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Original Research Article

Meat politics at the dinner table: Understanding differences and similarities in Canadians' meat-related attitudes, preferences, and practices

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Abstract

Few food groups are subject to the same depth and scope of critique as meat. Yet little is known about how the Canadian public feels about meat production and consumption. In other jurisdictions, meat has been a politically polarizing topic; thus, we focus our analysis on political differences (and similarities) in orientations toward meat. In this paper, we draw on survey data collected on a quota sample of Canadians (n=2328) in order to address the following questions: to what extent do Canadians across the political spectrum agree that meat is a problem? Where is there overlap, and where is there disagreement? We find that, despite small but statistically significant differences across political ideology in Canadians' meat-related attitudes, preferences, and practices, there is widespread agreement that meat is delicious, that it poses risks to health, and that many livestock production practices violate animal welfare ethics. The majority of Canadians would prefer to source meat that is locally-produced and raised on a small farm. These patterns illustrate high levels of discomfort with large-scale animal agriculture. This study fills an important gap in Canadian food studies by interrogating public perceptions of meat and identifying areas of political convergence and divergence on meat-related attitudes, preferences, and practices.

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Résumé

Peu de groupes d'aliments font l'objet d'une critique aussi profonde et étendue que la viande. Pourtant, on sait peu de choses sur ce que pense le public canadien de la production et de la consommation de viande. Dans d'autres pays, la viande a été un sujet politiquement polarisant. C'est pourquoi nous concentrons notre analyse sur les différences (et les similitudes) politiques dans les orientations à l'égard de la viande. Dans cet article, nous nous appuyons sur des données d'enquête recueillies auprès d'un échantillon de personnes canadiennes (n=2328) afin de répondre aux questions suivantes : dans quelle mesure les Canadiens de l'ensemble du spectre politique s'accordent-ils à dire que la viande est un problème ? Quels sont les points de recoupement et les points de désaccord ? Nous constatons que, malgré des différences faibles mais statistiquement significatives selon l'idéologie politique dans les attitudes, les préférences et les pratiques en matière de viande chez les personnes canadiennes, il existe un large consensus sur le fait que la viande est délicieuse, qu'elle présente des risques pour la santé et que de nombreuses pratiques d'élevage sont contraires à l'éthique du bien-être animal. La majorité des personnes canadiennes préféreraient s'approvisionner en viande produite localement et élevée dans une petite ferme. Ces tendances illustrent un niveau élevé de malaise à l'égard de l'élevage à grande échelle. Cette étude comble une lacune importante dans les études sur l'alimentation au Canada en interrogeant les perceptions du public à l'égard de la viande et en cernant les domaines de convergence et de divergence politiques quant aux attitudes, aux préférences et aux pratiques liées à la viande.

Introduction

Few food groups are subject to the same depth and scope of critique as meat. Critiques of meat are based on concerns about its impacts on human health, the environment, labourers, and animals. Health risks range from acute and intermittent risks like bovine spongiform encephalopathy (BSE) infections, *E. coli* contamination, and listeriosis bacterial outbreaks (Farber et al., 2011; Leiss & Nichol, 2006) to chronic concerns linking consumption of nitrates and nitrites in processed meats to cancer and consumption of cholesterol, particularly in red meat, to heart disease (Bouvard et al., 2015; Sebranek & Bacus, 2007). There are also numerous environmental issues linked to meat production, most prominently (but not limited to) climate change. The United Nations Food and Agriculture Organization estimates that 14.5% of global greenhouse gas (GHG) emissions result from livestock (Gerber et al., 2013), and studies suggest these patterns could intensify in the coming decades. Tilman and Clark (2014) argue that, if global patterns of meat consumption continue at current rates, by 2050 meat-

based diets "would be a major contributor to an estimated eighty per cent increase in global agricultural greenhouse gas emissions from food production and global land clearing" (p. 518). Meat has also sparked concerns for workers' rights and animal welfare. For instance, in his ethnographic study of slaughterhouse work, Timothy Pachirat (2011) describes the physical and emotional tolls of the work of slaughtering animals for consumption. During the Covid-19 pandemic, workers at slaughterhouses were exposed to high levels of risk of contracting the coronavirus (Struthers Montford & Wotherspoon, 2021). Animal welfare concerns are primarily connected to intensive farming practices, which leave little space for animals to move and result in disease and injury (Gregory & Grandin, 2007).

Despite widespread evidence that meat is increasingly viewed as a socio-ecological problem, it is also a staple on the plates of most Canadians and is widely accepted as part of a normal, daily diet (Bateman et al., 2019). This ambiguity presents somewhat of a paradox when it comes to addressing the socio-ecological problems associated with meat production and consumption. Indeed, what scholars call the "meat paradox" reflects the ironic pairing of the following: 1) positive ideas towards animals including public support for animal welfare, affection towards animals, and concern about the practices of industrialized animal husbandry, combined with 2) positive and persistent attitudes towards consuming animals as meat (Loughnan & Davies, 2019). Accounting for the meat paradox is an essential prerequisite to developing sound policy.

Consensus in public opinion about social problems is rare. At the same time, the more agreement exists on issues, and the more salient the issue is perceived to be, the easier it is for policy-makers to address those problems. In his review of decades of research on the relationship between public opinion and policy-making, Burstein (2003) concludes that this research demonstrates most policy decisions are influenced by public opinion. For example, Snow (2016) points to the construction of a sense of "national consensus" about the immorality of commercial surrogacy in Canada and in Australia, resulting in criminalization in each jurisdiction. In addition to consensus, the question of the relevance of an issue to the public is also important to consider (Burstein, 2003). Givens and Luedtke (2005) examine the salience of immigration as an issue across different European countries and find that salience among the public influences the enactment of restrictive immigration policies. To the extent that there is high agreement about an issue, and to the extent that the issue is considered highly relevant by the public, there is greater likelihood for legislative action.

We get a sense of the high salience of the issue of meat consumption and production from recent news stories reporting concerns that proposed policies might limit American consumers' access to meat. The (unwarranted) fear that President Biden's climate plan would prohibit beef consumption caused a media storm and generated strong public concern among Republican voters (Beauchamp, 2021; Dale, 2021). While Canadians eat, on average, a little less meat than Americans, they are still among the world's more voracious carnivores, suggesting that meat is a contested product for Canadians as well. The difficulty of enacting policies to address the unsustainable level of meat we consume is illustrated in the recent case of France's attempt to lower national levels of meat consumption. As reported in an article in *The Guardian*, the French government found it difficult to make progress in policy development, in part because of a lack of consensus among the public that meat production and consumption are problematic (Harvey, 2021).

Although there is a great deal of Canada-specific research on meat within agricultural and health sciences, there is a surprising dearth of social science scholarship

on consumers' concerns and priorities with respect to meat. The lack of robust data on how the Canadian public perceives and problematizes meat represents a barrier to developing policy grounded in social values and practices. As Biden's (fictitious) burger ban and the contested French meat reduction policy illustrate, there is a risk that meat-related policies can be divisive and polarizing. This begs the question of what political differences exist in consumers' orientations to meat consumption in Canada. In this study, we use survey data from a quota sample of Canadians to understand meat-eating practices, preferences, and perceptions. Because past research suggests that political ideology is a salient axis along which policies are both designed and contested (e.g., Burstein, 2003), we examine similarities in and differences between liberals' and conservatives' orientations to meat. Specifically, we ask: to what extent do Canadians across the political spectrum agree that meat is a problem? Where is there overlap, and where is there disagreement? This allows us to point towards policies that would be more likely to receive support across the political spectrum. Although we find political differences, we also identify promising areas of consensus, which suggests there may be some fruitful ways of initiating bipartisan conversations about the environmental and ethical implications of meat.

Meat and meat policy: An overview

Meat production is a major industry in Canada and has significant impacts on greenhouse gas (GHG) emissions. Canada's meat industry consists largely of two sectors, red meat and livestock and poultry and eggs. Within the red meat and livestock industry, pork and beef / veal comprise the largest share of profits and production (Agriculture Canada, 2021). According to Agriculture Canada, in 2019 there were 13.93 million hogs on 7,640 farms, located mostly in Ontario, Quebec, and Manitoba. Hog sales in 2019 generated $4.6 billion. In the same year, there were "12.24 million cattle and calves on 72,860 farms and ranches in Canada", with the majority located in Alberta. Sales of non-dairy cattle generated $8.3 billion in farm cash receipts (Agriculture Canada, 2021). In 2019, poultry and egg sales generated $6.3 billion among 4,279 commercial poultry and egg production facilities in Canada (Agriculture Canada, 2023).

Globally, animal agriculture accounts for roughly 14.5% of global GHG emissions (Gerber et al., 2013), and beef is the most greenhouse gas-intensive of all livestock (Dyer et al., 2010). Kebreab et al. (2006) and Ominski et al. (2021) both demonstrate that the agricultural sector, which also includes crop production, accounts for 8% of GHG emissions in Canada. In terms of the impacts of meat production on climate change in Canada, recent estimates suggest that emissions from livestock comprise 3.3% of GHG emissions (Ominski et al., 2021). Legesse et al. (2015) report that, from 1981 to 2011, GHG emissions from the beef industry have decreased by 15%. However, because of increased consumption, GHG emissions from cattle between 1981 and 2001 rose from twenty-five million tonnes CO_2e to thirty-two million tonnes CO_2e (Vergé et al., 2008). The emissions intensity of chicken is only 10% that of beef, although emissions from the poultry industry rose by 40% between 1981

and 2006 due to increases in chicken production (Vergé et al., 2008). Although meat makes up a relatively small proportion of national GHG emissions, it is the most carbon-intensive element of people's diets (Center for Sustainable Food Systems, 2020; Dyer et al., 2010), and reducing meat production and consumption constitutes a key ingredient for reforming Canadian diets to address climate change.

Research reveals several important trends in meat consumption in Canada in recent decades. First, levels of meat consumption remain high relative to most other countries and are dramatically higher than the global average (OECD, 2020). For instance, globally, the average consumer eats 15.1 kg of poultry per year. In Canada, we eat 37.6 kg per capita (OECD, 2020). This pattern continues to hold true across consumption of beef and pork as well. Prior research on Canadian consumers confirms that meat is a staple of the vast majority of Canadians' diets. For example, based on the 2015 Canadian Community Health Survey, Valdes et al. (2020) find that only 1.3% of Canadians follow a vegetarian diet and 0.3% follow a vegan diet, with the remainder eating meat. Using the same survey, Frank et al. (2020) find that, on any given day, 66% of Canadians report eating meat. Johnston et al. (under review) find that over 26% of Canadians report eating meat daily, and more than half report eating meat five or more days per week. There is some evidence that interest in plant-based diets is on the rise, as is identifying as a vegetarian or vegan (Charlebois et al., 2018). However, most evidence points toward consistently high levels of meat consumption. In addition to the environmental harms described above, such high levels of meat consumption are linked to significant health risks (Bye et al., 2021), with research supporting the idea that reductions in rates of meat consumption would reduce negative health outcomes such as cancer (Ruan et al., 2019), although some (e.g., Leroy & Cofnas, 2020) contest claims that meat consumption constitutes a health risk.

There are, therefore, compelling reasons to understand the potential to reduce meat consumption in Canada. While research shows that the vast majority of Canadians frequently consume meat, what is less well understood is what Canadians know about issues pertaining to meat production and consumption, or Canadians' beliefs and values regarding meat consumption. Although it might be tempting to interpret Canadians' high levels of meat consumption as strong support for the status quo, that would be a mistake. As a great deal of research has shown, consumers' attitudes and behaviours often do not align (Blake, 1999; Zanna et al., 1980), including those related to environmental attitudes (Kennedy et al., 2009). There is scant research, though, on Canadians' attitudes about meat production and consumption. Although research within the US context exists (e.g., Guenther et al., 2005; Spain et al., 2018), we cannot assume Canadians' attitudes are equivalent to Americans', especially given that levels of meat consumption are lower in Canada than in the US. In the only study we could find that employs broadly representative survey data (data are from a convenience sample of 504 Canadians), Charlebois et al. (2016) write that 37.9% of respondents self-reported reducing or entirely eliminating beef from their diet in the last twelve months. When asked what motivated this decision, the most commonly cited reasons were financial, and the next most common reasons were health and food safety related. The authors did not report specific estimates of the proportion of their sample motivated to reduce meat consumption for altruistic reasons, but altruistic motivations were described as being "much lower" and "not as significant" as other reasons. Charlebois et al. (2016) used a series of cross-tabulations to examine contrasts in

these attitudinal and behavioural outcomes, but limited their socio-demographic comparisons to gender, age, and education. They did not include political orientation in their survey. In general, there is a surprising lack of Canadian peer-reviewed literature on the subject of attitudes toward and behaviours around meat consumption. Even in *Canadian Food Studies*, we could only identify two research papers that focus on meat. Sterne and van Duren (2019) analyse the supply management system in Ontario with an eye to how regulation affects meat processors, and Katz-Rosene's (2020) essay reflects on the difficulties associated with developing universal dietary advice, drawing on the case of meat to underscore the complexities of eating for health and sustainability. The lack of descriptive evidence of Canadians' attitudes toward meat presents a significant barrier for designing and implementing policies to reduce meat consumption.

Because successful policy interventions require some degree of political consensus, it is important to understand how Canadians across the political spectrum perceive meat production and consumption. To our knowledge, there are no national, provincial, or municipal policies in place that aim to reduce Canadians' meat consumption. To the contrary, there are many policies in place to assist the meat industry, which is a major economic resource in Canada. There are some initial policy interventions in other jurisdictions such as France (Harvey, 2021), while the very idea of meat reduction has caused controversy in the American context, as indicated by the fake burger ban story (Beauchamp, 2021). Any efforts toward developing policies for meat reduction would likely also be controversial in the Canadian context. The feasibility of such policies is uncertain, but, to the extent that they might be politically tenable, they would need to be designed to minimize conflict with consumers' values and beliefs. Current research on this topic is scant. In this article, we examine Canadians' values and beliefs about meat production and consumption. We analyse these beliefs in relation to Canadians' political ideology, because policies that align with values and beliefs for which there is more agreement across the political spectrum are more likely to succeed.

Data & methods

We employ survey data collected in the fall of 2019 from a quota sample of Canadians. After data screening for quality control (e.g., eliminating responses completed in less than one third of the average completion time), the sample size is 2328. The sample was matched to national distributions of gender, age, race, income, education, and province of residence, as reported by Statistics Canada. We relied on the survey research firm Qualtrics for the online panel from which respondents were drawn (see Peer et al., 2015 for details on online panels). The survey is part of a broader research project on understanding issues of taste, politics, and risk in the meat industry. This research received approval from the Research Ethics Board of the University of Toronto. The survey included a large number of questions about people's preferences and practices relevant to eating meat and their knowledge and attitudes about the production of meat. The survey was pre-tested on 100 respondents, allowing us to verify that the questions were interpreted as intended. We

therefore have information about attitudes and behaviours as well as about meat consumption and meat production. In addition to questions about meat production and consumption, we also asked questions about political ideology.

In this paper, we analyse the relationship between political ideology and a range of measures of practices and attitudes about eating meat. As discussed above, we are interested in developing knowledge about Canadians' practices and attitudes about meat in order to have a foundation for understanding the potential for developing policy interventions to reduce meat consumption. Because political consensus is a key mechanism for enacting policies, we focus on how Canadians' attitudes and practices are related to variation in political ideology, looking to highlight where there is divergence vs. overlap for Canadians of more liberal and more conservative political ideologies. We examine a series of cross-tabulations of political ideology with various indicators of attitudes and practices about meat consumption and production.

Attitudes and practices

We measure attitudes and practices related to meat through several different types of questions. Some of our questions inquire about respondents' tastes and ask them to report their level of agreement (strongly agree to strongly disagree) with statements about taste in meat. Likewise, our questions around attitudes about health and animal welfare ask respondents to report their agreement, as do questions designed to measure respondents' preferences for different methods of meat production. In contrast, our questions about practices rely on measures of frequency, where respondents report the frequency of different kinds of behaviours related to their meat consumption (never to always).

Political ideology

To measure respondents' political ideology, we posed two questions. The first question asked, "How would you describe your political opinions on SOCIAL issues (e.g., environment, women's rights, religion, multiculturalism)?" The seven response options ranged from "very liberal" to "very conservative," with the middle category labelled "centrist". Our second question asked, "How would you describe your political opinions on ECONOMIC issues (e.g., taxes, government programs)?" The response options were the same as for the first question. We averaged respondents' scores on these two questions to provide an overall measure of political ideology, assigning the "very liberal" option a score of one and the "very conservative" option a score of seven. In our analyses, we use the average score to assign each respondent to one of three categories. Respondents who scored less than the "centrist" label score of four were placed in the liberal category, and respondents who scored more than four were placed in the conservative category. Respondents who scored exactly four were placed in the centrist category.

Results

Before we present our results on Canadians' meat-related attitudes, preferences, and practices, we summarize our sample. Half (50.2%) of our survey participants identify as politically liberal, 21.7% describe their views as politically centrist, and 28.1% identify as conservatives (see Table 1 for these figures and other sample statistics). Roughly half of our sample is female and nearly three-quarters identify as White, with Asian (10.1%) and Indigenous (7.0%) comprising the next largest categories of race and ethnicity. Although our sample represents every province and territory, the largest proportion (38.6%) resides in Ontario, with only seven respondents (0.3%) located in the Territories. A large proportion of our sample (41.9%) is employed full time and over one-fifth (21.1%) are retired. Only about one-third of our respondents have a Bachelor's degree or higher. In terms of income, our sample is quite evenly distributed, with 17.8% earning less than $30,000 annually and roughly one-quarter reflecting higher income categories. Less than seven percent earns over $200,000 per year. The mean age of our survey respondents is forty-seven years.

Turning next to meat-related descriptive statistics for our sample, we note that the majority (79%) of our respondents selected the label "omnivore" to describe their diet, 14.3% call themselves "flexitarian", 2.9% vegetarian, 2.3% pescatarian and 1.5% vegan (see Table 1). These estimates are similar to results from nationally-representative surveys (Valdes et al., 2020). The Canadians in our sample eat meat quite frequently: over one quarter (26.3%) eat meat every day, and a further 27.3% eat meat five or six times per week. Only 3.9% do not eat any meat in a typical week. Among those who eat meat and fish, 43.2% say they buy chicken most of the time or always, with slightly fewer regularly purchasing beef (39.5%), fewer still (33.9%) regularly buying pork, and the smallest proportion (25.2%) regularly buying fish.

Table 1: Descriptive statistics of the sample (n=2328)

	N, %	Mean (std. dev)
Political Ideology		
Liberal	1169, 50.2%	-
Centrist	505, 21.7%	-
Conservative	654, 28.1%	-
Female	1162, 49.9%	-
Age	-	47.34 (16.96)

Race & Ethnicity		
White	1702, 73.4%	-
Indigenous	163, 7.0%	-
Black	36, 1.5%	-
Asian	235, 10.1%	-
South Asian, Indian	107, 4.6%	-
Arab	53, 2.3%	-
Region		
BC	282, 13.2%	-
Prairies	393, 16.9%	-
Ontario	826, 38.6%	-
Quebec	491, 23.0%	-
Maritimes	140, 6.5%	-
Territories	7, 0.3%	-
Employment Status		
Full time	976, 41.9%	-
Part time	298, 12.8%	-
Retired	492, 21.1%	-

Unemployed	252, 10.8%	-
Caring for children, family	125, 5.4%	-
Student	368, 15.8%	-
Education		
High school or less	820, 35.2%	-
Trades certificate, college diploma, less than Bachelor's	844, 36.3%	-
Bachelor's degree	425, 18.3%	-
Postgraduate degree	238, 10.3%	-
Income		
Less than $30,000	414, 17.8%	-
$30,000-59,999	580, 24.9%	-
$60,000-99,999	580, 24.9%	-
$100,000-199,999	596, 25.6%	-
$200,000 or more	158, 6.8%	-
Diet Label		
Omnivore	1840, 79.0%	-
Flexitarian	332, 14.3%	-
Pescatarian	53, 2.3%	-

Vegetarian	67, 2.9%	-
Vegan	35, 1.5%	-
Days per week eating meat	-	4.61 (1.98)

Our first cross-tabulation contrasts political ideology with various attitudes about meat. We asked survey respondents to tell us how strongly they agreed or disagreed with statements about the taste of meat, the health values or risks from meat, and the impacts of meat production on animal welfare. With respect to taste, there are no statistically significant contrasts across political ideology for the item about meat being delicious, with a full 92% of respondents agreeing with this idea. However, we found that fewer conservatives (30.1%) are grossed out by meat than liberal (37.6%) and centrist (39%) respondents (see Table 2, section 1). For the health attitude statements, we found that more conservatives agree that eating meat is necessary for a healthy diet. Although most people in the sample believe eating processed meat increases the risk of cancer, a smaller proportion of conservatives (61.4%) and centrists (57.5%) agree with this statement compared with liberals, 48.6% of whom agree that eating processed meat increases people's risk of getting cancer. We see similar patterns for the statement about the risk of eating red meat. Overall, a larger proportion of liberals agree that reducing meat consumption is healthier for most Canadians (77.4%) compared with centrists (68.5%) and conservatives (64.2%). We also see political differences in our respondents' attitudes about the threats to animal welfare from meat production. Nearly three-quarters (73.2%) of liberals agree it is unethical that many animals live in crowded conditions, while 67.4% of centrists and 61.9% of conservatives agree with this statement. We see similar patterns for the statement about the ethics of eating animals who spent their lives indoors (see Table 2, section 1). In general, we find that a larger proportion of liberal (36%) than centrist (32%) or conservative respondents (27.3%) feel bad for animals when they eat meat. Despite these differences, we note that it is nonetheless quite illuminating that between half and three-quarters of respondents *across* political categories express concerns about animal welfare, and roughly one-third in each category feel personally uncomfortable about harming animals through their meat consumption. Pro-humane meat or meat reduction is not only a cause among liberals, but is also a sentiment shared among centrists and conservatives.

Table 2: Political contrasts in meat attitudes, production preferences, and consumption practices

	Liberal	Centrist	Conservative	Total (Chi-square)
1. **Attitudes toward meat**	% agree/ strongly agree			
Meat can be delicious	91.6%	94.8%	92.0%	92.4% (12.322)
Sometimes I'm grossed out by meat	37.6%	39.0%	30.1%	35.8% (21.749**)
Eating meat is necessary for a healthy diet	45.1%	50.9%	54.3%	49.2% (35.880***)
Eating red meat increases the risk of getting cancer	48.6%	40.6%	39.2%	44.3% (20.125**)
Eating processed meat increases the risk of getting cancer	70.8%	57.5%	61.4%	65.6% (26.475***)
Reducing meat consumption is healthier for most Canadians	77.4%	68.5%	64.2%	71.8% (44.432***)
It's unethical that many animals live in crowded conditions	73.2%	67.4%	61.9%	56.1% (34.792***)
It's unethical that many animals we eat spend their entire lives indoors	60.3%	54.8%	49.7%	68.8% (30.916***)

I feel bad for animals when I eat meat	36.0%	32.0%	27.3%	32.7% (20.097**)
2. **Meat Production Preferences**	% agree/ strongly agree			
I feel better about eating meat sold at an independent butcher shop	47.8%	46.7%	42.5%	46.0% (20.502**)
I feel better about eating meat that is locally produced	73.0%	66.7%	72.1%	71.4% (25.023**)
I feel better about eating meat that is raised on a small farm	62.4%	56.6%	59.5%	60.3% (18.992*)
3. **Meat Consumption Practices**	% always/ most of the time			
Past month, bought meat from an independent butcher shop	21.7%	20.9%	21.1%	21.4% (36.403***)
Past month, bought meat from a farmers' market	13.0%	15.3%	13.3%	13.6% (41.271***)
	% extremely important			
Reservations about eating meat: health concerns	30.9%	28.9%	28.0%	29.7% (12.192)
Reservations about eating meat: animal welfare concerns	22.1%	23.4%	17.6%	21.1% (31.860**)

Reservations about eating meat: environmental concerns	18.0%	17.1%	13.6%	16.6% (32.220***)

Notes: *, p< .050, **, p< .010, ***p<.001

Underlined questions are those for which there is 50% or more support across the political spectrum

When we look at meat production preferences and meat consumption practices, we see a similar pattern of general agreement, with small contrasts across political ideology (see Table 2, sections 2 and 3). Nearly half of our respondents feel better eating meat sold at an independent butcher (ranging from 42.5% for conservatives to 47.8% for liberals), and well over half of respondents feel better eating locally-produced meat (ranging from 66.7% for centrists to 73% for liberals). The majority of our respondents also feel better about eating meat raised on a small farm: 56.6% of centrists agree or strongly agree with this statement, compared with 59.5% of conservatives and 62.4% of liberals. These political differences are even smaller when we look at meat consumption practices. Roughly one-fifth of respondents told us they always or mostly bought meat at an independent butcher shop (20.9% of centrists, 21.2% of conservatives, and 21.7% of liberals). Thirteen percent of liberals bought meat from a farmers' market, which is slightly smaller than the proportion of conservatives (13.3%) and centrists (15.3%). Finally, when we asked respondents about the factors that make them uncomfortable with eating meat, we saw no significant contrasts in concerns about health impacts, with about one third of respondents noting health-related concerns about meat (Table 2). A smaller and more variable share of respondents reported concerns about animal welfare and the environment. For animal welfare, 17.6% of conservatives, 22.1% of liberals, and 23.4% of centrists have concerns, while 13.6% of conservatives, 17.1% of centrists, and 18.0% of liberals are worried about the environmental impacts of meat.

To highlight areas of consensus, in Table 2, we have underlined the questions for which there is 50% or more support across the political spectrum. Doing so emphasizes that people of all political persuasions find meat delicious, but they also have important reservations about meat. First, people across the political spectrum appear to recognize a connection between meat consumption and health risks. Second, a majority of our respondents want animals to be raised in humane conditions, and have concerns about animals that spend much or all of their lives indoors. Finally, well over half of our respondents feel better about meat production that is local and comes from small farms.

Discussion

Across academic and public discourse, evidence about the place of meat in Canadian culture is ambiguous. On the one hand, there are representations of meat as risky for personal and planetary health and harmful to workers and animals (Bateman et al., 2019). On the other hand, the vast majority of Canadians regularly eat meat, and meat is also portrayed as normal and benign in other representations (Bateman et al., 2019; Valdes et al., 2020). Despite a strong literature on the health effects of meat on Canadians (e.g., Bye et al., 2021) and the value of meat production to the Canadian economy (e.g., Agriculture Canada, 2019), there is a surprising paucity of robust data on how Canadians perceive meat. Such data are an essential foundation for policy development, and the extent to which meat production and consumption constitute a socio-ecological problem indicates that such policy development is both warranted and overdue. Our goal in this paper was to determine the extent to which Canadians across the political spectrum agree that meat is a problem and to note areas of overlap and disagreement among Canadians' meat-related attitudes, preferences, and practices.

The general conclusion of this study is that, despite some small but significant differences between political conservatives and liberals, there is generally a high level of political consensus on meat—a consensus that supports the idea of a meat paradox in Canada that combines enthusiasm towards meat-eating with concerns about eating animals as meat. The vast majority of Canadians across the political spectrum agree that meat can be delicious. At the same time, over half of Canadians express concerns about the health risks of meat and the harm inflicted on animals within the meat industry. Although we see some differences in attitudes about meat across the three political ideological categories, these differences become smaller as we shift our focus to preferences and practices. In this discussion, we explore several themes from the survey results: variation and consensus on meat as a health risk, widespread preferences for meat produced outside the conventional food system, and the relationships among attitudes, preferences, and practices.

Media coverage of meat frequently emphasizes the health risks associated with meat consumption (Bateman et al., 2019), but how do consumers interpret such risks? While half of the people we surveyed believe that meat is a necessary part of a healthy diet, a large proportion of our respondents believe reducing meat consumption is healthier for most Canadians. More specifically, many of our respondents see processed meats and red meat as presenting health risks. These health concerns are also motivating our respondents to reflect on how much meat they consume. When we asked our respondents to describe their reservations about eating meat, health risks represent the most common cause for reflection on meat-eating practices: roughly one-third of those surveyed pointed to concerns about the health risks of eating meat. For the most part, variation in these patterns is either non-significant across political ideology (as is the case for reservations) or the differences are slight (as is the case for health risks from red meat and processed meats). Overall, more Canadians seem to see meat as risky rather than beneficial from a health perspective, and, in most instances, these patterns are not significantly different across political ideology.

Another area of political consensus that stands out in our data is the strong preference among Canadians for meat produced outside the conventional meat industry. Most Canadians feel better about eating meat

that is locally produced, and roughly 60% feel better about eating meat that was raised on a small farm. Nearly half of Canadians would prefer to buy meat at an independent butcher shop. These patterns suggest (but do not confirm) that one way in which Canadians are reconciling the tension between meat as normal and delicious on one hand and risky and ethically concerning on the other is to aim to source meat from vendors who sell "happy meat." This trend has been noted among surveys of "conscientious omnivores" in North America and elsewhere (Rothgerber, 2015). The possibility that some meat might present reduced environmental and health risks and afford less suffering to animals creates space for consumers to enjoy the taste of meat without experiencing the guilt of eating a problematic food. From a policy perspective, these patterns suggest that Canadian consumers may feel negatively toward subsidies and incentives for large players in the meat industry and feel positively toward incentives and policies seeking to support small-scale producers selling to local customers. However, any policy that aims to reduce meat consumption or shift toward more humane meat must contend with consumers' limited knowledge of the conditions under which their meat is produced.

As a final take-away point from our empirical analyses, we note the relationships between meat attitudes, preferences, and practices. A broad pattern in our data is that we see more (attitudinal) concern about meat and preferences for alternatives to conventional meat than (behavioural) rejection of meat. Barr (2006) identified a similar pattern in the context of waste minimisation in the United Kingdom, where he noted that far more people expressed a strong willingness to reduce waste than the proportion of people who actually engaged in waste reduction behaviours (see also Trattner and Elsweiler, 2019 for a similar gap between intended and actual eating habits). This seems to be a space that requires effective and clear policy. For instance, while roughly half of our respondents feel better about eating meat from an independent butcher shop, only one-fifth bought meat from a butcher in the past month. Likewise, between 56% and 73% of respondents feel better when eating meat that is locally produced or raised on a small farm, but only about 14% bought meat from a farmers' market in the past month. Interestingly, while there are small but significant differences in meat-related attitudes across political ideologies, these differences become nonsignificant when the focus shifts to practices: liberals are no more likely than centrists or conservatives to have shopped for meat from small-scale, local vendors. These patterns reflect similar findings about consumer preferences beyond meat (Schoolman, 2020). Estimates of our respondents' discomfort around animal welfare and meat further illustrate this pattern. A surprisingly large share (between 50% and 73%) of the people we surveyed said they felt it was unethical that animals live indoors and in crowded conditions. Yet only about a third of respondents feel bad for animals when they eat meat, and roughly 20% report that animal welfare concerns underlie their reservations about eating meat. The gap between preference and practice may point to barriers related to cost, time, or access (Kennedy et al., 2009)—barriers that could be reduced with effective policies.

If Canadian policy makers were to take their cue from US media stories like the fake burger ban, they would be overlooking what may be quite distinct Canadian patterns when it comes to public perceptions of meat. If we want to address the problems of conventional meat production, we should consider targeting changes that conform to preferences and beliefs where there is existing overlap across the political spectrum. Our findings reveal statistically significant differences in many attitudes and behaviours between political liberals and conservatives. At the same time,

these differences are small relative to the overall degree of consensus that exists on these issues, where the majority opinion is shared across the political spectrum. For example, despite their differences, the majority of both liberals and conservatives feel that it is unethical that livestock is raised in crowded conditions. There is also a clear majority preference across the political spectrum for meat that is locally produced and raised on a small farm. This is a preference that contrasts with, for example, the current system of quotas for the production of chicken, which has resulted in most of the chicken Canadians consume being raised industrially. Our data show that policies explicitly aimed at supporting small, sustainable, pastured animal operations would likely be strongly endorsed by the public.

Although a great deal of evidence points to the environmental harms created by the meat industry, more of our respondents had reservations about eating meat as a result of health or animal welfare concerns than environmental concerns. Regardless of political ideology, we observed a larger share of respondents expressing attitudes that convey meat as a problem and preferences for meat that is not sourced from conventional meat producers than reporting engagement in practices that reflect these attitudes. Rather than simply interpret this as a value-action gap, we interpret it as a policy gap, indicating a need for municipal, provincial and territorial, and federal governments to design policies that make it easier for Canadians to purchase meat deemed healthy and humane, for animals, people, and the planet.

There are several limitations of this study and avenues for future research on Canadians' perceptions of meat and engagement in meat-eating practices. First, more fine-grained data are needed on attitudes toward the environmental impacts of meat production and consumption. Given a growing awareness of the GHG emissions from global animal agriculture (Bateman et al., 2019), it is important that these data are collected from robust Canadian samples. Second, future research should interrogate Canadians' views on labour issues in the meat industry, particularly in light of the Covid-19-related crisis in slaughterhouses across the country (Struthers Montford & Wotherspoon, 2021). Third, although our intention in this paper was to highlight areas of convergence and divergence across political ideologies, future studies should employ multivariate analyses in order to identify other factors that might impact the relationship between political beliefs and people's meat-related attitudes, preferences, and practices. Fourth, it is extremely difficult to gather representative survey data. Although our use of a quota sample is an improvement on existing research relying on convenience samples, Canadian policy makers would ideally have access to questions about meat-related attitudes and preferences on surveys like the Canadian Community Health Survey, which currently only asks about meat-eating practices.

Conclusion

We believe this paper represents the most comprehensive study of Canadians' attitudes about meat, preferences for meat, and meat-eating practices to date. Canada-specific data are required, we suggest, because it is unlikely to be accurate to impute from US-centric accounts of consumers' perceptions of meat and of political polarization. In identifying patterns of convergence and divergence in meat attitudes,

preferences, and practices across political categories, we are addressing a significant gap in the literature. Canadians eat a considerable amount of meat and eat meat frequently (see also Valdes et al., 2020). The contrast between the ubiquity of meat on the Canadian dinner table and the gap in social scientific literature on meat practices and preferences in Canada is striking. When we compare the lack of robust social scientific analyses of Canadian meat consumers with the prodigious Canadian literature on meat production, it is clear that much more research is needed on everyday engagement with meat, as scholars have already endeavoured to do for other elements of Canadian diets (e.g., Baumann et al., 2019). Doing so is a necessary step in designing food policy grounded in Canadians' attitudes, preferences, and practices.

Public policies are more likely to be enacted if there is relative agreement across the political spectrum and if the issue is one that is salient to citizens. We find that, in the face of some significant differences in attitudes about meat, there is nonetheless sufficient consensus for the purposes of enacting policies designed to promote a more sustainable, small-scale meat industry. Regarding the ways that livestock are treated and meat is produced, a large majority of Canadians of all political leanings are in favour of meat production where crowding is reduced and animals' time outside is increased. Moreover, Canadians prefer that meat production is local and comes from small farms. There is a clear policy opportunity here to design regulations that promote small-scale, localized modes of production. Regarding meat consumption, it is clear that many Canadians are thinking about their health, presenting another policy opportunity that could seek to reduce meat consumption through referencing the health risks of meat, especially processed meat. As with all social policies, regulations on meat production would need to remain sensitive to economic constraints, particularly as they apply to less advantaged consumers, and especially given the Canadian context of significant levels of food insecurity.

There are, of course, other factors that influence food policy. We have learned a lot from the recent changes in the Canada Food Guide, which was long influenced by industry lobbying and corporate interests (Clapp & Scrinis, 2017; Deckha, 2020). Surely these same forces will come into play regarding any efforts to change the ways that meat is produced or to reduce Canadians' meat consumption. Such issues are beyond the scope of our research. However, by generating knowledge about Canadians' attitudes and behaviours regarding meat, we hope to add to the ability of policymakers to address the social problems associated with current levels and modes of meat production and consumption.

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