



# Are young Canadians supportive of proposed nutrition policies and regulations? An overview of policy support and the impact of socio-demographic factors on public opinion

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## Abstract

**Objectives** Many countries, including Canada, are considering nutrition policies that seek to improve dietary behaviour and related health outcomes. The current study examined support for policy measures among youth and young adults in Canada.

**Methods** Participants aged 16–30 years were recruited for online surveys using in-person intercept sampling in five Canadian cities as part of the Canada Food Study conducted in October–December, 2016 ( $n = 2729$ ). Items included support for 21 specific policies in seven key areas: menu labelling, food package symbols and warnings, school policies, taxation and subsidies, zoning restrictions, marketing bans, and food formulation. Linear regression models examined support by age, sex, city, race/ethnicity, parental status, body mass index (BMI), and health literacy.

**Results** Very high levels of support were observed for menu labelling in restaurants and schools, as well as food package symbols and warnings. Taxation, zoning restrictions (e.g., fast food and convenience stores near schools), and bans on marketing to children received relatively lower levels of support. In general, policy support increased with age for all 21 policies ( $p < 0.01$ ) and greater health literacy for 4 policies ( $p < 0.05$ ). Males were less supportive than females for 5 policies ( $p < 0.01$ ). There were significant differences in support for specific race/ethnicity groups for 4 policies ( $p < 0.05$ ). Support for menu labelling policies increased with BMI ( $p < 0.05$ ).

**Conclusion** Overall, youth and young adults in Canada reported high levels of support for menu labelling, food package symbols/warnings, and school policies. Levels of support were generally consistent across socio-demographic subgroups, with some exceptions.

## Résumé

**Objectifs** De nombreux pays, dont le Canada, envisagent des politiques nutritionnelles pour améliorer les comportements alimentaires et les résultats de santé qui y sont liés. Notre étude porte sur l'appui des jeunes et des jeunes adultes canadiens aux mesures envisagées par les pouvoirs publics.

**Méthode** Des participants de 16 à 30 ans ( $n = 2729$ ) ont été recrutés pour des sondages en ligne par échantillonnage sur place dans cinq villes canadiennes dans le cadre de l'Étude sur les aliments au Canada menée d'octobre à décembre 2016. Les questions ont porté sur leur appui à 21 mesures particulières dans sept grands domaines : l'étiquetage des menus, les symboles et les mises en garde sur les emballages alimentaires, les politiques scolaires, la fiscalité et les subventions, les restrictions de zonage, les interdictions de commercialisation et la formulation des produits alimentaires. Des modèles de régression linéaire ont permis d'examiner les appuis selon l'âge, le sexe, la ville, la race ou l'ethnicité, la situation parentale, l'indice de masse corporelle (IMC) et la littératie en santé.

**Résultats** Nous avons observé de très hauts niveaux d'appuis à l'étiquetage des menus dans les restaurants et les écoles, ainsi qu'aux symboles et aux mises en garde sur les emballages alimentaires. La fiscalité, les restrictions de zonage (p. ex. à la présence d'aliments de restauration rapide et de dépanneurs près des écoles) et les interdictions de commercialisation auprès des enfants ont recueilli des niveaux d'appui relativement moindres. En général, l'appui aux 21 mesures augmentait avec l'âge ( $p < 0,01$ ), et

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L'appui à quatre mesures particulières augmentait avec la littératie en santé ( $p < 0,05$ ). Les répondants de sexe masculin étaient moins en faveur de cinq mesures particulières que les répondantes ( $p < 0,01$ ). Quatre mesures particulières ont recueilli des appuis sensiblement différents selon les groupes raciaux ou ethniques ( $p < 0,05$ ). L'appui à l'étiquetage des menus augmentait avec l'IMC ( $p < 0,05$ ).

**Conclusion** Dans l'ensemble, les jeunes et les jeunes adultes canadiens expriment de hauts niveaux d'appui à l'étiquetage des menus, aux symboles et aux mises en garde sur les emballages alimentaires et aux politiques scolaires. Les niveaux d'appui sont généralement les mêmes dans toutes les strates de population, à quelques exceptions près.

**Keywords** Nutrition policy · Policy support · Public opinion · Canada

**Mots-clés** Politique nutritionnelle · Appui aux réformes · Opinion publique · Canada

## Introduction

Diet-related non-communicable diseases are on the rise in Canada, with type 2 diabetes, heart disease, and obesity among the leading causes of premature death (Statistics Canada 2015; Government of Canada 2017). Poor diet is a key risk factor for non-communicable disease, and research indicates that few Canadians adhere to recommendations for a “good quality diet” from Canada’s Food Guide (Garriguet 2009). Approximately 75% of Canadians exceed the upper limit for sodium intake (Health Canada 2010) and sugar accounts for 21% of Canadians’ daily caloric intake (Langlois and Garriguet 2015). Across all age groups, youth and young adults report the poorest diet quality (Garriguet 2009), with less than 40% meeting fruit and vegetable intake recommendations (Government of Canada 2017). Dietary patterns are formed early in the life course (Nelson et al. 2008; Public Health Agency of Canada 2014); therefore, establishing healthy dietary practices among youth and young adults is a priority (Beaglehole et al. 2011).

The food environment plays a critical role in nutrition-related behaviour (Story et al. 2008). Social, physical, economic, and political factors (including food retail factors such as access, affordability, and marketing) influence food environment (Story et al. 2008; Glanz et al. 2005) and may supersede individual knowledge and motivation for making healthy choices (Story et al. 2008; Brambila-Macias et al. 2011). As a result, population-level interventions such as fiscal measures and regulations on food marketing, labelling, and product standards are important because of their potential for broad reach and ability to impact dietary patterns across large segments of the population (Story et al. 2008; Brambila-Macias et al. 2011). These interventions help to shape the food environment to support and encourage healthier food choices.

In 2016, the Government of Canada launched the Healthy Eating Strategy, which is aimed at making “the healthy choice the easy choice” for Canadians (Health Canada 2016). The Government has committed to implementing a series of new

policies, including revising nutrition facts tables on pre-packaged foods and front-of-package food labels, restrictions on commercial marketing of unhealthy foods to children, revising Canada’s Food Guide, eliminating *trans*-fat from the food supply, and reducing sodium in pre-packaged and restaurant foods (Health Canada 2016). At the subnational level, Ontario recently became the first province to implement mandatory calorie labelling on menus (Government of Ontario 2015). Canada is considering taxation of sugary drinks (Dietitians of Canada 2016), as well as other policy measures, including subsidies to reduce the cost of produce, nutrition standards for school cafeterias, zoning restrictions on fast food restaurants near schools, and bans on food marketing to children (Health Canada 2016).

Public support has the potential to influence policy adoption, as decision-makers are much more likely to implement policies if they are perceived to be favoured by the general public (Burstein 2003; Bos et al. 2013; Diepeveen et al. 2013; Mazzocchi et al. 2015; Raine et al. 2014). Level of support for a policy may also be linked to an individual’s perception of its usefulness, relevance, and applicability to their life. Some literature suggests that support for food and nutrition policies also varies based on individuals’ socio-demographic and economic characteristics (Mazzocchi et al. 2015; Public Health Agency of Canada 2011; Coalition Poids 2012); however, to our knowledge, no study to date has examined how policy support among youth varies across the breadth of nutrition policy measures proposed by governments to improve the food environment. Youth and young adulthood is a critical stage of life where youth gain independence in decision-making, particularly as related to food shopping and preparation (Nelson et al. 2008; Larson et al. 2006). As a result, dietary habits and behaviours are established early in the life course (Nelson et al. 2008; Larson et al. 2006; Dunn et al. 2000). The aim of the current study was to examine levels of support for nutrition policies among youth and young adults in Canada, as well as socio-demographic correlates of support.

## Methods

### Procedure

Data were collected via self-completed online surveys as part of the 2016 Canada Food Study. Respondents were recruited and screened by trained research assistants using in-person intercept sampling in five cities (Edmonton, Halifax, Montreal, Toronto, and Vancouver), from a sample of sites stratified by region/neighbourhood and site type (mall, transit hub, park, or other shopping districts) (Hammond et al. 2016). Potential respondents were invited to enrol in an online study on food choices. Respondents were eligible if they resided in one of the five cities, were 16–30 years of age, and had access to the Internet, as well as a laptop, desktop computer, or tablet. All eligible respondents who provided their email address were sent an invitation with a personalized link to the online survey.

Surveys were completed between October and December 2016 in English or French. Respondents received a \$2 cash incentive upon initial recruitment and a \$20 *Interac* e-transfer after completing the study. Consent was provided electronically before completing the survey. The study was reviewed by and received ethics clearance through the University of Waterloo Research Ethics Committee (ORE# 21631). A full description of the study methods can be found in the Technical Report (Hammond et al. 2016).

### Measures

#### Policy support measures

Respondents were asked about support for 21 nutrition policies in seven general categories: menu labelling; symbols and warnings on food packaging; taxation and subsidies; school food policies; zoning to restrict availability of unhealthy foods around schools; bans on marketing; and food formulation. Relevant policies were selected based on consultation with nutrition and policy experts, as well as existing or proposed measures under consideration in Canada. For each nutrition policy, participants were asked, “Would you support or oppose a government policy that would require [policy]?” and had the option of selecting, “Support,” “Neutral,” “Oppose,” or “Don’t Know.”

#### Socio-demographic measures

Covariates included age, sex at birth, city of residence, race/ethnicity, parental status, body mass index (BMI) calculated using self-reported height and weight, and health literacy (Hammond et al. 2016). Race was derived from survey questions which asked participants to select all racial or ethnic groups that applied to them; the “mixed/other” category

includes respondents who selected more than one racial/ethnic group as well as those who did not respond. Parental status was determined by asking, “Do you have any children (including step children or adopted children)?” Health literacy was derived from the Newest Vital Sign tool (Pfizer 2017), a series of six questions testing respondents’ ability to correctly interpret information from a sample nutrition facts table (Pfizer 2017). Respondents were categorized as (1) high likelihood of adequate literacy (answered 4–6 questions correctly); (2) possibility of limited literacy (answered 2 or 3 questions correctly); and (3) high likelihood of limited literacy (answered 0 or 1 question correctly) (Hammond et al. 2016).

### Data analysis

A total of 3000 youth and young adults participated in the Canada Food Study. A subsample of 2729 respondents was included in the current analysis after excluding those with missing data or those who answered, “Don’t Know” or “Refuse to Answer” for the selected policy variables. Post-stratification sample weights were constructed based on population estimates from the most recent census data available (2011) (Statistics Canada 2011). Sample probabilities were created for 30 demographic groups (age by sex) based on weighted proportions and applied to the data set. Weights were calculated as 1/sample probability for each group and applied to the full dataset of 3000 participants. Estimates reported are weighted unless otherwise specified.

Descriptive statistics were used to summarize levels of support for all 21 policies. The 21 individual policy variables were classified by policy type into seven categories (menu labelling; symbols and warnings; taxation and subsidies; zoning restrictions; marketing bans; school food policies; food formulation), and responses were summed within each policy type (oppose = 1, neutral = 2, and support = 3). Separate linear regression models were fitted to each of the seven nutrition policy categories to examine level of support. Covariates included age (continuous), sex, city, race/ethnicity, parental status, BMI (continuous), and health literacy; all were entered into each model simultaneously. The regression analyses were also adjusted for smartphone use to account for potential differences in responses when completed on a smartphone versus a computer/laptop/tablet. Analyses were conducted using IBM SPSS version 23 (Armonk, NY).

## Results

Sample characteristics are shown in Table 1. The average unweighted age of participants was 21.7 years. Almost half of the sample was “white only” (44.5%) or mixed/other race/ethnicity (31.5%). The majority of participants did not

**Table 1** Sample characteristics (N = 3000)

Characteristic	Unweighted % (n)	Weighted % (n)
Age group (years)		
16 to 18	24.4% (731)	17.1% (514)
19 to 21	29.2% (876)	19.8% (594)
22 to 25	27.4% (821)	28.1% (843)
26 to 30	19.1% (572)	34.9% (1048)
Sex at birth		
Male	39.5% (1184)	50.9% (1527)
Female	60.5% (1816)	49.1% (1473)
City of residence		
Edmonton	17.2% (516)	16.5% (494)
Halifax	19.4% (582)	17.4% (523)
Montreal	18.7% (562)	19.9% (596)
Toronto	25.5% (765)	24.6% (739)
Vancouver	19.2% (575)	21.6% (648)
Race/ethnicity		
White only	44.5% (1335)	45.3% (1360)
Chinese only	8.1% (244)	7.9% (237)
South Asian only	6.4% (191)	6.6% (198)
Black only	5.5% (166)	5.3% (160)
Aboriginal (inclusive)	4.0% (120)	3.8% (113)
Mixed or other, not stated or missing	31.5% (944)	31.0% (931)
Parental status		
Yes (at least one child)	3.0% (91)	4.7% (140)
No	97.0% (2906)	95.3% (2857)
Not stated or missing	0.1% (3)	0.1% (3)
BMI category*		
Underweight	6.9% (206)	5.8% (174)
Normal weight	50.8% (1524)	50.8% (1523)
Overweight	15.7% (471)	17.3% (520)
Obese	7.8% (235)	8.0% (240)
Not stated or missing	18.8% (564)	18.1% (544)
Health literacy		
Adequate literacy	59.7% (1792)	60.9% (1826)
Possibility of limited literacy	19.7% (591)	18.3% (549)
High likelihood of limited literacy	13.1% (394)	13.1% (394)
Missing	7.4% (223)	7.7% (231)
Survey completion on smartphone		
No indication of smartphone use	84.7% (2540)	85.6% (2568)
Probable smartphone use	15.3% (460)	14.4% (432)

BMI body mass index

\*BMI was classified using the World Health Organization cut-offs where underweight is < 18.4999, normal weight is 18.50–24.991, overweight is 24.992 to 29.991, and obese is 29.992 and above. The continuous variable for BMI was used in regression analyses

have children (97.0%), most had adequate health literacy (59.7%), and half (50.8%) were categorized as “normal” weight.

Table 2 summarizes levels of support for the 21 proposed food policies. The majority of respondents supported menu

labelling policies, including display of calorie amounts on menus of chain restaurants (68.7%) or school cafeterias (63.5%). There were also high levels of support for the placement of symbols or warnings on food packaging, including front-of-package “high sugar” symbols (79.4%), front-of-

**Table 2** Level of support for proposed food policies (*N* = 2729)

	Level of support, weighted % ( <i>n</i> )		
	Support	Neutral	Oppose
<b>Policy type</b>			
<b>Menu labelling</b>			
Calorie amounts on menus of chain restaurants ( <i>n</i> = 2714)	68.7% (1866)	26.3% (713)	5.0% (135)
Calorie amounts on menus in school cafeterias ( <i>n</i> = 2704)	63.5% (1716)	27.6% (747)	8.9% (240)
<b>Symbols and warnings</b>			
Symbols for “high sugar” on the front of food packages ( <i>n</i> = 2716)	79.4% (2157)	17.6% (477)	3.0% (82)
Symbols for “high salt” on the front of food packages ( <i>n</i> = 2712)	76.8% (2084)	19.8% (536)	3.4% (92)
Health warnings on packaged foods with high sugar levels ( <i>n</i> = 2715)	78.7% (2137)	17.9% (486)	3.4% (92)
Symbols on grocery store shelf labels that identify healthy/unhealthy foods ( <i>n</i> = 2714)	67.8% (1840)	25.9% (702)	6.3% (172)
Nutrition facts tables (e.g., calories) on alcoholic beverages ( <i>n</i> = 2695)	65.8% (1774)	30.0% (808)	4.2% (113)
<b>Taxation and subsidies</b>			
Taxes on sugary drinks ( <i>n</i> = 2702)	40.8% (1104)	31.9% (862)	27.2% (736)
Taxes on sugary drinks if the money was spent on subsidizing healthy foods ( <i>n</i> = 2676)	59.2% (1584)	26.7% (716)	14.1% (376)
Taxes on foods with high sugar ( <i>n</i> = 2689)	38.5% (1035)	33.8% (908)	27.8% (746)
Taxes on foods with high salt ( <i>n</i> = 2678)	30.7% (823)	41.1% (1100)	28.2% (754)
Subsidies to reduce the price of fresh fruit and vegetables ( <i>n</i> = 2711)	83.0% (2250)	13.8% (373)	3.2% (88)
<b>Zoning restrictions</b>			
Restrict the number of fast food restaurants near schools ( <i>n</i> = 2696)	38.4% (1036)	42.0% (1131)	19.6% (529)
Restrict the number of convenience stores near schools ( <i>n</i> = 2689)	24.9% (669)	45.8% (1232)	29.3% (789)
<b>Marketing bans</b>			
Ban on marketing sugary drinks to children ( <i>n</i> = 2712)	59.4% (1611)	29.9% (812)	10.7% (290)
Ban on marketing unhealthy food and beverages to children ( <i>n</i> = 2714)	61.9% (1680)	27.6% (750)	10.5% (284)
Ban on marketing all food and beverages to children ( <i>n</i> = 2694)	34.5% (930)	38.4% (1035)	27.1% (730)
Ban on all marketing to children (i.e., toys, entertainment, food, and beverages) ( <i>n</i> = 2687)	35.7% (960)	37.8% (1017)	26.4% (710)
<b>School food policies</b>			
Breakfast or lunch programs in schools ( <i>n</i> = 2714)	79.7% (2164)	17.7% (479)	2.6% (71)
Nutrition standards for school cafeterias ( <i>n</i> = 2729)	79.0% (2157)	18.0% (492)	3.0% (81)
<b>Food formulation</b>			
A maximum limit on salt levels in pre-packaged foods ( <i>n</i> = 2695)	66.0% (1778)	26.1% (704)	7.9% (213)

package “high salt” symbols (76.8%), and health warnings on packaged foods with high sugar levels (78.7%). There were similarly high levels of support for school-focused food policies including meal programs (79.7%), nutrition standards for school cafeterias (79.0%), and for implementing a maximum limit on salt levels in pre-packaged foods (66.0%).

Policies involving taxation and subsidies, zoning restrictions, and marketing bans received relatively less support. The lowest levels of support were for regulations to restrict the number of convenience stores near schools (24.9%).

Similarly, only about one third of participants supported restricting the number of fast food restaurants near schools (38.4%), bans on marketing all food and beverages to children (34.5%), or all marketing to children (35.7%). However, a greater proportion of participants were neutral about these policies (45.8, 38.4, and 37.8%, respectively). While 40.8% of participants supported taxes on sugary drinks, this increased to 59.2% if the money earned from taxation was spent on subsidizing healthy foods. Overall, the proportion of participants who supported each policy measure was greater than



the proportion opposed, for all but one policy (restricting the number of convenience stores near schools).

In the linear regression analyses conducted for each of the seven policy types, age was a significant predictor of support for all types of policies, and support tended to increase with age ( $p < 0.01$ ). Males were less supportive than females for nutrition symbols and warnings ( $\beta = -0.198$ ,  $p < 0.001$ ), school policies ( $\beta = -0.175$ ,  $p < 0.001$ ), zoning restrictions ( $\beta = -0.164$ ,  $p < 0.001$ ), marketing bans ( $\beta = -0.247$ ,  $p < 0.001$ ), and maximum salt limits ( $\beta = -0.216$ ,  $p < 0.001$ ). Race/ethnicity was a significant predictor of support for nutrition symbols and warnings, taxation and subsidies, marketing bans, and maximum salt limits. In particular, compared to participants of mixed/other or unknown race/ethnicity, white ( $\beta = -0.086$ ,  $p = 0.02$ ) and Aboriginal participants ( $\beta = -0.182$ ,  $p = 0.03$ ) were less likely to support nutrition symbols and warnings. Chinese participants were less likely to support taxation and subsidies ( $\beta = -0.281$ ,  $p < 0.001$ ); white participants were more likely to support marketing bans ( $\beta = 0.112$ ,  $p = 0.03$ ); and Aboriginal participants were less likely to support a maximum limit on salt in pre-packaged foods ( $\beta = -0.149$ ,  $p = 0.04$ ). City of residence was significantly associated only with support for marketing bans, with Montreal residents more likely to support such bans than Vancouver residents ( $\beta = 0.445$ ,  $p < 0.001$ ). In addition, participants with a high likelihood of limited health literacy were less likely to support menu labelling compared to those with high likelihood of adequate literacy ( $\beta = -0.255$ ,  $p < 0.001$ ). Those with a high likelihood of limited literacy were less likely to support symbols and warnings ( $\beta = -0.276$ ,  $p < 0.001$ ) or school policies ( $\beta = -0.375$ ,  $p < 0.001$ ) compared to those with a high likelihood of adequate literacy. BMI was significantly associated only with support for menu labelling ( $\beta = 0.009$ ,  $p = 0.02$ ), which increased with BMI. Parental status was not significantly associated with support for any type of policy. Smartphone use was significantly associated only for one policy; those who completed the survey on a computer/laptop/tablet were more likely to support school policies than those who used a smartphone ( $\beta = 0.142$ ,  $p < 0.001$ ).

## Discussion

Many countries are considering food policies ranging from front-of-package labelling to taxation to help curb the obesity epidemic and other non-communicable diseases (Brambila-Macias et al. 2011; Health Canada 2016; Bos et al. 2013; Diepeveen et al. 2013; Mazzocchi et al. 2015). This study demonstrated that young Canadians are supportive of nutrition-related policies, particularly those pertaining to labelling on menus and food packages, school-focused policies, and maximum salt levels for packaged products. There was relatively less support for policies around taxation, zoning,

and marketing bans, which based on the “Nuffield intervention ladder” are more “intrusive” policy interventions due to the restrictions they place on individual choice and access (Diepeveen et al. 2013). These findings are consistent with similar studies in Canada, the USA, Australia, New Zealand, and several European countries, where people tend to be more supportive of interventions that are less intrusive (i.e., menu labelling and educational campaigns) compared with more controlling policy interventions (i.e., taxation, bans) (Diepeveen et al. 2013; Raine et al. 2014). Nevertheless, a minority of respondents in this study opposed even the more “intrusive” policies. In all cases, at least 70% of respondents were either neutral or supported each of the 21 policies.

Notably, support for more intrusive policies was conditional among youth and young adults in Canada. For example, support for taxation of sugar drinks increased by 18 percentage points when proposed in conjunction with a subsidy for healthy foods. These findings are similar to another Canadian study conducted in 2011 which found that while only 27% of adults supported taxation of junk foods and sugary drinks, support increased to approximately 40% if the money would be used to fund programs to fight childhood obesity (Public Health Agency of Canada 2011). Earmarking revenue from food taxes to subsidize healthy eating has also been shown to increase support for food taxation in countries such as France (Julia et al. 2015) and New Zealand (Signal et al. 2017), where adults reported greater support for a sugar-sweetened beverage tax if the money would be used toward healthcare system improvement (Julia et al. 2015) or decreasing the price of produce (Signal et al. 2017).

There was also wide variation in support for marketing bans, with high support for specific bans on marketing unhealthy food or sugary drinks to children, but relatively less support for broader bans on “marketing all food and beverages” or “all marketing” targeting children. Notably, the statistically significant difference in support for marketing bans among residents of Montreal (Quebec) compared to Vancouver may be a result of the marketing bans that have been in effect in Quebec since 1980 (Lobstein et al. 2013). The Quebec Consumer Protection Act prohibits all commercial advertising targeting children under the age of 13, specifically during peak television viewing times (Lobstein et al. 2013). Studies have found that fast food expenditure in Quebec decreased by 13% following the ban (Lobstein et al. 2013). The overall high levels of support for marketing bans in our study are also not surprising given a national study conducted in 2010, which found that 79% of Canadians believed that food marketing targeting children was a contributor to overweight and obesity (Lobstein et al. 2013). Further, this study found that 82% of Canadians agreed that marketing toward children should be restricted, and 64% agreed that marketing of unhealthy food to children should be banned altogether (similar to the 62% level of support in the current study) (Lobstein

et al. 2013). Another public opinion study also found that 60% of Canadian adults strongly supported restriction of marketing to children, and approximately half of respondents supported banning this type of marketing altogether (Public Health Agency of Canada 2011).

School food policies faced the least opposition, consistent with findings from other studies in Canada and across the globe (Diepeveen et al. 2013; Mazzocchi et al. 2015; Public Health Agency of Canada 2011; Lobstein et al. 2013; Spitters et al. 2009; Street et al. 2017). This may reflect the consideration of children as a priority group for program and policy interventions in many countries (UNICEF 2017), due to established evidence demonstrating the impact of behaviours in early childhood and youth on longer-term health outcomes including overweight and obesity (Nelson et al. 2008; Public Health Agency of Canada 2014; Beaglehole et al. 2011; Public Health Agency of Canada 2011).

Several socio-demographic characteristics were significantly associated with policy support. Support generally increased with age and greater health literacy, similar to findings in France of increased policy support with age and education (Julia et al. 2015). A potential explanation may be increased interest in health or knowledge with age. The current study found some differences based on race/ethnicity and city of residence. To our knowledge, no other studies of nutrition policy support have assessed the influence of race/ethnicity. The current study found that different racial/ethnic groups supported different policies, and this may be a result of cultural influence, familiarity, or influence of socio-economic status. Notably, weight status was only significant for menu labelling support which increased with BMI. This may be reflective of an increased interest in nutritional information such as calories; however, additional research would be needed to elucidate potential explanations for the association between policy support and race/ethnicity or BMI.

Overall, the differences by socio-demographic characteristics were relatively modest and levels of support were generally consistent across most subgroups examined in the current study. This is similar to findings from a 2015 survey in Belgium, Denmark, Italy, Poland, and the UK that found that, while socio-demographic characteristics had some influence, policy support was largely attributed to individuals' attitudes (Mazzocchi et al. 2015). Additional information on individuals' attitudes and beliefs was not collected in the current study, and this may be an area for further exploration.

## Strengths and limitations

This study is among the first to assess policy support among young Canadians across five provinces. In addition, the Canada Food Study utilized a unique, validated approach to capturing health literacy that focused on health-specific

knowledge using the Newest Vital Sign assessment tool rather than general educational status.

The study did not recruit participants using a probability-based sample and only recruited from five major Canadian cities; therefore, the study cannot provide nationally representative estimates. Compared to national estimates, the current sample is somewhat more likely to report food insecurity and to be students, with similar levels of overweight and obesity, and other risk behaviours, such as tobacco and cannabis use (Signal et al. 2017). Moreover, the Newest Vital Sign tool has only been validated in primary care settings; thus, while it serves as an indication of health and nutrition literacy, it needs to be further tested with non-English speakers as well as a youth population (Weiss et al. 2005). Future studies may wish to include a qualitative component to better understand why some policies receive greater support or opposition, and to examine the differential influence of certain socio-demographic characteristics, such as race/ethnicity, on policy support.

## Conclusion

Overall, youth and young adults in Canada reported high levels of support for various policy measures, particularly for menu labelling, symbols/warnings on food packaging, and school food policies. Levels of support were generally consistent across demographic subgroups, with some exceptions. Future research should focus on ascertaining the determinants of policy support, as public perception and social desirability are important to the policy-making and implementation process.

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## Compliance with ethical standards

Consent was provided electronically before completing the survey. The study was reviewed by and received ethics clearance through the University of Waterloo Research Ethics Committee (ORE# 21631).

**Conflict of interest** The authors declare that they have no competing interests.

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