifiability is unexpected. Further research should explore the role of identifiability in perceptions of animals (discussed below).

Limitations and Directions for Future Research

The current study has some limitations, including: (1) applicability to perceptions of dogs vs. pigs only, (2) significant species effects arising from factors other than mere species difference, and (3) unclear boundary conditions of IVE with animals. We discuss these limitations here.

Firstly, it is unclear if the current research applies to species other than dogs vs. pigs. Future research should therefore test if pet speciesism occurs for other pet and non-pet animals. For instance, other 'non-pet' species (e.g., cows) should be perceived similarly to our pig victim here, whilst other 'pet' species (e.g., domestic cats) should be perceived similarly to our dog victim. An additional limitation regarding the current study's scope is that dogs and pigs share multiple similarities (e.g., both are mammals with similar intelligence, emotionality and sociability). *Unlike* the current research, future research should investigate if animal-specific factors (e.g., appearance;

vs. human-specific factors, e.g., whether someone eats an animal or not, known as self-relevance) affect perceptions. For example, ‘food’ animals, which look less human-like, and/or are less ‘cute’ (e.g., fish), may be viewed more negatively than more human-like, and/or ‘cuter’, ‘food’ animals (e.g., pigs; Zickfeld et al., 2018).

Secondly, our significant effects of species may not be arising from the mere fact that one animal victim is a dog and the other a pig and instead be arising from other factors. Dogs are typically deemed ‘pets’ and pigs are typically deemed ‘food’ (Gradidge et al., under review). Thus, as ‘pet’ animal welfare is valued over ‘profit’ (e.g., ‘food’) animal welfare (Signal et al., 2018), differences in perceptions of the species may arise from dogs being pets, and thus viewed positively, and pigs being ‘food’, and thus viewed negatively. Future research should identify variables which may drive these species effects (e.g., animals’ societal status) to explore causes of pet speciesism and contextualise the findings.

Thirdly, it is unclear whether the IVE is inapplicable to animal (vs. human) victims or just expressed differently. For instance, identifiability (vs. non-identifiability) of a *single* animal may not influence perceptions, yet a single animal victim may be viewed more positively than multiple animal victims (‘collapse of compassion’; Mitchell, 2006; Slovic, 2007). To explore the IVE’s boundary conditions with animal victims, future research should test perceptions of single vs. multiple animal victims. Furthermore, minimal humanity cues may simply not affect perceptions of animal victims, unlike other identifying variables (e.g., photographs; anthropomorphic language; Butterfield et al., 2012; Kunst & Hohle, 2016). However, even alternative identifying variables, such as photographs, may not always influence willingness to help (Gunnthorsdottir, 2001). Future research should determine whether a) only certain identifying variables influence evaluations or b) *no* identifying variables influence evaluations.

Conclusion and Implications

The current experiment uniquely highlights how species influences most evaluations of animal victims (supporting pet speciesism), whilst identifiability (using minimal humanity cues) does not. This experiment has strong theoretical implications for animal victimology. Not only does this experiment add to the sparse animal victimology literature (Flynn & Hall, 2017; Vollum et al., 2004), it also highlights potential differences between perceptions of human vs. animal victims. Researchers should bear this issue in mind: Whilst research with human victims may be an excellent starting point, research with animal victims may diverge from common, well-known findings with human victims. This issue also distinguishes animal victimology as a distinct area of research *independent from* human victimology.

This study also has strong theoretical implications for pet speciesism research. Firstly, it highlights how species can influence perceptions of an animal, agreeing with previous research (Caviola & Capraro, 2020). Secondly, our findings uniquely suggest pet speciesism operates across multiple dimensions, including affect (empathy), behavioural intention (willingness to help), victim perceptions (victim derogation) and perpetrator perception (second-hand forgiveness). Thirdly, combining pet speciesism and animal victimology literatures, we demonstrate pet speciesism with animal victims for the first time. Finally, the results introduce nuance to our perceptions of (different species of) animals and demonstrate that people do not view animals as a homogenous group in a victimhood context.

To conclude, this research uniquely adds to emerging animal victimology and pet speciesism literature by highlighting how species influences perceptions of animal victims. Additionally, this research demonstrates how identifiability (at least with minimal humanity cues) does *not* influence evaluations, diverging from human victimology and distinguishing animal victimology research as an independent research area. This research has unique wide-ranging theoretical implications, both for animal victimology (Flynn & Hall, 2017; Vollum et al., 2004) and pet speciesism literature (Gradidge & Zawisza, 2021). Overall, this research highlights how

we respond differently to animal victims depending on their species (but not identifiability), with wide-ranging implications for animal victims in the context of, for example, kidnapping, meat consumption and animal cruelty.

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Appendix. Vignettes from main experiment.

Identifiable dog

“Bella the dog stolen from family! A dog called Bella was reportedly stolen from her family on Thursday morning. Bella lives in Suffolk with her family and was reported as missing to the police when her family realised that she was no longer outside. The police are still trying to locate Bella and to find and arrest the perpetrator. If you have any information, please contact your local police. Families are being advised to always keep an eye on their animals in case of kidnapping, especially if they are out in the open.”

Non-identifiable dog

“Dog stolen from owners! A dog was reportedly stolen from its owners on Thursday morning. The dog lives in Suffolk with its owners and was reported as missing to the police when its owners realised that it was no longer outside. The police are still trying to locate the dog and to find and arrest the perpetrator. If you have any information, please contact your local police. Owners are being advised to always keep an eye on their animals in case of kidnapping, especially if they are out in the open.”

Identifiable pig

“Bella the pig stolen from family! A pig called Bella was reportedly stolen from her family on Thursday morning. Bella lives in Suffolk with her family and was reported as missing to the police when her family realised that she was no longer outside. The police are still trying to locate Bella and to find and arrest the perpetrator. If you have any information, please contact your local police. Families are being advised to always keep an eye on their animals in case of kidnapping, especially if they are out in the open.”

24 **Non-identifiable pig**

25 “Pig stolen from owners! A pig was reportedly stolen from its owners on Thursday morning.
26 The pig lives in Suffolk with its owners and was reported as missing to the police when its
27 owners realised that it was no longer outside. The police are still trying to locate the pig and
28 to find and arrest the perpetrator. If you have any information, please contact your local
29 police. Owners are being advised to always keep an eye on their animals in case of
30 kidnapping, especially if they are out in the open.”