

## SHORT COMMUNICATION

### **Social Dominance Orientation Connects Prejudicial Human-Human and Human-Animal Relations**

Kristof Dhont<sup>a</sup>

Gordon Hodson<sup>b</sup>

Kimberly Costello<sup>c</sup>

Cara C. MacInnis<sup>b 1</sup>

*Paper accepted for publication in Personality and Individual Differences*

<sup>a</sup> Corresponding Author; Department of Developmental, Personality and Social Psychology, Ghent University, Belgium. Address: Henri Dunantlaan 2, B-9000, Ghent, Belgium E-mail: Kristof.Dhont@UGent.be; Tel: +3292646424. Kristof Dhont is a post-doctoral researcher supported by the Research Foundation – Flanders (FWO, Belgium).

<sup>b</sup> Department of Psychology, Brock University, Canada. Address: 500 Glenridge Ave., St. Catharines, Ontario, Canada L2S 3A1. E-mail: [ghodson@brocku.ca](mailto:ghodson@brocku.ca) (Gordon Hodson) and [cara.macinnis@utoronto.ca](mailto:cara.macinnis@utoronto.ca) (Cara MacInnis)

<sup>c</sup> School of English and Liberal Studies, Seneca College of Applied Arts and Technology, Canada. E-mail: Kimberly.Costello@senecacollege.ca

<sup>1</sup> Present address for Cara MacInnis: Department of Psychology, University of Toronto Scarborough, Canada, 1245 Military Trail, Toronto, ON, M1C1A4.

### **Abstract**

Recent theorizing suggests that biases toward human outgroups may be related to biases toward (non-human) animals, and that individual differences in desire for group dominance and inequality may underlie associations between these biases. The present investigation directly tests these assumptions. As expected, the results of the current study ( $N = 191$ ) demonstrate that endorsing speciesist attitudes is significantly and positively associated with negative attitudes toward ethnic outgroups. Importantly, individual differences in social dominance orientation accounted for the association between speciesist and ethnic outgroup attitudes; that is, these variables are associated due to their common association with social dominance orientation that underpins these biases. We conclude that social dominance orientation represents a critical individual difference variable underlying ideological belief systems and attitudes pertaining to *both* human-human intergroup and human-animal relations.

**KEY WORDS:** Social dominance; speciesism; generalized prejudice; ideology; animal exploitation; prejudice; human-animal relations

**First copyedit complete.**

## **1. Introduction**

Lay people generally believe that human-human intergroup biases, such as prejudice against immigrants, are largely *unrelated* to human-animal relations, such as exploiting animals for our own purposes (Costello & Hodson, in press a). Yet recent research supporting an Interspecies Model of Prejudice (Costello & Hodson, in press b; Hodson & Costello, 2012; Hodson, MacInnis, & Costello, 2013) demonstrates that seeing humans as different from and superior to animals plays a key role in animalistically dehumanizing human outgroups (e.g., immigrants; Blacks) and negatively evaluating those outgroups. Indeed, “the very act of treating [outgroups] like animals would lose its meaning if animals were treated well.” (Plous, 2003, p. 510). In fact, “elevating” animals to the status of humans by emphasizing their similarity to humans significantly improves attitudes and moral inclusiveness toward human outgroups (Bastian, Costello, Loughnan, & Hodson, 2012; Costello & Hodson, 2010). Thus biases toward human outgroups appear related to biases toward non-human animals, and individual differences in desire for group dominance may underlie any associations between these biases. The present investigation directly tests these previously untested assumptions.

### **1.1. The Group Dominance Perspective**

Social dominance theory (SDT) is a conceptual framework explaining group-based hierarchy and oppression in society (Pratto, Sidanius, Stallworth, & Malle, 1994; Sidanius & Pratto, 1999). Central to SDT is the proposition that people vary in their levels of social dominance orientation (SDO; Pratto et al., 1994), the fundamental desire to achieve and maintain group-based dominance and inequality among social groups. SDO is a reliable predictor of a wide range of intergroup attitudes across different contexts and domains, including racial and ethnic prejudice and sexism (e.g., Hodson & Esses, 2005; Kteily, Ho, & Sidanius, 2012; Pratto et al., 1994; Roets, Van Hiel, & Dhont, 2012; Sibley & Duckitt, 2010).

Furthermore, research has shown that distinct ideological belief systems, such as political conservatism and racism, are correlated with one another *due to* a general desire for group-based dominance (Sidanius, Pratto, & Bobo, 1996). That is, individual differences in SDO underlie the linkages between these beliefs. As such, SDO accounts for the significant association between different ideological belief systems within the domain of human-human intergroup relations.

Although this social dominance perspective was conceived to explain group-based hierarchy among human groups, this framework can be broadened to explain individual differences in dominance strivings of humans over animals (Costello & Hodson, 2010, in press b; Dhont & Hodson, under review; Hyers, 2006) and over the natural environment (Milfont, Richter, Sibley, Wilson, & Fischer, 2013). As with racial and ethnic prejudice, speciesism is an expression of underlying competitive-power motives of social dominance and support for hierarchy and inequality between groups, here between humans and animals (Allen, Wilson, Ng, & Dunne, 2000; Dhont & Hodson, under review; Sidanius & Pratto, 1999). Supporting this view, SDO predicts greater beliefs that humans are distinct from and superior to animals (Costello & Hodson, 2010), and predicts greater acceptance of animal exploitation and more meat consumption (e.g., Allen et al., 2000; Dhont & Hodson, under review; Hyers, 2006). Furthermore, children of high-SDO parents also hold greater human supremacy beliefs over animals (Costello & Hodson, in press b).

## **1.2. Present Research**

Integrating recent findings about the psychological underpinnings of human-animal relations with the traditional focus of SDT on human outgroup prejudice, SDO conceptually represents the key individual difference variable underlying ideological belief systems and attitudes pertaining to *both* human-human intergroup and human-animal relations.

Consequently, we expected that speciesist attitudes are positively correlated with human

outgroup attitudes because both belief systems are underpinned by a general desire for group-based dominance and inequality. This conceptual argument has been raised previously (Costello & Hodson, in press a; in press b; Hodson & Costello, 2012; Hodson et al., 2013), but no empirical evidence has tested this theoretical presumption. In the same manner that SDO represents an “underlying psychological motive” (Sidanius et al., 1996, p.484) connecting conservatism and racism, SDO presumably links generalized prejudices toward human ethnic outgroups and speciesist attitudes toward non-human animals. Specifically, we predicted that: (a) speciesist and ethnic prejudice are positively correlated (Hypothesis 1); and (b) individual differences in SDO account for this association (Hypothesis 2), with speciesist and ethnic outgroup prejudice only correlated due to their common association with SDO.

## 2. Method

Undergraduate psychology students ( $N = 209$ ) at a Canadian university completed relevant measures during a course seminar. Eighteen self-identifying members of two or more target outgroups were excluded from analyses, leaving 191 participants (78.5% females;  $M_{\text{age}} = 20.47$  years,  $SD_{\text{age}} = 3.73$ ).

Respondents completed a shortened 6-item SDO scale ( $\alpha = .82$ ;  $M = 2.11$ ;  $SD = 1.02$ ) on 7-point scales (1, *strongly disagree*; 7, *strongly agree*; Pratto et al., 1994; see Appendix). To measure ethnic prejudice, respondents indicated attitudes toward immigrants, Black people, ethnic minorities, Native/Aboriginal people, and Muslims, on attitude thermometers ranging from 0-10° (extremely unfavourable) to 91-100° (extremely favourable); items were recoded so that higher scores indicate greater ethnic prejudice ( $\alpha = .93$ ;  $M = 3.11$ ;  $SD = 1.75$ ). Eight items (based on Hertzog, Betchart, & Pittman, 1991; Wuensch, Jenkins, & Poteat, 2002; see Appendix) measured speciesist attitudes ( $\alpha = .80$ ;  $M = 3.19$ ;  $SD = 1.13$ ). Items were completed on 7-point scales (1, *strongly disagree*; 7, *strongly agree*), with higher scores reflecting greater speciesism.

### 3. Results

We analyzed the relationships among speciesism, ethnic prejudice, and SDO with latent variables analyses in Mplus (version 6.1, Muthén & Muthén, 1998-2011), using a robust maximum likelihood estimation. The original items indicated the latent factors. The proportion of missing values was negligible and never exceeded 1%; full information maximum likelihood method dealt with the missing data (Schafer & Graham, 2002). The correlational (measurement) model showed good model fit,  $\chi^2(149) = 220.36, p < .001$ ; RMSEA = .050; SRMR = .055; CFI = .94, suggesting factor validity and construct independence of the latent constructs.<sup>1</sup>

As expected, correlations between the latent constructs were positive and significant. Confirming Hypothesis 1, speciesism was significantly related to ethnic prejudice,  $r = .34, p < .001$ ; higher scores on speciesism were thus associated with more ethnic prejudice. Furthermore, both speciesism and ethnic prejudice were significantly related to SDO,  $r = .56, p < .001$  and  $r = .45, p < .001$ , respectively.

Hypothesis 2 proposed that SDO largely accounts for the association between speciesism and ethnic prejudice (see Sidanius et al., 1996, for a conceptually related statistical approach). Supporting this hypothesis, after partialling out SDO (see Figure 1, presenting standardized estimates), the residual correlation between speciesism and ethnic prejudice was no longer statistically significant,  $r = .12, p = .17$ . Thus, speciesism and ethnic prejudice are significantly interrelated *because*, as statistically demonstrated, attitudes toward both human and non-human animal outgroups are grounded in a generalized desire for group inequality and hierarchically structured group relations.<sup>2</sup>

In testing whether SDO empirically links conservatism and racism, Sidanius and colleagues (1996) also ruled out alternative models, such as whether conservatism explains

<sup>1</sup> Satisfactory fit is indicated by a  $\chi^2/\text{df}$  ratio  $< 2$ , RMSEA  $\leq .06$ , SRMR  $\leq .08$ , CFI  $\geq .95$  (Hu & Bentler, 1999).

<sup>2</sup> Tests including target outgroup members ( $N = 209$ ) revealed similar results: speciesism and ethnic prejudice were correlated,  $r = .28, p < .001$ , but not after partialing out SDO,  $r = .11, p = .24$ .

SDO-racism associations, or racism explains SDO-conservatism relations. We similarly tested alternative models. Importantly, ethnic prejudice did not explain the association between SDO and speciesism; the residual correlation between SDO and speciesism remained strongly positive,  $r = .49, p < .001$ , after partialing out ethnic prejudice. Likewise, speciesism did not account for the association between SDO and ethnic prejudice; the residual correlation remained positive and significant,  $r = .33, p < .001$ , after partialing out speciesism. As such, we confirm that SDO significantly links ethnic prejudice and speciesism as a general, group-dominance ideology.

#### **4. Discussion**

The Interspecies Model of Prejudice proposes that biases toward human outgroups are intrinsically related to biases toward non-human animals because a general desire for group-based dominance and inequality underpin both types of biases (Costello & Hodson, in press b; Hodson & Costello, 2012; Hodson et al., 2013; see also Plous, 2003). The current research is the first to empirically confirm these theoretical assumptions.

First, those endorsing more speciesist attitudes also demonstrate more negative ethnic outgroup attitudes, confirming Hypothesis 1. Second, the current results also provide insight into why these biases are related by examining a common underlying factor. Consistent with Hypothesis 2, we demonstrated that SDO accounted for the association between speciesist and ethnic outgroup attitudes, with their positive association disappearing after partialing out common variance with SDO. As such, a general desire for group-based dominance and inequality not only underpins both human-human and human-animal biases, but is a key variable connecting both types of biases. In other words, speciesist attitudes and generalized prejudice toward ethnic outgroups are associated with one another due to their common association with SDO constituting the core of each belief system.

The predictive power of dominance strivings toward group-based hierarchy and inequality (i.e. SDO) has long been recognized when studying human intergroup biases (e.g., Dhont, Van Hiel, & Hewstone, in press; Hodson & Esses, 2005; Kteily et al., 2012; Sibley & Duckitt, 2010; Sidanius & Pratto, 1999). Only recently, however, have researchers considered how individual differences in desire for group-based dominance in human intergroup relations share commonalities with dominance strivings in human-animal relations (e.g., Costello & Hodson, 2010, in press; Hodson & Costello, 2012; Hodson et al., 2013). The current work extends this growing but nascent body of research, explicitly demonstrating that a group-based dominance framework (SDT) is applicable to understanding hierarchical group relations between humans and animals. The results clarify that speciesism represents an *oppressive* belief system where an empowered group (humans) uses another (animals) for their own ends (see also Joy, 2010). The current results also concur with Plous (2003) that common psychological factors underlie human outgroup prejudice and speciesism. In answer to his open question, whether it is meaningful to consider animals an “outgroup” suffering from human dominance ideologies, the answer is “yes”.

Although SDO levels in the present sample were relatively low, they are comparable to those of heterogeneous adult samples (e.g., Dhont & Van Hiel, 2009; Pratto et al., 2013; Roets et al., 2012). Nonetheless, future studies using more heterogeneous samples in terms of gender, age, and educational background can establish the generalizability of these findings. Furthermore, future research can investigate how these variables are dynamically interrelated over time (i.e., longitudinally) and react to contextual manipulations. Such research may provide insights into how strivings toward group-based dominance can be overcome and modified (e.g., Dhont et al., in press), thereby indirectly affecting a wide range of variables predicted by SDO, including human-human and human-animal biases.



## References

- Allen, M. W., Wilson, M., Ng, S. H., & Dunne, M. (2000). Values and beliefs of vegetarians and omnivores. *Journal of Social Psychology, 140*, 405–422.
- Bastian, B., Costello, K., Loughnan, S., & Hodson, G. (2012). When closing the human-animal divide expands moral concern: The importance of framing. *Social Psychological and Personality Science, 3*, 421-429.
- 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*, 3-22.
- Costello, K., & Hodson, G. (in press a). Lay perceptions of the causes of and solutions to dehumanization and prejudice: Do non-experts recognize the role of human-animal relations? *Journal of Applied Social Psychology*.
- Costello, K., & Hodson, G. (in press b). Explaining dehumanization among children: The interspecies model of prejudice. *British Journal of Social Psychology*.
- Dhont, K., & Hodson, G. (under review). *Why do right-wing adherents engage in more animal exploitation and meat consumption?*
- Dhont, K., & Van Hiel, A. (2009). We must not be enemies: Interracial contact and the reduction of prejudice among authoritarians. *Personality and Individual Differences, 46*, 172-177.
- Dhont, K., Van Hiel, A., & Hewstone, M. (in press). Changing the ideological roots of prejudice: Longitudinal effects of ethnic intergroup contact on social dominance orientation. *Group Processes & Intergroup Relations*,  
doi:10.1177/1368430213497064
- Herzog, H. A., Betchard, N. S., & Pittman, R. (1991). Gender, sex role identity and attitudes toward animals. *Anthrozoos, 4*, 184-191.

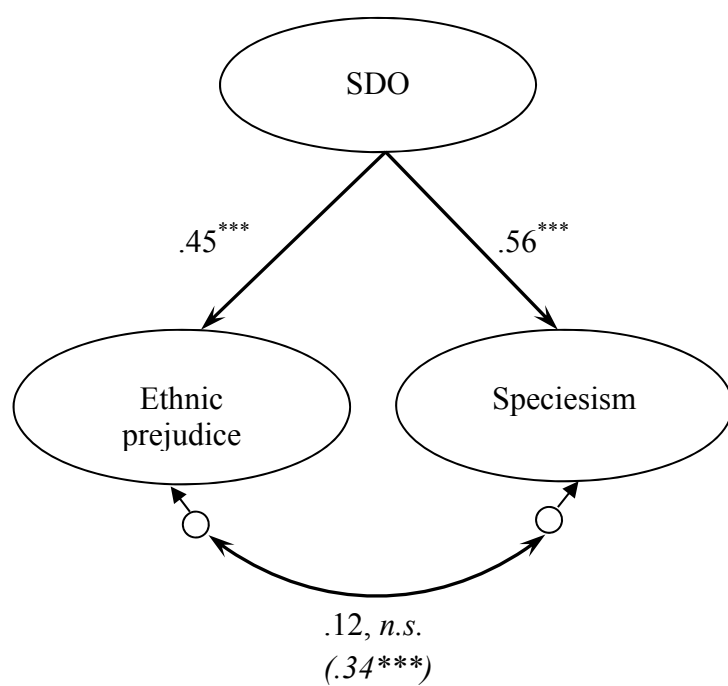
- Hodson, G., & Costello, K. (2012). The human cost of devaluing animals. *New Scientist*, 2895, 34-35.
- Hodson, G., & Esses, V.M. (2005). Lay perceptions of ethnic prejudice: Causes, solutions, and individual differences. *European Journal of Social Psychology*, 35, 329-344.
- Hodson, G., MacInnis, C. C., & Costello, K. (2013). (Over)Valuing humanness as an aggravator of intergroup prejudices and discrimination. In P.Bain, J. Vaes, & J.-Ph. Leyens (Eds), *Humanness and dehumanization* (pp. 86-110). London, UK: Psychology Press.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55.
- Hyers, L. (2006). Myths used to legitimize the exploitation of animals: An application of social dominance theory. *Anthrozoos*, 19, 194–210.
- Joy, M. (2010). *Why we love dogs, eat pigs, and wear cows: an introduction to carnism*. San Francisco, CA: Conari Press.
- Kteily, N. S., Ho, A., & Sidanius, J. (2012). Hierarchy in the mind: The predictive power of social dominance orientation across social contexts and domains. *Journal of Experimental Social Psychology*, 48, 543-549.
- Milfont, T. S., Richter, I., Sibley, C. G., Wilson, M. S., & Fischer, R. (2013). Environmental consequences of the desire to dominate and be superior. *Personality and Social Psychological Bulletin*, 39, 1127-1138.
- Muthen, L. K., & Muthen, B. O. (1998–2011). *Mplus user's guide (sixth edition)*. Los Angeles, CA: Muthen and Muthen.
- Plous, S. (2003). Is there such a thing as prejudice toward animals? In S. Plous (Ed.), *Understanding prejudice and discrimination* (pp. 509-528). New York: McGraw-Hill.

- 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, 741-763.
- Roets, A., Van Hiel, A., & Dhont, K. (2012). Is sexism a gender issue? A motivated social cognition perspective on men's and women's sexist attitudes toward the own and other gender. *European Journal of Personality*, 26, 350-359
- Schafer, J. L., & Graham, J. W. (2002). Missing data: Our view of the state of the art. *Psychological Methods*, 7, 147-177.
- Sibley, C. G., & Duckitt, J. (2010). The ideological legitimization of the status quo: Longitudinal tests of a social dominance model. *Political Psychology*, 31, 109-137.
- Sidanius, J., & Pratto, F. (1999). *Social dominance: An intergroup theory of social hierarchy and oppression*. Cambridge: Cambridge University Press.
- Sidanius, J., Pratto, F., & Bobo, L. (1996). Racism, conservatism, affirmative action, and intellectual sophistication: A matter of principled conservatism or group dominance? *Journal of Personality and Social Psychology*, 70, 476-490.
- Wuensch, K. L., Jenkins, K. W., & Poteat, G. M. (2002). Misanthropy, idealism, and attitudes toward animals. *Anthrozoös*, 15, 139-149.

**Figure Caption**

*Figure 1.* Latent factor model revealing a non-significant residual correlation between ethnic outgroup prejudice and speciesism when SDO is partialled out. Parenthetical value reflects the significant zero-order correlation. \*\*\* $p < .001$

Figure 1



## Appendix

### *SDO*

1. Some groups of people are just more worthy than others.
2. To get ahead in life, it is sometimes necessary to step on other groups.
3. No one group should dominate in society.\*
4. We must increase social equality.\*
5. Superior groups should dominate inferior groups.
6. It would be good if all groups could be equal.\*

### *Speciesism*

1. Animal research cannot be justified and should be stopped.\*
2. The production of inexpensive meat, eggs, and dairy products justifies maintaining animals under crowded conditions.
3. The use of animals in rodeos and circuses is cruel.\*
4. I get upset when I see wild animals in cages at zoos.\*
5. I think it is perfectly acceptable for cattle, chickens and pigs to be raised for human consumption.
6. I have seriously considered becoming a vegetarian in an effort to save animal lives.\*
7. I think that human economic gain is more important than setting aside land for wildlife.
8. There is nothing wrong with killing animals for their fur to make clothes (fur coats).

\* reversed