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Why do right-wing adherents engage in more animal exploitation and meat consumption?

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ABSTRACT

Despite the well-documented implications of right-wing ideological dispositions for human intergroup relations, surprisingly little is understood about the implications for human–animal relations. We investigate why right-wing ideologies – social dominance orientation (SDO) and right-wing authoritarianism (RWA) – positively predict attitudes toward animal exploitation and meat consumption. Two survey studies conducted in heterogeneous community samples (Study 1, $N = 260$; Study 2, $N = 489$) demonstrated that right-wing ideologies predict greater acceptance of animal exploitation and more meat consumption through two explaining mechanisms: (a) perceived threat from non-exploitative ideologies to the dominant carnist ideology (for both SDO and RWA) and (b) belief in human superiority over animals (for SDO). These findings hold after controlling for hedonistic pleasure from eating meat. Right-wing adherents do not simply consume more animals because they enjoy the taste of meat, but because doing so supports dominance ideologies and resistance to cultural change. Psychological parallels between human intergroup relations and human–animal relations are considered.

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1. Introduction

“The animals of the world exist for their own reasons. They were not made for humans any more than black people were created for whites, or women for men” (Alice Walker)

Scholars have identified two primary dispositional dimensions underlying right-wing ideology (e.g., Altemeyer, 1998; Duckitt, 2001). Right-Wing Authoritarianism (RWA, Altemeyer, 1981) pertains to the submissive dimension, and reflects cultural traditionalism, uncritical submission to authorities, and aggressiveness towards norm violators. Social Dominance Orientation (SDO, Pratto, Sidanius, Stallworth, & Malle, 1994) is a typical indicator of the dominance dimension of ideology, and is operationalized as a generalized desire for group-based dominance and inequality among social groups (Pratto et al., 1994; Sidanius & Pratto, 1999). Numerous studies have indicated that RWA and SDO are both strong and unique predictors of outgroup prejudice, and related justifications for discrimination and exploitation of outgroup members across

multiple domains, including racial and ethnic prejudice and sexism (e.g., Altemeyer, 1998; Duckitt, 2001; Hodson & Busseri, 2012; Roets, Van Hiel, & Dhont, 2012; Sidanius & Pratto 1999).

Despite the well-documented implications of individual differences in ideology with regard to reactions toward human outgroups, surprisingly little is understood about the implications for non-human animals. As Walker’s poignant observation clarifies, many biases, including those involving non-human animals, are rooted in common ideological belief systems and show psychological parallels (see Costello & Hodson, 2010, in press; Hodson & Costello, 2012; Jackson, 2011; Plous, 2003).

Few studies have investigated relations between social-ideological orientations and exploitative attitudes and behaviors toward animals. Yet existing evidence reveals positive associations between right-wing ideologies such as RWA and SDO, on the one hand, and attitudes toward the exploitation of animals as objects for human benefit (e.g., animal testing, fur industry, rodeos), and direct behavioral expression of dominant belief systems regarding human–animal relations such as meat consumption, on the other. Indeed, those endorsing right-wing attitudes and values are more likely to support and engage in animal exploitation and to self-identify as meat-eaters (e.g., Allen, Wilson, Ng, & Dunne, 2000; Dietz, Frisch, Kalof, Stern, & Guagnano, 1995; Hyers, 2006). Likewise, right-wing adherents tend to consume more meat in daily life (e.g., Allen et al., 2000; Allen & Ng, 2003; Ruby, 2012).

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To date, however, it remains unclear *why* people scoring higher (vs. lower) on right-wing social attitudes are more accepting of animal exploitation and eat more meat. We propose two psychological mechanisms potentially accounting for these relations. Building on both human intergroup and human–animal relations literatures, we argue that right-wing adherents would not be more accepting of animal exploitation or eat more meat if not for their (a) sense of threat from increasingly popular non-exploitive ideologies toward animals (i.e., veg(etari)anism); and (b) human supremacy beliefs.

1.1. Vegetarianism threat and human supremacy beliefs

Animal exploitation and meat consumption are arguably part of the dominant ideological system ‘carnism’, prescribing norms and beliefs about animal treatment (Joy, 2010). Particularly in Western countries, however, people are increasingly reducing meat consumption, becoming vegetarian, or endorsing non-exploitive ideologies toward animals (i.e., veg(etari)anism) (Ruby, 2012). This change may be experienced as a threat to traditional norms and dominant carnist ideologies. From an intergroup perspective, Integrated Threat Theory (Stephan & Stephan, 2000) posits that perceived outgroup threats are fundamental antecedents to negative outgroup attitudes, and can pertain to threats to dominant ingroup’s norms and values, in addition to threats to ideological, political, and economic power (Stephan & Renfro, 2002). Research confirms that perceived outgroup threats challenging either the ingroup’s dominant position in society, or the ingroup’s cultural norms and beliefs, exacerbate negative outgroup attitudes and behaviors (Riek, Mania, & Gaertner, 2006; Stephan & Renfro, 2002), particularly among those who are most inclined to follow/defend mainstream social norms and dominant ideological systems; those higher in RWA or SDO (e.g., Asbrock, Sibley, & Duckitt, 2010; Costello & Hodson, 2011; Hodson, Hogg, & MacInnis, 2009; McFarland, 2005).

Moreover, the stronger the perceived threat, the more RWAs and SDOs feel legitimized in defending dominant cultural attitudes and norms, which becomes expressed as biased outgroup attitudes and behaviors (Duckitt & Sibley, 2010; Jost, Glaser, Kruglanski, & Sulloway, 2003). Based on these findings, we argue that those higher in RWA or SDO are more likely to construe vegetarian and anti-speciesist ideologies as a threat to the dominant and traditional carnist ideology which, in turn, is expressed in greater acceptance of animal exploitation and more meat consumption. Hence, we hypothesized that perceived threats posed by vegetarianism challenging carnist ideology explain why both SDO and RWA express more accepting attitudes toward animal exploitation and consume more meat.

Second, exploiting animals and consuming meat symbolize and articulate underlying competitive-power motives to dominate over animals and support for inequality between humans and animals (Allen & Ng, 2003; Ruby, 2012; Twigg, 1983). Costello and Hodson (2010, *in press*) demonstrated that endorsing hierarchy and inequality among *human* relations, expressed in term of SDO, predicts stronger beliefs that humans are distinct from and superior to animals. Along similar lines, this social dominance perspective can be broadened to explain dominance strivings over the natural environment more generally (Milfont, Richter, Sibley, Wilson, & Fischer, 2013). Consistent with Social Dominance Theory (Sidanius & Pratto, 1999), endorsing human supremacy beliefs can therefore represent a *legitimizing myth* preserving and justifying hierarchies between humans and animals (see also Joy, 2010). Theoretically, a “given belief... can be classified as a [legitimizing myth] if and only if it is found to have a mediational relationship between the desire for group-based social dominance on the one hand and support for [hierarchy enhancement or attenuation] on the other”

(Sidanius & Pratto, 1999, p. 48). For instance, both broad legitimizing myths such as modern or symbolic racism (Pratto et al., 1994; Sidanius & Pratto, 1999) and more specific beliefs such as outgroup dehumanization (Costello & Hodson, 2010) and cavalier humor beliefs (Hodson, Rush, & MacInnis, 2010) have been identified as mediators between SDO and expressed outgroup bias. Such legitimizing myths typically promote rejection and exploitation of low-status groups (Pratto et al., 1994; Sidanius & Pratto, 1999; see also Hodson et al., 2010; Sibley & Duckitt, 2010), in our case non-human animals. Therefore, we hypothesized that, in addition to perceived vegetarianism threat, those higher in SDO are expected to feel more entitled to exploit animals and eat meat as a result of holding greater human supremacy beliefs. Evidence of such mediation would support a legitimizing myth account of animal exploitation and consumption.

1.2. Present research

The current research integrated well-established insights from theorizing on intergroup threat and group-based dominance into a single model to investigate why right-wing adherents (i.e., those higher on SDO or RWA) are more favorable toward animal exploitation and consume more meat. Two studies tested the mediating role of ideology threat from vegetarianism and human supremacy beliefs. We expected that ideology threat would mediate the effects of both SDO and RWA, whereas human supremacy beliefs would mediate primarily SDO effects. Study 1 employed a heterogeneous sample of adults; Study 2 employed a community sample with larger sub-samples of non-omnivores, and also statistically controlled for hedonistic meat-consumption motivations.

2. Study 1

2.1. Method

Respondents were 260 Dutch-speaking adults (58.5% females; 98.5% Belgians; $M_{\text{age}} = 36.53$ years, $SD = 15.74$) completing all relevant measures of a questionnaire, recruited by political and social science undergraduates from a Belgian university. The majority (69.6%) self-identified as meat eater/omnivore, 16.2% as omnivores trying to reduce meat consumption, 8.8% as semi-vegetarian (i.e., occasionally eating meat), 1.9% as pescatarian (i.e., eating (shell)-fish but no meat), 3.5% as vegetarian, and 0% as vegan.

Except for meat-consumption items, responses were given on a 1 (strongly disagree) to 5 (strongly agree) scale. Respondents completed a shortened 8-item RWA scale ($\alpha = .82$), e.g., “Obedience and respect for authority are the most important virtues children should learn” (Altemeyer, 1981), and a shortened 8-item SDO scale ($\alpha = .80$), e.g., “Some groups of people are simply not the equals of others” (Pratto et al., 1994). Eight items assessed perceived vegetarianism threat ($\alpha = .90$), e.g., “The rise of vegetarianism poses a threat to our country’s cultural customs” (see Appendix). Human supremacy was assessed with six items ($\alpha = .89$), e.g., “The life of an animal is just not of equal value as the life of a human being” (see Appendix). Eight items of the Animal Attitude Scale measured attitudes toward animal exploitation ($\alpha = .74$), e.g., “The use of animals such as rabbits for testing the safety of cosmetics and household products is unnecessary and should be stopped” (reverse-scored) (Herzog, Betchard, & Pittman, 1991). Higher scores indicated greater acceptance of animal exploitation. Meat consumption was measured with two items ($\alpha = .66$) tapping frequency of eating (a) meat and (b) meat substitutes/vegetarian products (reversed scored); scales ranged from 1 (never) to 7 (every meal). Table 1 presents scale reliabilities, means, standard deviations and zero-order correlations.

Table 1
Means, standard deviations, and correlations between variables in Study 1 (S1) and Study 2 (S2).

Measure	Study	α	Mean	SD	Correlations						
					2	3	4	5	6	7	
1. RWA	S1	.82	2.73	0.77	.45***	.40***	.03	.10	.26***		
	S2	.85	2.54	0.69	.47***	.40***	.14**	.14**	.25***	.16***	
2. SDO	S1	.80	2.17	0.68		.37***	.18**	.34***	.28***		
	S2	.83	2.02	0.63		.39***	.26***	.27***	.27***	.20***	
3. Vegetarianism threat	S1	.90	2.06	0.78			.18**	.28***	.41***		
	S2	.90	1.61	0.62			.30***	.44***	.52***	.42***	
4. Human supremacy	S1	.89	3.08	0.97				.54***	.34***		
	S2	.90	2.56	0.87				.58***	.42***	.39***	
5. Animal exploitation	S1	.74	2.32	0.61					.38***		
	S2	.75	1.97	0.56					.50***	.49***	
6. Meat consumption	S1	.66	5.13	1.09							
	S2	.70	3.51	1.42						.64***	
7. Meat liking	S2	.89	2.76	1.17							

** $p < .01$

*** $p < .001$

2.2. Results

To test our hypotheses, we conducted structural equation modeling (SEM) with latent variables in Mplus (version 7.1, Muthén & Muthén, 1998–2013) to control for measurement error, using a robust maximum likelihood estimation. To smooth measurement error and maintain an adequate ratio of cases-to-parameters, we averaged item subsets into three parcels for each latent factor, except for the latent factor of meat consumption which was based on its two items. In advance of the model test, the expected correlations between the latent constructs (see Table 2) revealed that both SDO and RWA were significantly positively related to meat consumption. Furthermore, SDO (and to lesser degree RWA) positively predicted greater acceptance of animal exploitation.

Next, we tested the proposed model in which RWA and SDO predict meat consumption and attitudes toward animal exploitation via the hypothesized mediators vegetarianism threat and human supremacy beliefs. A fully-saturated model was tested, including all possible paths of the mediation model. This model supported our mediation hypotheses (see Fig. 1).

As expected, both SDO and RWA positively predicted vegetarianism threat, and SDO (but not RWA) also predicted human supremacy beliefs. Furthermore, vegetarianism threat and human supremacy beliefs both positively predicted meat consumption and attitudes toward animal exploitation. Importantly, in the mediation model, the direct effects of RWA on meat consumption and attitudes toward animal exploitation were now non-significant (see also Table 2). SDO still exerted a significant (but attenuated) direct relationship with attitudes toward animal exploitation,

reflecting partial mediation, yet no direct effect of SDO on meat-eating.

Overall, RWA was significantly indirectly related to meat consumption whereas SDO was significantly indirectly related to both meat consumption and attitudes toward animal exploitation (for indirect effects see Table 2). The effect of RWA on meat consumption was fully mediated via vegetarianism threat, whereas the effect of SDO on meat consumption was fully mediated via both vegetarianism threat and human supremacy beliefs. The effect of SDO on attitudes toward animal exploitation was primarily channeled through human-supremacy (Table 2). The absence of direct effects on meat consumption in the mediation model indicates that vegetarianism threat and human supremacy largely account for why those higher in RWA or SDO consume more meat. Furthermore, human supremacy beliefs also explained, in a substantial way, why those higher in SDO are more favorable toward animal exploitation.

3. Study 2

In Study 2 we sought to replicate these findings and consider alternative explanations. Whereas Study 1 consisted predominantly of people self-identifying as ‘pure’ meat-eaters, somewhat limiting the range of meat consumption, in Study 2 we sampled greater proportions of respondents consuming less meat or no meat (e.g., self-identifying as pescatarian or vegetarian). Second, because high SDOs pursue hedonistic goals (Duriez & Van Hiel, 2002), we assessed liking for meat as a control variable. As such,

Table 2
Effects of RWA and SDO on attitudes toward animal exploitation and meat consumption in Study 1 and Study 2. In Study 2 we controlled for meat liking.

Predictor		Meat consumption		Animal exploitation	
		Study 1	Study 2	Study 1	Study 2
SDO	Latent correlation	.36***	.29***	.38***	.32***
	Direct effect	.04	-.03	.26**	.07
	Indirect effect via Vegetarianism threat	.08*	.05**	.03†	.05**
	Indirect effect via Human supremacy	.09*	.03*	.14**	.11***
RWA	Latent correlation	.38***	.30***	.15*	.17**
	Direct effect	.17	.09*	-.11	-.11†
	Indirect effect via Vegetarianism threat	.12**	.06**	.05†	.06***
	Indirect effect via Human supremacy	-.03	.00	-.04	-.01

† $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

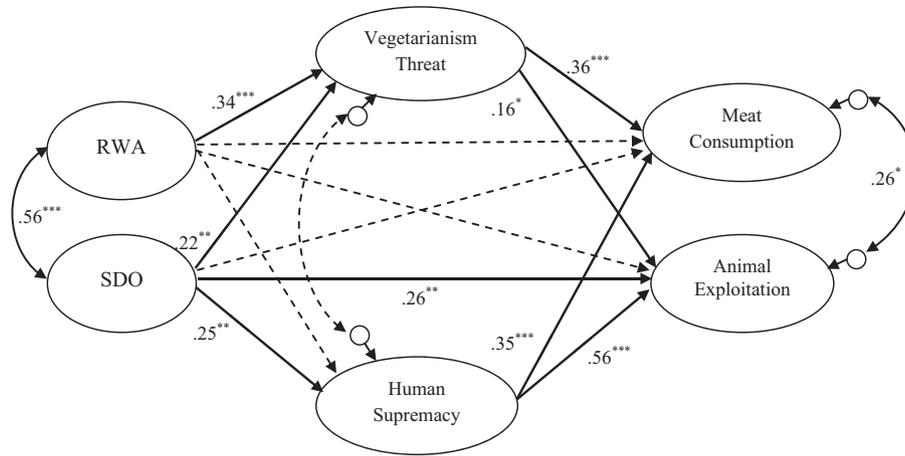


Fig. 1. Mediation model showing standardized estimates of right-wing attitudes predicting attitudes toward animal exploitation and meat consumption through vegetarianism threat and human supremacy beliefs (Study 1). Note. * $p < .05$; ** $p < .01$; *** $p < .001$. Dashed paths represent non-significant relationships. Model fit: $\chi^2(104) = 159.43$, $p < .001$; comparative fit index = .97; root-mean-square error of approximation = .044; standardized root-mean-square residual = .041.

we can determine whether endorsing right-wing attitudes is related to more meat consumption merely because right-wing adherents generally like meat products in a hedonistic sense, or rather reflects the influence of hypothesized mediators (human dominance, non-carnist ideology threat).

3.1. Method

Respondents were 489 Belgian adults (73.5% females, $M_{age} = 33.96$ years, $SD = 13.47$) completing the entire survey, recruited by psychology undergraduates and through a Belgian organization promoting meat reduction; 24.7% meat-eaters/omnivores, 11.5% omnivores trying to reduce meat consumption, 18.8% semi-vegetarians, 9.8% pescatarians, 28.8% vegetarians, 7.0% vegans.

RWA ($\alpha = .85$), SDO ($\alpha = .83$), human supremacy beliefs ($\alpha = .90$), vegetarianism threat ($\alpha = .90$), attitudes toward animal exploitation ($\alpha = .75$), and meat consumption ($\alpha = .70$) were administered as per Study 1 (see descriptives in Table 1). We also administered three items ($\alpha = .89$) on a 1 (strongly disagree) to 5 (strongly agree) scale assessing liking for meat's taste, look, and smell (e.g., "I like the taste of meat").

3.2. Results

We followed the same analytical procedures as in Study 1. Replicating Study 1, we found significant relationships between the latent factors of right-wing ideologies (SDO, RWA) on the one hand and meat consumption and attitudes toward animal exploitation on the other (see Table 2). Next, we tested the same model as in Study 1 but also included meat-liking as a latent covariate (indicated by its items), set to predict both mediators and outcome measures. As such, we tested if the hypothesized model remained viable after controlling for basic meat-liking (see Fig. 2). Although meat-liking significantly predicted all variables ($ps < .001$), all hypothesized paths in the mediation model remained significant ($ps < .001$).

Critically, the hypothesized indirect effects also remained significant after controlling for meat-liking (see Table 2). The effects of SDO and RWA on meat consumption and attitudes toward animal exploitation were significantly mediated via vegetarianism threat (for both SDO and RWA) and human supremacy beliefs (for SDO). In contrast to their zero-order relations (see Table 2), the direct effects of SDO and RWA on attitudes toward animal

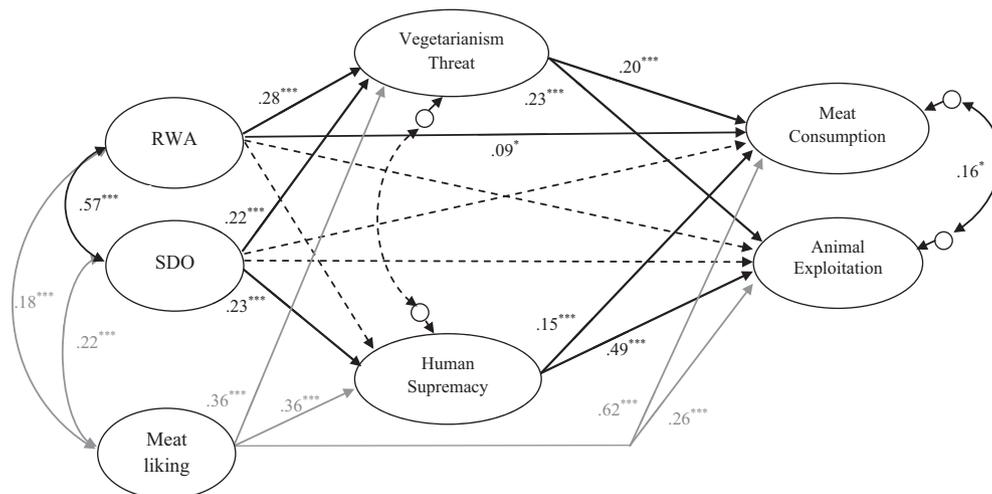


Fig. 2. Mediation model (showing standardized estimates) of relationships between right-wing attitudes and attitudes toward animal exploitation and meat consumption through vegetarianism threat and human supremacy, while controlling for meat-liking (Study 2). Note. * $p < .05$; ** $p < .01$; *** $p < .001$. Dashed paths represent non-significant relationships. Model fit: $\chi^2(149) = 307.24$, $p < .001$; comparative fit index = .97; root-mean-square error of approximation = .047; standardized root-mean-square residual = .039.

exploitation were non-significant in the mediation model. Likewise, the direct effect on meat consumption was non-significant for SDO, and clearly curbed (although significant) for RWA. Therefore, Study 2 demonstrates that, even after controlling for basic hedonistic meat-liking, vegetarian ideology threat and human supremacy beliefs are critical variables in explaining why right-wing adherents are relatively more likely to accept animal exploitation and consume more meat.

4. Discussion

Those higher in RWA or SDO hold prejudiced attitudes against deviants and outgroups (e.g., immigrants) because they are seen as threatening the dominant culture and ideological system (e.g., Asbrock et al., 2010; Dhont & Van Hiel, 2011; Hodson et al., 2009; Kteily, Ho, & Sidanius, 2012). Only recently have researchers considered how dominance-ideologies against human outgroups share commonalities with human–animal relations and exploitation (e.g., Costello & Hodson, 2010, in press; Dhont, Hodson, Costello, & MacInnis, 2014; Hodson & Costello, 2012; Jackson, 2011; Plous, 2003). Across two community samples, we confirm that those higher (vs. lower) in RWA or SDO demonstrate greater acceptance of animal exploitation and greater animal consumption. More importantly, we reveal that right-wing ideologies predict animal exploitation and consumption through two psychological processes: (a) perceived threat that animal-rights ideologies pose to the dominant carnist ideology (for both SDO and RWA effects), and (b) belief in human superiority over animals (for SDO effects). These findings replicate across samples, and hold after controlling for hedonistic pleasure from eating meat (Study 2), itself a strong predictor ($r = .64$) of meat-consumptive behavior. These results highlight critical individual differences between people concerning beliefs about group-based dominance and rights. Differences between those higher (vs. lower) in RWA or SDO in meat-eating behavior are clearly *ideological* in nature, referencing power, might, and greater “rights” over animals, plus an active push-back against movements advocating for the under-powered (i.e., non-human animals).

We asked why right-wing adherents exploit and consume animals more, making our mediation approach ideal. Future researchers could make salient human superiority over animals (see Costello & Hodson, 2010) or heighten threat from system-change and pro-animal ideologies. Future researchers could also examine these patterns outside of European/Western contexts. Nonetheless, the present findings go theoretically beyond previous literature on the role of individual differences in intergroup relations, combining theorizing on intergroup threat (Stephan & Stephan, 2000; Stephan & Renfro, 2002) and group dominance (Pratto et al., 1994; Sidanius & Pratto, 1999) into a single model in order to explain biased attitudes and group-based oppression regarding animals among high RWAs and SDOs. Furthermore, the results clarify that these theoretical frameworks are not limited to the psychology of human intergroup relations but can be generalized and also apply to the psychological study of human–animal relations. Our findings therefore contribute to a growing literature on similarities between human–human intergroup relations and human–animal relations (Hodson & Costello, 2012; Dhont et al., 2014; Plous, 2003). It is increasingly clear that constructs relevant to the former (e.g., right-wing ideologies) actually have much broader implications, proving meaningful predictors of the latter. Critically, human–animal relations are relevant to understanding human intergroup conflicts – after all, animalistically dehumanizing human outgroups facilitates prejudice and discrimination toward that group only because animals are devalued (Costello & Hodson, 2010; Hodson & Costello, 2012; Plous, 2003). Understanding the

psychological underpinnings of human–animal relations is therefore relevant to animal welfare but also to human intergroup relations.

Appendix A.

Items of vegetarianism threat and human supremacy beliefs (translated from Dutch) used in Study 1 and 2 (1 = strongly disagree to 5 = strongly agree).

A.1. Vegetarianism threat

- (1) The rise of vegetarianism poses a threat to our country's cultural customs.
- (2) Important culinary traditions which are typical to our country starting to die out due to the rise of vegetarianism.
- (3) Eating meat is part of our cultural habits and identity and some people should be more respectful of that.
- (4) Vegetarians should have more respect for our traditional eating customs, which meat consumption is simply part of.
- (5) Important family traditions and celebrations are increasingly being ruined and disappearing because of the presence of vegetarians in certain families.
- (6) Vegetarianism has a negative influence on the [Belgian] economy.
- (7) The vegetarian movement is too involved in local and national politics.
- (8) Nowadays, when it comes to nutrition and meals, people listen too much to what a minority of vegetarians wants.

A.2. Human supremacy beliefs

- (1) The life of an animal is just not of equal value as the life of a human being.
- (2) Animals are inferior to humans.
- (3) There is nothing unusual at all in the fact that humans dominate other animal species.
- (4) We should strive to more equality between humans and animals. (Recoded item)
- (5) In an ideal world, humans and animals would be treated on an equal basis. (Recoded item)
- (6) It is important that we treat other animal species more equally. (Recoded item)

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