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Anastasia Marquette & David Hammond

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ORIGINAL ARTICLE



## Levels of support and consumer perceptions of cannabis regulations in Canada

Anastasia Marquette  and David Hammond

School of Public Health Sciences, University of Waterloo, Waterloo, ON, Canada

### ABSTRACT

**Background:** Canada legalized cannabis for adult (recreational) use in 2018, alongside regulations on the sale, use, and possession of cannabis. To date, there is little evidence on consumer perceptions and support of cannabis regulations.

**Objectives:** This study examined perceptions of nine cannabis regulatory policies, including differences by cannabis consumption and provincial policy.

**Methods:** National survey data were analyzed from Wave 5 of the International Cannabis Policy Study conducted online in 2022 with 16,812 Canadians aged 16+ years, 62% of which were assigned female-at-birth. Weighted logistic regression models examined support for nine policy variables.

**Results:** Support among Canadians was greatest for health warnings on cannabis products (62.6%), legalization for adult use (58.5%), and retail store window-coverings (49.2%), followed by a vaping/extract THC limit (40.1%), retail store density (35.5%), government-only store models (34.6%), the THC limit on edibles (32.3%), and advertising restrictions (31.8%). The 30 g purchasing limit had the least consumer support (10.1%). As consumption increased, opposition generally increased, although support remained high among consumers. Compared to non-consumers, daily consumers were more likely to oppose window-coverings ( $OR = 1.43$ ,  $CI95 = 1.16-1.75$ ,  $p = .001$ ). Where policies differed provincially, few differences in support were observed. No differences in support for THC limits on vaping/extracts were observed between Newfoundland, Nova Scotia, and Quebec versus the rest of Canada, despite stronger vaping/extract regulations ( $OR = 1.05$ ,  $CI95 = 0.87-1.28$ ,  $p = .597$ ).

**Conclusion:** Canadians generally support existing cannabis regulations that were implemented to support public health. The high level of support among consumers suggests that the comprehensive regulations may not undermine transitions to legal retail sources.

### ARTICLE HISTORY

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### KEYWORDS

Cannabis; policy; legalization; perceptions; health; regulation

## Introduction

An increasing number of jurisdictions have legalized the sale and consumption of cannabis, including Canada, which legalized non-medical cannabis for adult (recreational) use at the federal-level in October 2018 (1). Regulations are important components of legalization, and impacts of cannabis legalization will be strongly influenced by the way in which cannabis is regulated within a legal framework. Indeed, while Canada, Uruguay, Germany, and most US states have legalized non-medical cannabis, there are notable differences in commercialization, the ways in which products are sold and regulated, in each jurisdiction. As the history of tobacco and alcohol demonstrate, the regulatory framework for legal substances has a strong influence on patterns of use and public health outcomes (2–5).

In Canada, cannabis regulations are implemented at both the federal- and provincial/territorial-level.

Generally, federal regulations establish “minimum” thresholds for measures such as legal age ( $\geq 18$  years), marketing, packaging and labeling, product standards/quality, and possession limits (6). Provinces and territories can enhance these regulatory measures and also have primary responsibility for retail policies, including licensing cannabis stores and distribution of cannabis products (7). Public opinion and consumer perceptions have an important influence on the strength of regulatory measures that are implemented and the extent to which they are revised over time. In Canada, government consultations played an important role in the development of the Cannabis Act, and mandatory reviews are conducted to inform revisions (8, 9). Indeed, multiple revisions to provincial and federal cannabis regulations were implemented in the first five years of legalization, with recent consultation on product

standards, packaging and labeling, price/taxation, marketing, and other measures (10).

To date, there is limited literature on consumer perceptions of cannabis regulations, including restrictions on cannabis marketing. Restrictions on advertising and promotion are a core feature of the Cannabis Act, designed to protect young people from inducements to use cannabis. These regulations prevent virtually all traditional forms of advertising to which young people could be exposed, as well as any promotion, packaging, and labeling of cannabis that could be appealing to young people or encourage consumption (6). Several industry associations have claimed these restrictions prevent legal companies from attracting consumers from the illegal market, as they cannot build brands to connect with them (11). The Cannabis Act prohibits retailers from displaying cannabis products in public view, which often requires “window-coverings” in stores (6). Cannabis companies have claimed window-coverings disincentivize consumers’ transition from the illegal to legal market because they cannot attract consumer attention, and therefore should not be required (11). To our knowledge no study has examined consumer perceptions of cannabis marketing restrictions in Canada or other legal markets.

Health warnings on product labels are another means of moderating the appeal of cannabis products while conveying health information (12, 13). In Canada, rotating warning messages must be included in a yellow box on the principal display areas of all cannabis products (14). A 2022 qualitative study found that young adults unanimously agreed that cannabis packaging should feature warnings to deter young people, but reported mixed reactions to several warnings (15). We are unaware of other literature on public perceptions of Canadian warnings, which are substantially more comprehensive than those required in US states that have legalized cannabis.

Retail access, including the number and location of stores, is associated with tobacco and alcohol consumption, and is particularly important in transitioning cannabis consumers from illicit to legal sources (2, 16). As of October 2023, there were more than 3,000 legal, physical cannabis stores in Canada, with 60% of neighborhoods being within a 5-minute drive (17, 18). Canada has three retail structures: in some provinces all retailers are government owned and operated (Quebec, Prince Edward Island, New Brunswick, and Nova Scotia); in some, all retailers are privately run (Alberta, Saskatchewan, and Manitoba), whereas others have a mix of government and private retailers (British Columbia, Ontario, and Newfoundland) (7).

To our knowledge, there is no literature on perceptions of the number of cannabis stores, or support for private versus public retail systems.

Finally, there is limited literature on consumer perceptions of product standards. In Canada, product standards include personal possession limits of 30 g of dried cannabis (6) and restrictions on the amount of THC in edible packages, which are based on concerns about appeal to children and accidental consumption (19, 20). Each package of edibles can contain no more than 10 mg THC. Additional product standards have also been implemented at the provincial-level. The province of Quebec has restricted edibles that appeal to children, including popular types of edibles like chocolates and gummies (21). Quebec has also implemented a THC limit of 30% on all products and has not permitted the sale of THC vaping products. All other provinces allow vaping products to be sold, although Nova Scotia and Newfoundland prohibit flavor additives (21). Product standards have received opposition from larger cannabis companies and some industry associations, including claims that the edible THC limit in Canada and the additional product standards in Quebec are unpopular with consumers and are helping sustain the illicit cannabis market (11). However, as with most other areas of regulation, there is little evidence on consumer perceptions or support for the novel product standards implemented in Canada.

The current study sought to examine levels of support and consumer perceptions of cannabis regulations held by Canadians. The study has three objectives: 1) to examine awareness and support for nine specific policies: the legal status of cannabis, restrictions on retail store density, retail store models, window-coverings, mandatory health warnings on packages, advertising, THC limits on cannabis edibles, THC limits on vaping/extract products, and the personal possession limit; 2) to examine differences in support based on cannabis consumption; and 3) to examine differences in support based on differences in provincial regulations and policies.

## Methods

### Study design

Data is from the International Cannabis Policy Study’s (ICPS) fifth cross-sectional survey wave conducted in Canada (22). Data were collected from respondents aged 16-years and older via self-completed web-based surveys in September-October 2022. A non-probability sample of respondents was

recruited through the Nielsen Consumer Insights Global Panel and their partners' panels. The Nielsen Panels are recruited using a variety of probability and non-probability sampling methods. For the ICPS surveys, Nielsen draws stratified random samples from online panels, with quotas based on age and province of residence. All participants younger than 18-years were recruited through their parents, who provided consent as did the respondent. Upon completion, respondents received remuneration in accordance with their panel's usual incentive structure. Monetary incentives have been shown to increase response rates and decrease response bias in subgroups under-represented in surveys, including disadvantaged subgroups (23). The cooperation rate, which was calculated based on AAPOR Cooperation Rate #2 as the percentage of respondents who completed the survey of the eligible respondents who accessed the survey link, was 60.7% (24). Surveys were conducted in English or French. Median survey time was 36 minutes.

The study was reviewed by and received ethics clearance through a University of Waterloo Research Ethics Committee (ORE#31330). See Technical Report for additional methodological details ([www.cannabisproject.ca/methods](http://www.cannabisproject.ca/methods)).

## Measures

### Sociodemographics

Respondents provided demographic information, including their province of residence, age, sex-at-birth, ethnicity, highest-level of education, and income adequacy (i.e. how difficult/easy it is for their family to make ends meet).

### Cannabis use

Frequency of cannabis use was categorized as "Never," "More than 12 months ago," "Past 12-months," "Monthly," "Weekly," "Daily/almost daily." This was derived from responses to the questions "Have you ever tried marijuana?," "How often do you use marijuana?," and "When was the last time you used marijuana?."

### Vaping/extract use

Respondents were classified as using vaping/extracts if they had consumed cannabis oils/liquids for vaping, hash/kief, and/or concentrates in the past 12 months. Frequency of vaping/extract use was categorized as "Less than once a month," "Weekly/monthly,"

"Daily/almost daily" based on the product they used most frequently.

### Retail proximity

All respondents were asked "How long would it take you to get to the nearest store that sells marijuana using your usual mode of transportation?" and selected a distance from a list ranging from "less than 5 minutes" to "more than 1 hour," categorized into "Under 5 minutes," "5–15 minutes," "Over 15 minutes," and "I don't know any stores where I live."

### Perceptions of cannabis regulations

Participants were asked to report their support or perceptions of nine different aspects of cannabis regulation in Canada: legalization, retail models, retail store density, window-coverings, health warnings, advertising, edible THC limit, vaping/extract THC limit, and the dried herb purchasing limit. See the 2022 survey (<https://cannabisproject.ca/methods/>) for exact question phrasing.

## Analysis

In total 17,016 respondents completed the 2022 Canadian ICPS survey, of which 178 were excluded from analysis for having missing data on education-level, and an additional 26 were excluded because they refused all policy-related questions. This resulted in a final analytic sample size of 16,812. For all outcomes, list-wise deletion was used to exclude respondents who refused to answer the associated question.

Post-stratification sample weights were constructed based on known population targets. Respondents were classified into age-by-sex-by-province, education, and age-by-smoking status groups. Correspondingly grouped population count and proportion estimates were obtained from Statistics Canada (25, 26). A raking algorithm was applied to the cross-sectional analytic sample size for each jurisdiction. Estimates are weighted unless otherwise specified.

Descriptive statistics were used to represent each policy outcome. Binary logistic regression was used to model support for the nine policy variables. Each model included age, sex-at-birth, ethnicity, education, income adequacy, and frequency of cannabis use as covariates. Province of residence was also included in all models: where policies differ by province, derived variables grouped them based on policy. Retail access was also included in the retail store density model.

**Table 1.** Sample characteristics of respondents, by cannabis use.

	All Canadians		Consumers only	
	Unweighted <i>n</i> = 16,812	Weighted <i>n</i> = 16,812	Unweighted <i>n</i> = 5,594	Weighted <i>n</i> = 5,594
<b>Province of residence</b>				
Ontario	29.5% (4955)	39.2% (6588)	30.4% (1700)	41.3% (2310)
Alberta	18.6% (3119)	11.3% (1899)	17.3% (969)	11.2% (627)
British Columbia	12.1% (2033)	14.1% (2364)	13.1% (733)	15.7% (878)
Manitoba	4.7% (786)	3.5% (585)	4.7% (261)	3.7% (209)
New Brunswick	4.9% (819)	2.0% (339)	5.3% (296)	2.0% (114)
Newfoundland and Labrador	4.2% (706)	1.5% (245)	4.6% (257)	1.4% (81)
Nova Scotia	5.2% (874)	2.7% (462)	6.2% (346)	3.5% (196)
Prince Edward Island	1.5% (248)	0.5% (79)	1.4% (77)	0.4% (24)
Quebec	14.9% (2505)	22.4% (3762)	12.9% (720)	17.7% (990)
Saskatchewan	4.6% (767)	2.9% (493)	4.2% (235)	3.0% (170)
<b>Age</b>				
16–25	12.6% (2114)	14.4% (2421)	13.5% (755)	16.1% (901)
26–45	38.8% (6519)	32.9% (5535)	48.8% (2731)	46.0% (2574)
46–65	42.2% (7088)	31.3% (5267)	34.5% (1929)	28.1% (1570)
66+	6.5% (1091)	21.3% (3589)	3.2% (179)	9.8% (551)
<b>Sex-at-birth</b>				
Female	61.8% (10387)	50.7% (8521)	60.9% (3409)	46.9% (2626)
<b>Education level</b>				
Less than high school	8.7% (1466)	16.0% (2693)	8.8% (493)	14.1% (789)
High school diploma or equivalent	14.7% (2478)	26.6% (4480)	16.2% (909)	29.1% (1629)
Some college or technical vocation	39.5% (6634)	30.6% (5140)	43.5% (2435)	33.3% (1864)
Bachelor's degree or higher	37.1% (6234)	26.8% (4499)	31.4% (1757)	23.5% (1314)
<b>Ethnicity</b>				
Black only	4.3% (731)	4.4% (737)	3.5% (196)	4.3% (243)
East/South East Asian only	8.4% (1409)	7.5% (1263)	4.9% (275)	5.0% (282)
Indigenous only	2.3% (393)	2.2% (365)	3.7% (208)	3.7% (206)
Latino only	1.9% (321)	1.8% (303)	1.7% (96)	2.0% (113)
Middle Eastern only	1.7% (290)	1.8% (296)	1.5% (84)	1.5% (85)
South Asian only	4.2% (703)	3.8% (639)	2.8% (154)	2.8% (157)
White only	70.8% (11900)	72.2% (12130)	75.0% (4195)	73.7% (4123)
Mixed/Other/Unstated	6.3% (1065)	6.4% (1082)	6.9% (386)	6.9% (389)
<b>Income adequacy</b>				
Very difficult/Difficult	31.9% (5367)	30.1% (5058)	36.2% (2023)	34.5% (1928)
Neither easy nor difficult	34.5% (5793)	35.2% (5917)	34.2% (1915)	35.4% (1979)
Very Easy/Easy	31.1% (5231)	32.2% (5411)	27.9% (1558)	28.0% (1564)
Unstated	2.5% (421)	2.5% (427)	1.8% (98)	2.2% (123)
<b>Cannabis consumption</b>				
Never used	37.5% (6306)	42.6% (7164)		
More than 12 months ago	29.2% (4912)	26.4% (4440)		
Past 12-months	10.5% (1763)	8.9% (1502)	31.5% (1763)	28.8% (1613)
Monthly	6.5% (1097)	6.0% (1017)	19.6% (1097)	19.5% (1092)
Weekly	5.5% (924)	5.4% (916)	16.5% (924)	17.6% (983)
Daily/Almost daily	10.8% (1810)	10.6% (1774)	32.4% (1810)	34.1% (1906)

## Results

### Sample characteristics

Table 1 shows the unweighted and weighted sample characteristics for respondents in the analysis.

### Support for cannabis legalization

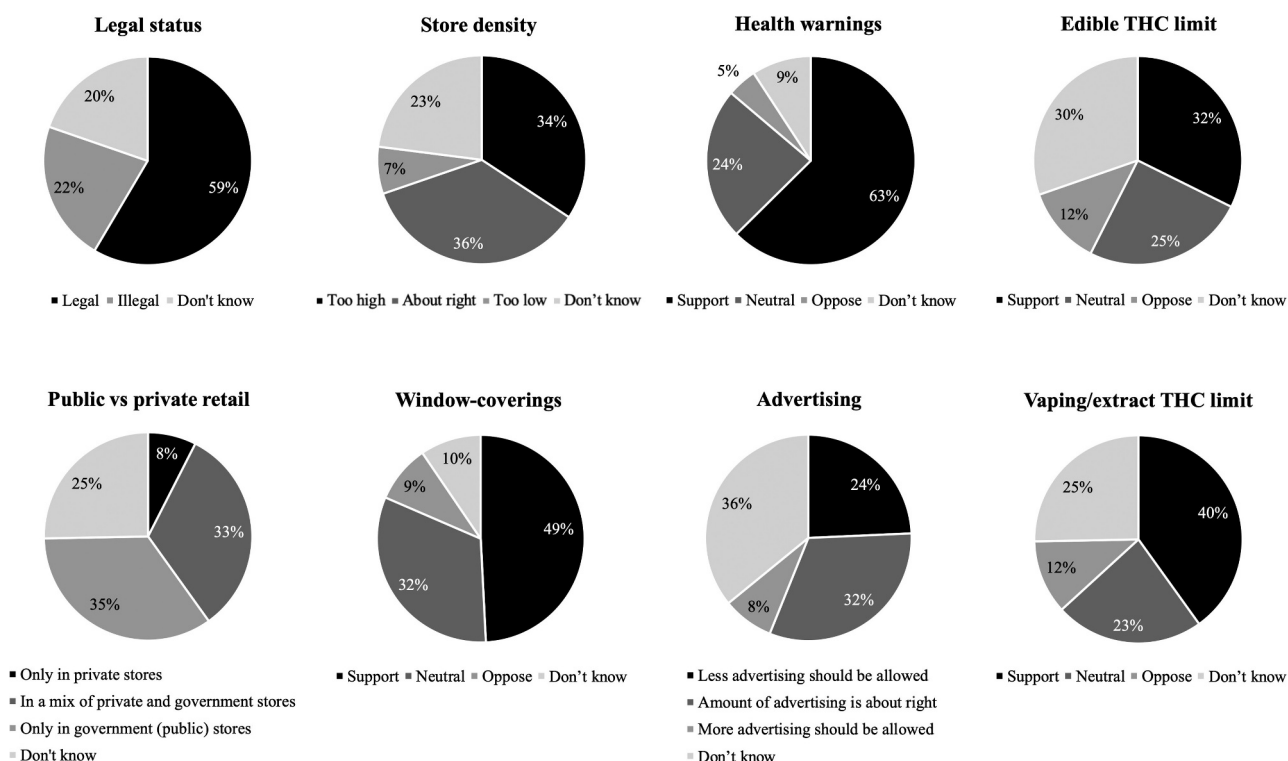
As shown in Figure 1, 58.5% of Canadians reported that cannabis for adult use should be legal, 21.8% reported it should be illegal, while 19.7% reported “don’t know.” Support for legalization was notably higher among consumers: 83.8% reported that cannabis for adult use should be legal and 6.4% reported it should be illegal (see Figure 2). As shown in Table 2, no differences were observed between past 12-month

and weekly/monthly consumers, with daily consumers reporting the greatest support.

### Public vs. private retail stores

As Figure 1 indicates, 7.5% of Canadians reported that cannabis for adult use should only be sold by private retailers, 34.6% reported that cannabis should only be sold by public retailers, and 32.6% reported that cannabis should be sold by a mix of both retailers. The remaining 25.3% of respondents reported “don’t know.” As Table 3 shows, there was no difference in support between non-consumers and past 12-month consumers; however, support for a private-only market was higher among weekly/monthly and daily consumers. Support for private-only stores was also higher





**Figure 1.** Support for and perceptions of cannabis regulations, among all Canadians. Support was greatest for health warnings (63%), legal status (59%), window-coverings (49%), and the vaping/extract THC limit (40%). About one-third of Canadians supported the store density (36%), edible THC limit (32%) and advertising (32%) policies. Perceptions of retail models were mixed, with approximately one-third of Canadians supporting a public/government retail model, and another third supporting a model containing a mix of private and government stores.

among Canadians living in provinces with private-only stores versus Canadians living in mixed private/public (OR = 1.59, CI95 = 1.31–1.93,  $p < .001$ ) or public-only provinces (OR = 1.72, CI95 = 1.36–2.19,  $p < .001$ ).

### Retail store density

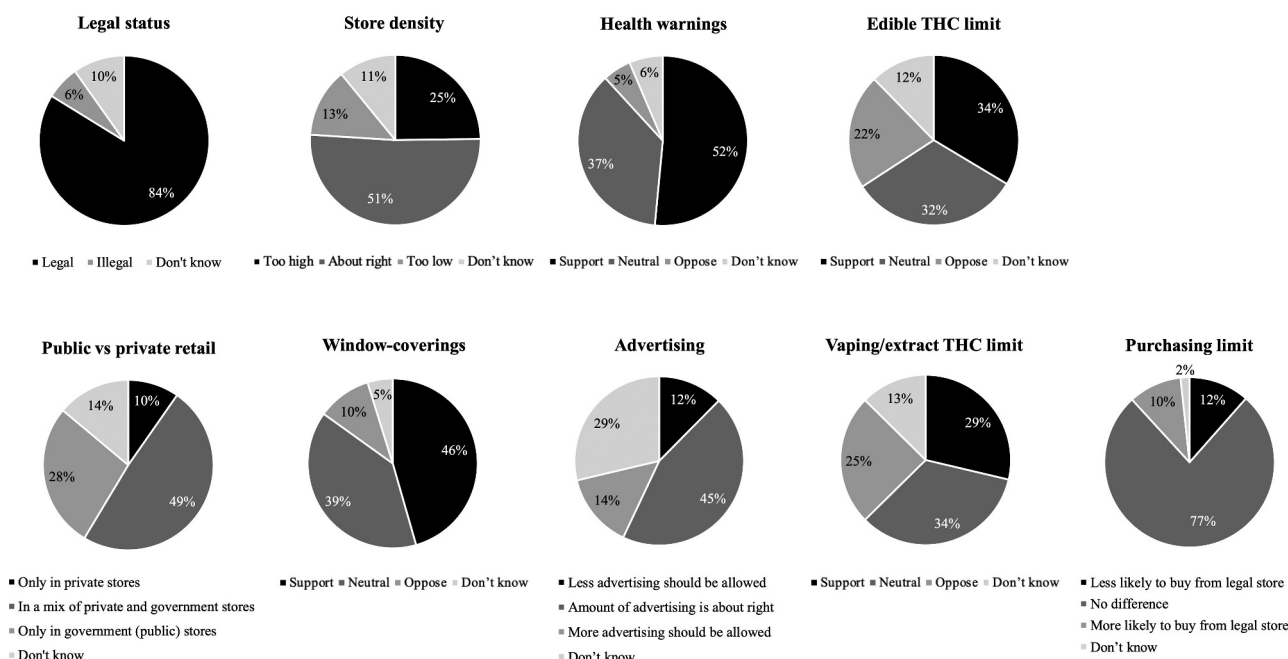
As shown in Figure 1, 34.3% of Canadians reported that the number of cannabis stores in their area is too high, 7.3% reported that the number is too low, 35.5% reported that the number is about right, while 23.0% reported “don’t know.” Support for store density differed among consumers: 24.8% reported that the number of cannabis stores in their area is too high, while 13.1% reported that the number is too low (see Figure 2). Table 4 illustrates that as the frequency of cannabis consumption increased, the proportion of respondents reporting the number of stores in their area was too high decreased; with a significant difference in reporting “too high” between consumers and non-consumers.

Proximity to retail cannabis stores was associated with respondents’ support for the density of cannabis

stores in their area. Of Canadians that lived over 15 minutes from their nearest cannabis store, 22.5% believed the density of stores in their area was too high. This was greater among Canadians who lived less than 5, and 5–15 minutes away from their nearest store, at 54.0% and 36.2%, respectively, whereas respondents who did not know of any cannabis stores where they live less frequently reported that the number of stores in their area is too high, at 15.1% (see Table 4).

### Window-coverings on retail stores

Overall, 49.2% of Canadians reported support for cannabis store window-coverings, 9.0% reported opposing this policy, 32.3% reported being neutral, and 9.5% reported “don’t know” (see Figure 1). Support for a window-covering policy was similar among consumers, with 45.6% support and 10.3% opposition (see Figure 2). As shown in Table 5, there was no difference in opposition between non-consumers and past 12-month consumers, but support was higher among weekly/monthly and daily/almost daily consumers.



**Figure 2.** Support for and perceptions of cannabis regulations, among consumers only. Support was greatest for legal status (84%), health warnings (52%), store density (51%), window coverings (46%), and advertising (45%). For both the edible THC limit and the vaping/extract THC limit, about one-third of edible and vaping/extract consumers, respectively, supported the limit, and another third were neutral. Perceptions of retail models were mixed, but most consumers supported a mix of private and government stores (49%). Among dried herb consumers, support was low for the purchasing limit (10%), with most reporting neutrality (77%).

### Health warnings on products

As illustrated in Figure 1, 62.6% of Canadians reported supporting government health warnings on cannabis products, 4.6% reported opposing them, 23.6% reported being neutral, and 9.2% reported “don’t know.” The same proportion of consumers opposed this policy, but consumer support was lower, at 51.5% (see Figure 2). No differences in opposition were found between non-consumers and weekly/monthly consumers; compared to non-consumers less past 12-month consumers and more daily consumers opposed the warnings (see Table 6).

### Advertising restrictions

In total, 24.3% of Canadians reported that less cannabis advertising should be allowed, 8.0% reported that more should be allowed, 31.8% reported that the amount of advertising is about right, while 35.9% reported “don’t know” (see Figure 1). Consumers reported greater support for advertising: 12.4% reported that less advertising should be allowed, 14.3% reported that more should be allowed, and 44.6% reported that the amount of advertising is about right (see Figure 2). As shown in Table 7, non-consumers reported greater opposition, with

opposition decreasing as frequency of consumption increased. No differences were observed between Quebec, which implemented more comprehensive advertising restrictions, and the rest of Canada.

### THC limits on edibles

As shown in Figure 1, 32.3% of Canadians supported the 10 mg THC limit for cannabis edibles, 12.2% reported opposing the limit, 25.1% reported being neutral, and 30.3% reported “don’t know.” Support for the edible THC limit was similar among edible consumers at 33.6%, whereas opposition was higher at 21.9% (see Figure 2). As seen in Table 8, support increased as the frequency of edible consumption increased. No differences were observed among respondents in Quebec, where edibles are more restricted, and the rest of Canada.

### THC limits on vaping and extracts

As Figure 1 indicates, 40.1% of Canadians supported a policy preventing the sale of vaping/extract products containing THC levels above 30%, 11.5% opposed this policy, 23.1% were neutral, and 25.3% reported “don’t know.” Support was lower among vaping/extract consumers, with 28.7% support and 24.8% opposition

**Table 2.** Logistic regression model examining Canadians' support for the legal status of recreational cannabis in Canada ( $n = 16,725$ ).\*

	% Legal	% Illegal	% Don't know	Odds of opposing legal status	
				AOR (95%CI)	P level
<b>Province of residence</b>					
Ontario	57.3%	22.5%	20.3%	Reference	Reference
Alberta	59.1%	21.0%	20.0%	0.89 (0.75–1.06)	.195
British Columbia	62.3%	19.4%	18.4%	0.84 (0.68–1.05)	.121
Manitoba	63.6%	16.7%	19.6%	0.72 (0.54–0.97)	.028 <sup>†</sup>
New Brunswick	66.4%	12.9%	20.7%	0.53 (0.36–0.78)	.001 <sup>†</sup>
Newfoundland and Labrador	69.8%	16.7%	13.4%	0.73 (0.40–1.32)	.294
Nova Scotia	71.9%	12.1%	16.0%	0.56 (0.39–0.79)	.001 <sup>†</sup>
Prince Edward Island	67.7%	23.8%	8.5%	1.14 (0.57–2.30)	.712
Quebec	54.4%	25.1%	20.5%	1.06 (0.88–1.27)	.539
Saskatchewan	54.8%	27.6%	17.6%	1.49 (0.97–2.28)	.069
<b>Age</b>					
16–25	53.6%	23.9%	22.6%	Reference	Reference
26–45	66.0%	17.6%	16.4%	0.84 (0.7–1.01)	.057
46–65	58.8%	22.3%	18.9%	1.08 (0.90–1.30)	.387
66+	49.9%	26.2%	23.9%	1.15 (0.87–1.53)	.328
<b>Sex-at-birth</b>					
Female	54.6%	22.7%	22.7%	Reference	Reference
Male	62.5%	21.0%	16.5%	0.94 (0.83–1.07)	.355
<b>Education level</b>					
Less than high school	46.7%	28.7%	24.6%	Reference	Reference
High school diploma or equivalent	59.6%	20.5%	19.9%	0.70 (0.53–0.93)	.013 <sup>†</sup>
Some college or technical vocation	62.5%	19.3%	18.2%	0.64 (0.50–0.83)	.001 <sup>†</sup>
Bachelor's degree or higher	59.9%	22.0%	18.1%	0.65 (0.50–0.84)	.001 <sup>†</sup>
<b>Ethnicity</b>					
White only	61.7%	19.8%	18.5%	Reference	Reference
Black only	52.7%	27.7%	19.5%	1.73 (1.23–2.41)	.001 <sup>†</sup>
East/South East Asian only	44.5%	31.6%	23.9%	1.95 (1.61–2.36)	<.001 <sup>†</sup>
Indigenous only	66.0%	11.5%	22.5%	0.66 (0.40–1.09)	.105
Latino only	57.9%	26.8%	15.3%	1.83 (1.05–3.17)	.032 <sup>†</sup>
Middle Eastern only	40.9%	38.7%	20.4%	2.83 (2.09–3.84)	<.001 <sup>†</sup>
South Asian only	43.2%	31.1%	25.7%	1.89 (1.51–2.35)	<.001 <sup>†</sup>
Mixed/Other/Unstated	54.0%	21.3%	24.8%	1.16 (0.90–1.50)	.244
<b>Income adequacy</b>					
Very difficult/Difficult	59.5%	22.4%	18.1%	Reference	Reference
Neither easy nor difficult	54.5%	22.9%	22.6%	0.93 (0.79–1.09)	.362
Very Easy/Easy	63.4%	20.5%	16.1%	0.78 (0.66–0.92)	.003 <sup>†</sup>
Unstated	38.6%	18.1%	43.3%	0.62 (0.44–0.87)	.006 <sup>†</sup>
<b>Cannabis consumption</b>					
Non-consumer	47.2%	28.8%	24.1%	Reference	Reference
Past 12-months	80.8%	6.7%	12.5%	0.19 (0.15–0.25)	<.001 <sup>†</sup>
Weekly/Monthly	84.3%	7.2%	8.5%	0.21 (0.16–0.28)	<.001 <sup>†</sup>
Daily/Almost daily	85.8%	5.3%	8.9%	0.15 (0.09–0.24)	<.001 <sup>†</sup>

\*94 dropped due to refused for policy question.

<sup>†</sup>indicates significance at the 0.05 level.Reports of Canadians' opinions on the legal status of recreational (non-medical) cannabis. Opposition of legal status was moderate among non-consumers (28.8%,  $p < .001$ ), and lower among consumers, ranging from 7.2%–5.3% ( $p < .001$ ).

(see Figure 2). As shown in Table 9, opposition was lowest among non-consumers, with opposition increasing as frequency of consumption increased. Support for this limit was the same between provinces with greater restrictions on vapes and extracts (Quebec, Nova Scotia, and Newfound) and the rest of Canada.

### Purchasing limit

As shown in Figure 2, 11.5% of dried herb consumers reported that the 30 g dried herb purchasing limit made them less likely to buy from a legal store, 10.1% reported that it made them more likely to buy from a legal store, 76.7% reported that it made no difference in their

decision to buy from legal stores, while 1.7% reported “don't know.” As seen in Table 10, there was no difference in opposition between past 12-month consumers and weekly/monthly consumers; opposition was greater among daily/almost daily consumers.

### Differences in support by sociodemographic factors

Tables 2–10 show differences in support for the nine regulatory measures by age, sex-at-birth, education, ethnicity, and income adequacy. No differences in support were observed by age, with the exception that Canadians aged 26–45 years reported greater opposition for edible and vaping/extract THC limits than other age groups. Males reported lower levels of



**Table 3.** Logistic regression model examining Canadians' support for public versus private cannabis retailers ( $n = 16,570$ ).\*

	% Public	% Mix	% Private	% Don't know	Odds of supporting private only	
					AOR (95%CI)	P level
<b>Province of residence</b>						
Public only (NS, QC, PEI)	49.0%	21.9%	6.3%	22.7%	0.92 (0.74–1.15)	.473
Mix of private and public (BC, NL, ON, NB)	30.7%	36.1%	7.0%	26.2%	Reference	Reference
Private only (AB, MB, SK)	25.9%	37.0%	10.8%	26.3%	1.59 (1.31–1.93)	<.001 <sup>†</sup>
<b>Age</b>						
16–25	33.4%	31.4%	8.5%	26.8%	Reference	Reference
26–45	32.3%	35.7%	9.9%	22.1%	1.14 (0.90–1.44)	.265
46–65	34.3%	33.9%	6.5%	25.3%	0.85 (0.66–1.08)	.188
66+	39.4%	26.6%	4.6%	29.4%	0.64 (0.40–1.03)	.066
<b>Sex-at-birth</b>						
Female	34.3%	30.8%	5.4%	29.5%	Reference	Reference
Male	34.9%	34.5%	9.6%	21.1%	1.76 (1.50–2.07)	<.001 <sup>†</sup>
<b>Education level</b>						
Less than high school	34.6%	26.6%	7.4%	31.3%	Reference	Reference
High school diploma or equivalent	33.5%	32.1%	7.3%	27.1%	0.98 (0.69–1.39)	.888
Some college or technical vocation	32.4%	36.7%	7.7%	23.2%	1.03 (0.76–1.40)	.862
Bachelor's degree or higher	38.1%	32.0%	7.5%	22.4%	0.89 (0.64–1.24)	.498
<b>Ethnicity</b>						
White only	34.6%	34.0%	6.5%	24.8%	Reference	Reference
Black only	35.2%	26.4%	16.6%	21.9%	2.42 (1.66–3.53)	<.001 <sup>†</sup>
East/South East Asian only	37.2%	28.5%	9.2%	25.1%	1.31 (1.01–1.70)	.040 <sup>†</sup>
Indigenous only	21.4%	41.2%	10.5%	27.0%	1.23 (0.80–1.88)	.354
Latino only	41.5%	29.2%	11.0%	18.2%	1.67 (1.11–2.52)	.014 <sup>†</sup>
Middle Eastern only	46.8%	17.0%	11.7%	24.5%	1.70 (1.08–2.68)	.022 <sup>†</sup>
South Asian only	35.1%	24.8%	8.7%	31.4%	1.26 (0.88–1.80)	.211
Mixed/Other/Unstated	29.5%	32.8%	6.2%	31.5%	0.88 (0.64–1.21)	.429
<b>Income adequacy</b>						
Very difficult/Difficult	32.0%	35.4%	8.3%	24.3%	Reference	Reference
Neither easy nor difficult	33.5%	32.2%	7.0%	27.3%	0.88 (0.72–1.08)	.213
Very Easy/Easy	39.1%	31.7%	7.6%	21.6%	0.95 (0.77–1.17)	.621
Unstated	22.7%	16.0%	2.5%	58.8%	0.27 (0.14–0.54)	<.001 <sup>†</sup>
<b>Cannabis consumption</b>						
Non-consumer	37.8%	25.2%	6.5%	30.5%	Reference	Reference
Past 12-months	32.2%	44.3%	7.5%	16.1%	1.07 (0.83–1.38)	.593
Weekly/Monthly	28.5%	48.9%	11.2%	11.4%	1.55 (1.25–1.91)	<.001 <sup>†</sup>
Daily/Almost daily	22.5%	52.9%	10.0%	14.6%	1.46 (1.10–1.93)	.008 <sup>†</sup>

\*203 dropped due to refused for policy question.

<sup>†</sup>indicates significance at the 0.05 level.

Reports of Canadians' opinions of the retail model of cannabis stores varied. Support was lowest for private-only models among non-consumers (6.5%). Past 12-month consumers reported similar support for private-only models (7.5%,  $p = .593$ ), and support for private-only models was slightly higher among weekly/monthly (11.2%,  $p < .001$ ) and daily/almost daily consumers (10.0%,  $p = .008$ ). Support by province was consistent with the province's retail model, except for private-only provinces, which reported the greatest support for a mixed retail model (37.0%).

support than females for three policies: health warnings (OR = 1.43, CI95 = 1.18–1.74,  $p < .001$ ), vaping/extract THC limits (OR = 1.25, CI95 = 1.06–1.46,  $p < .001$ ), purchasing limit (OR = 1.79, CI95 = 1.13–2.82,  $p = .013$ ), and greater support for private-only stores (OR = 1.76, CI95 = 1.50–2.07,  $p = .006$ ). More females reported that the density of cannabis stores is too high (OR = 0.80, CI95 = 0.71–0.89,  $p < .001$ ). No differences by sex-at-birth were observed for the remaining measures.

Modest differences in support were observed by income adequacy. As income adequacy increased, opposition for legalization and the edible THC limit decreased. Opposition to window-coverings was similar for Canadians reporting “difficult” and “easy” income adequacy, with less opposition among those reporting “neutral” and “unstated.” Support for a private-only market and less advertising was lower among Canadians who reported “unstated” income

adequacy, with no difference across other levels. Across education there were various differences in opposition for legalization, health warnings, advertising, edible THC limit, and vaping/extract THC limit. Similarly, there were a variety of differences in opposition across all measures by ethnicity, except for window-coverings, where there was no difference. Differences by education and ethnicity were truly mixed across outcomes.

## Discussion

This study is among the first to examine perceptions and support for regulatory measures in a legal cannabis market. In general, Canadians reported high levels of support for regulatory restrictions, with limited opposition. Over half of Canadians supported cannabis legalization, with only one-fifth in opposition. This support is consistent with a 2021 survey which found that 78% of

**Table 4.** Logistic regression model examining Canadians' support for the density of retail cannabis stores in Canada ( $n = 16,715$ ).\*

	% Too low	% About right	% Too high	% Don't know	Odds of indicating that store density is too high	
					AOR (95%CI)	P level
<b>Province of residence</b>						
Ontario	4.2%	27.5%	46.9%	21.4%	Reference	Reference
Alberta	4.8%	33.1%	44.9%	17.2%	0.80 (0.69–0.92)	.002 <sup>†</sup>
British Columbia	6.7%	38.9%	28.5%	25.9%	0.43 (0.37–0.51)	<.001 <sup>†</sup>
Manitoba	5.0%	40.2%	33.6%	21.2%	0.51 (0.41–0.64)	<.001 <sup>†</sup>
New Brunswick	8.9%	52.3%	13.5%	25.2%	0.15 (0.11–0.21)	<.001 <sup>†</sup>
Newfoundland and Labrador	15.4%	48.1%	10.4%	26.0%	0.11 (0.07–0.17)	<.001 <sup>†</sup>
Nova Scotia	13.4%	48.8%	11.6%	26.3%	0.13 (0.08–0.21)	<.001 <sup>†</sup>
Prince Edward Island	11.2%	66.5%	10.7%	11.5%	0.11 (0.05–0.24)	<.001 <sup>†</sup>
Quebec	13.4%	43.2%	16.9%	26.4%	0.23 (0.19–0.28)	<.001 <sup>†</sup>
Saskatchewan	3.5%	37.2%	39.3%	20.0%	0.63 (0.49–0.82)	.001 <sup>†</sup>
<b>Age</b>						
16–25	7.9%	38.6%	31.9%	21.5%	Reference	Reference
26–45	11.4%	40.7%	30.8%	17.1%	0.92 (0.78–1.07)	.268
46–65	5.4%	34.7%	36.6%	23.3%	1.06 (0.91–1.24)	.449
66+	3.4%	26.8%	37.9%	31.9%	1.10 (0.87–1.41)	.430
<b>Sex-at-birth</b>						
Female	5.6%	33.1%	36.9%	24.5%	Reference	Reference
Male	9.0%	38.0%	31.7%	21.2%	0.80 (0.71–0.89)	<.001 <sup>†</sup>
<b>Education level</b>						
Less than high school	10.0%	30.5%	35.0%	24.5%	Reference	Reference
High school diploma or equivalent	7.1%	37.3%	31.2%	24.3%	0.78 (0.61–1.00)	.050
Some college or technical vocation	6.9%	38.1%	33.7%	21.4%	0.84 (0.66–1.06)	.137
Bachelor's degree or higher	6.2%	33.9%	37.8%	22.1%	1.03 (0.81–1.30)	.806
<b>Ethnicity</b>						
White only	6.0%	36.7%	36.2%	21.1%	Reference	Reference
Black only	24.5%	31.5%	18.9%	25.0%	0.41 (0.32–0.53)	<.001 <sup>†</sup>
East/South East Asian only	4.5%	30.7%	38.4%	26.4%	0.94 (0.81–1.10)	.458
Indigenous only	12.3%	44.1%	22.7%	21.0%	0.94 (0.81–1.10)	.003 <sup>†</sup>
Latino only	16.8%	39.5%	23.1%	20.6%	0.57 (0.40–0.81)	.002 <sup>†</sup>
Middle Eastern only	8.8%	33.3%	30.5%	27.4%	0.83 (0.59–1.17)	.284
South Asian only	7.0%	30.3%	28.7%	33.9%	0.60 (0.48–0.75)	<.001 <sup>†</sup>
Mixed/Other/Unstated	8.7%	30.5%	30.5%	30.2%	0.84 (0.68–1.03)	.095
<b>Income adequacy</b>						
Very difficult/Difficult	10.3%	35.8%	33.6%	20.3%	Reference	Reference
Neither easy nor difficult	5.6%	35.0%	34.6%	24.8%	0.96 (0.84–1.11)	.581
Very Easy/Easy	6.5%	37.3%	35.4%	20.8%	0.89 (0.77–1.03)	.119
Unstated	5.0%	16.2%	24.7%	54.1%	0.75 (0.55–1.02)	.070
<b>Cannabis consumption</b>						
Non-consumer	4.6%	28.5%	38.6%	28.3%	Reference	Reference
Past 12-months	8.6%	46.3%	31.9%	13.2%	0.56 (0.48–0.66)	<.001 <sup>†</sup>
Weekly/Monthly	12.3%	54.2%	23.6%	9.9%	0.38 (0.32–0.44)	<.001 <sup>†</sup>
Daily/Almost daily	18.1%	52.2%	20.2%	9.6%	0.28 (0.23–0.34)	<.001 <sup>†</sup>
<b>Proximity to cannabis retail stores</b>						
Less than 5 minutes	3.9%	31.5%	54.0%	10.6%	3.22 (2.69–3.84)	<.001 <sup>†</sup>
5–15 minutes	6.6%	42.6%	36.2%	14.5%	1.67 (1.42–1.97)	<.001 <sup>†</sup>
Over 15 minutes	14.9%	39.6%	22.5%	22.9%	Reference	Reference
I don't know any stores where I live	2.2%	7.2%	15.1%	75.5%	0.41 (0.32–0.52)	<.001 <sup>†</sup>

\*52 excluded due to refused for policy question; 56 excluded due to refused for proximity to retail stores.

<sup>†</sup>indicates significance at the 0.05 level.

Reports of Canadians' opinions of the density of cannabis stores varied. More non-consumers reported that the number of retail stores is too high (38.6%). Less past 12-month (31.9%,  $p < .001$ ), weekly/monthly (23.6%,  $p < .001$ ), and daily/almost daily consumers reported that the number of retail stores is too high (20.2%,  $p < .001$ ), with most consumers reporting that the number of stores is about right (46.3%–54.2%). Reports that the number of stores was “too high” were greatest among Canadians living less than 5 minutes from a cannabis retail store (54.0%,  $p < .001$ ), compared to those living over 15 minutes from a store (22.5%).

Canadians supported non-medical cannabis legalization (27).

High levels of support were reported for specific regulatory restrictions. In terms of retail policies, almost 70% of Canadians indicated that retail stores should either be exclusively or at least partly run by governments, with fewer than 10% supporting an

exclusively private retail model. In terms of the number of cannabis retail stores, one-third reported the number of stores was too high, with similar levels reporting “about right,” and less than one-in-ten reporting “too few” stores. During data collection in 2022, the number of retail stores had increased significantly – from fewer than 200 stores in the first

**Table 5.** Logistic regression model examining Canadians' support for window-coverings on cannabis retail stores in Canada ( $n = 16,771$ ).\*

	% Support	% Neutral	% Oppose	% Don't know	Odds of opposing the coverings	
					AOR (95%CI)	P level
<b>Province of residence</b>						
Ontario	49.4%	32.0%	9.0%	9.6%	Reference	Reference
Alberta	49.3%	30.6%	11.6%	8.5%	1.33 (1.04–1.71)	.023 <sup>†</sup>
British Columbia	48.7%	34.5%	8.0%	8.8%	0.87 (0.69–1.11)	.266
Manitoba	53.3%	34.4%	5.8%	6.6%	0.62 (0.42–0.92)	.017 <sup>†</sup>
New Brunswick	50.5%	30.7%	7.1%	11.6%	0.75 (0.49–1.15)	.193
Newfoundland and Labrador	40.7%	40.8%	7.1%	11.3%	0.76 (0.47–1.22)	.251
Nova Scotia	40.0%	41.4%	10.1%	8.6%	1.09 (0.74–1.62)	.660
Prince Edward Island	67.0%	21.1%	7.3%	4.7%	0.80 (0.42–1.54)	.506
Quebec	48.3%	31.7%	9.5%	10.5%	1.09 (0.87–1.37)	.431
Saskatchewan	59.4%	25.0%	5.5%	10.1%	0.58 (0.35–0.97)	.039 <sup>†</sup>
<b>Age</b>						
16–25	47.3%	32.2%	9.5%	11.0%	Reference	Reference
26–45	48.0%	34.4%	9.1%	8.5%	0.83 (0.66–1.04)	.099
46–65	52.0%	30.1%	9.1%	8.8%	0.85 (0.68–1.06)	.140
66+	48.1%	32.5%	8.6%	10.8%	0.87 (0.62–1.23)	.434
<b>Sex-at-birth</b>						
Female	49.8%	30.9%	8.3%	11.0%	Reference	Reference
Male	48.6%	33.8%	9.7%	7.9%	1.17 (1.00–1.38)	.057
<b>Education level</b>						
Less than high school	48.1%	32.3%	7.9%	11.7%	Reference	Reference
High school diploma or equivalent	48.4%	33.3%	8.5%	9.7%	1.13 (0.78–1.65)	.526
Some college or technical vocation	48.6%	33.1%	10.1%	8.2%	1.37 (0.97–1.94)	.075
Bachelor's degree or higher	51.2%	30.5%	8.9%	9.3%	1.24 (0.87–1.77)	.232
<b>Ethnicity</b>						
White only	49.3%	32.7%	9.1%	8.9%	Reference	Reference
Black only	48.9%	33.8%	8.6%	8.6%	0.88 (0.64–1.20)	.415
East/South East Asian only	51.7%	32.0%	7.6%	8.8%	0.84 (0.63–1.11)	.208
Indigenous only	47.4%	32.4%	9.7%	10.4%	1.11 (0.71–1.72)	.658
Latino only	43.4%	38.7%	10.2%	7.8%	1.11 (0.70–1.75)	.652
Middle Eastern only	57.7%	23.6%	9.3%	9.3%	0.96 (0.58–1.58)	.878
South Asian only	47.3%	28.2%	10.1%	14.4%	1.12 (0.81–1.56)	.491
Mixed/Other/Unstated	46.2%	30.9%	8.0%	14.9%	0.88 (0.67–1.15)	.354
<b>Income adequacy</b>						
Very difficult/Difficult	50.8%	30.4%	10.0%	8.9%	Reference	Reference
Neither easy nor difficult	47.3%	35.1%	7.8%	9.8%	0.77 (0.63–0.94)	.009 <sup>†</sup>
Very Easy/Easy	51.4%	31.4%	9.6%	7.6%	0.95 (0.79–1.15)	.606
Unstated	29.0%	28.5%	5.5%	36.9%	0.53 (0.32–0.88)	.013 <sup>†</sup>
<b>Cannabis consumption</b>						
Non-consumer	50.8%	29.2%	8.4%	11.6%	Reference	Reference
Past 12-months	47.9%	38.7%	8.3%	5.1%	0.97 (0.77–1.21)	.767
Weekly/Monthly	44.3%	40.7%	10.8%	4.2%	1.29 (1.05–1.59)	.016 <sup>†</sup>
Daily/Almost daily	44.9%	38.5%	11.5%	5.1%	1.43 (1.16–1.75)	.001 <sup>†</sup>

\*42 dropped due to refused for policy question.

<sup>†</sup>indicates significance at the 0.05 level.Reports of Canadians' support for window coverings on cannabis stores were high. Opposition was low among non-consumers (8.4%) and past 12-month consumers (8.3%,  $p = .767$ ), and slightly higher among weekly/monthly (10.8%,  $p = .016$ ) and daily/almost daily consumers (11.5%,  $p = .001$ ).

quarter of the opening of the legal market in 2018 to over 3,000 (18). Given the importance of access to legal retail sources in transitioning consumers from illicit or gray markets, the findings suggest that Canadians perceived legal cannabis to be highly accessible (16, 28).

High levels of support were also reported for Canada's comprehensive advertising restrictions. Approximately one-third indicated the amount of advertising permitted was just right, with three times as many people reporting that less advertising should be permitted than more advertising should be

permitted. There were also high levels of support for window-coverings on retail stores: approximately 80% either supported or were neutral, with opposition at less than 10%. The low opposition for these window-coverings suggests that window-coverings may not disincentivize consumers from entering retail stores as the cannabis industry has claimed.

Mandatory health warnings received the greatest support among specific regulatory measures, with fewer than 5% opposition overall and among consumers. These findings align with a 2022 qualitative study, in which all young adults either supported or

**Table 6.** Logistic regression model examining Canadians' support for the health warnings on cannabis products in Canada (n = 16,754).

	% Support	% Neutral	% Oppose	% Don't know	Odds of opposing the warnings	
					AOR (95%CI)	P level
<b>Province of residence</b>						
Ontario	63.5%	22.7%	4.8%	9.0%	Reference	Reference
Alberta	62.6%	23.5%	4.4%	9.5%	0.88 (0.68–1.16)	.369
British Columbia	65.3%	22.0%	3.8%	8.9%	0.79 (0.51–1.23)	.299
Manitoba	57.8%	28.7%	4.3%	9.1%	0.93 (0.61–1.42)	.743
New Brunswick	60.3%	20.8%	4.6%	14.3%	1.05 (0.71–1.55)	.821
Newfoundland and Labrador	69.4%	18.4%	5.1%	7.0%	1.26 (0.67–2.36)	.472
Nova Scotia	65.7%	24.5%	1.7%	8.1%	0.38 (0.21–0.70)	.002 <sup>†</sup>
Prince Edward Island	68.9%	17.7%	2.0%	11.4%	0.48 (0.19–1.23)	.124
Quebec	59.4%	26.0%	5.6%	9.0%	1.26 (0.97–1.63)	.088
Saskatchewan	62.1%	24.4%	2.7%	10.8%	0.58 (0.33–1.03)	.061
<b>Age</b>						
16–25	53.7%	27.6%	5.2%	13.5%	Reference	Reference
26–45	53.8%	31.1%	6.3%	8.8%	1.30 (0.97–1.75)	.079
46–65	67.1%	19.9%	4.1%	8.8%	0.95 (0.70–1.29)	.736
66+	75.5%	14.8%	2.4%	7.2%	0.55 (0.30–1.03)	.061
<b>Sex-at-birth</b>						
Female	63.6%	22.2%	3.7%	10.4%	Reference	Reference
Male	61.5%	25.0%	5.6%	7.9%	1.43 (1.18–1.74)	<.001 <sup>†</sup>
<b>Education level</b>						
Less than high school	53.9%	28.0%	5.8%	12.3%	Reference	Reference
High school diploma or equivalent	59.5%	26.1%	3.8%	10.7%	0.63 (0.42–0.95)	.027 <sup>†</sup>
Some college or technical vocation	62.8%	24.1%	4.8%	8.3%	0.80 (0.55–1.16)	.242
Bachelor's degree or higher	70.7%	18.0%	4.6%	6.8%	0.66 (0.44–0.99)	.042 <sup>†</sup>
<b>Ethnicity</b>						
White only	65.1%	22.6%	3.9%	8.4%	Reference	Reference
Black only	56.8%	28.6%	8.3%	6.4%	1.68 (1.19–2.36)	.003 <sup>†</sup>
East/South East Asian only	61.6%	24.4%	6.0%	8.0%	1.52 (1.11–2.08)	.009 <sup>†</sup>
Indigenous only	43.4%	37.1%	6.1%	13.4%	1.42 (0.80–2.52)	.233
Latino only	43.5%	38.0%	7.6%	10.8%	1.77 (1.02–3.05)	.042 <sup>†</sup>
Middle Eastern only	61.5%	22.2%	8.4%	7.9%	1.86 (1.11–3.12)	.019 <sup>†</sup>
South Asian only	57.5%	19.8%	7.5%	15.2%	1.93 (1.33–2.81)	.001 <sup>†</sup>
Mixed/Other/Unstated	54.2%	25.2%	4.6%	16.0%	1.05 (0.72–1.53)	.789
<b>Income adequacy</b>						
Very difficult/Difficult	58.3%	27.3%	5.2%	9.3%	Reference	Reference
Neither easy nor difficult	61.2%	25.1%	3.9%	9.8%	0.81 (0.63–1.04)	.093
Very Easy/Easy	70.2%	18.8%	4.9%	6.1%	1.06 (0.81–1.39)	.681
Unstated	36.7%	20.2%	4.2%	38.8%	0.73 (0.39–1.37)	.323
<b>Cannabis consumption</b>						
Non-consumer	67.6%	17.7%	4.3%	10.4%	Reference	Reference
Past 12-months	60.7%	29.3%	2.8%	7.2%	0.59 (0.42–0.84)	.003 <sup>†</sup>
Weekly/Monthly	51.7%	37.4%	5.2%	5.8%	1.08 (0.81–1.45)	.596
Daily/Almost daily	43.5%	42.1%	7.8%	6.5%	1.80 (1.31–2.46)	<.001 <sup>†</sup>

\*58 dropped due to refused for policy question.

<sup>†</sup>indicates significance at the 0.05 level.

Reports of Canadians' support for health warnings on cannabis products were high. Opposition was low among non-consumers (4.3%) and weekly/monthly consumers (5.2%,  $p = .596$ ), greater among daily/almost daily consumers (7.8%,  $p < .001$ ), and lowest among past 12-month consumers (2.8%,  $p = .003$ ).

were indifferent to health warnings (15). High levels of support for cannabis warnings are consistent with high levels of public support for comprehensive warnings on tobacco products (29), and highlight packaging as an important means of communicating health information to consumers (12, 13).

Level of support was strongly related to frequency of cannabis consumption, with greater opposition to policy restrictions among more frequent consumers. Although support was lower among consumers than non-consumers, support remained high in virtually all cases. For example, in contrast to assertions from Canada's largest cannabis industry association that

consumers want fewer advertising restrictions (11), almost half of consumers reported the levels of advertisements permitted was "about right," and less than one-fifth indicated that more advertisements should be permitted – the same as those who indicated fewer advertisements should be permitted. Similar findings were observed for product standards, such as edible THC limits, which have received considerable scrutiny in Canada. Approximately one-quarter of edible consumers opposed the edible THC limit; nevertheless, daily edible consumers reported greater support than opposition. Industry associations have also claimed that the edible THC limit is too low and

**Table 7.** Logistic regression model examining Canadian support for advertising of cannabis in Canada (n = 16,723)\*.

	% More ads	% About right	% Less ads	% Don't know	Odds of supporting less ads	
					AOR (95%CI)	P level
<b>Province of residence</b>						
Standard ad restrictions (rest of Canada)	7.5%	32.5%	24.3%	35.7%	Reference	Reference
Stronger ad restrictions (QC)	9.8%	29.2%	24.4%	36.6%	0.96 (0.82–1.12)	.612
<b>Age</b>						
16–25	10.1%	34.1%	24.7%	31.1%	Reference	Reference
26–45	11.3%	37.3%	22.5%	28.9%	0.94 (0.80–1.11)	.482
46–65	6.4%	31.5%	23.5%	38.6%	1.00 (0.85–1.17)	.961
66+	3.8%	22.0%	28.0%	46.2%	1.16 (0.90–1.49)	.245
<b>Sex-at-birth</b>						
Female	7.3%	29.6%	25.1%	38.0%	Reference	Reference
Male	8.7%	33.9%	23.5%	33.8%	0.91 (0.81–1.02)	.114
<b>Education level</b>						
Less than high school	6.7%	25.3%	28.0%	40.0%	Reference	Reference
High school diploma or equivalent	8.4%	33.4%	19.3%	38.9%	0.65 (0.50–0.85)	.002 <sup>†</sup>
Some college or technical vocation	8.8%	33.6%	22.3%	35.3%	0.78 (0.62–0.99)	.039 <sup>†</sup>
Bachelor's degree or higher	7.5%	31.9%	29.4%	31.3%	0.98 (0.77–1.24)	.863
<b>Ethnicity</b>						
White only	7.5%	33.1%	22.3%	37.1%	Reference	Reference
Black only	11.2%	31.9%	29.7%	27.1%	1.54 (1.22–1.93)	<.001 <sup>†</sup>
East/South East Asian only	4.9%	28.3%	35.8%	31.1%	1.73 (1.46–2.04)	<.001 <sup>†</sup>
Indigenous only	12.1%	35.3%	15.3%	37.3%	0.79 (0.52–1.20)	.270
Latino only	18.5%	34.9%	18.3%	28.3%	0.83 (0.60–1.14)	.245
Middle Eastern only	8.0%	24.6%	40.6%	26.7%	2.41 (1.79–3.26)	<.001 <sup>†</sup>
South Asian only	9.7%	25.5%	34.0%	30.8%	1.64 (1.33–2.02)	<.001 <sup>†</sup>
Mixed/Other/Unstated	10.1%	24.0%	23.8%	42.1%	1.15 (0.90–1.47)	.253
<b>Income adequacy</b>						
Very difficult/Difficult	10.2%	31.2%	23.8%	34.8%	Reference	Reference
Neither easy nor difficult	6.9%	31.1%	23.6%	38.4%	0.91 (0.79–1.06)	.218
Very Easy/Easy	7.6%	34.3%	26.1%	31.9%	0.99 (0.85–1.15)	.875
Unstated	3.9%	14.3%	15.6%	66.3%	0.50 (0.36–0.70)	<.001 <sup>†</sup>
<b>Cannabis consumption</b>						
Non-consumer	5.2%	14.3%	29.6%	39.2%	Reference	Reference
Past 12-months	8.9%	44.7%	16.7%	29.7%	0.50 (0.42–0.60)	<.001 <sup>†</sup>
Weekly/Monthly	12.5%	47.4%	13.6%	26.6%	0.40 (0.33–0.48)	<.001 <sup>†</sup>
Daily/Almost daily	20.8%	41.4%	7.5%	30.3%	0.22 (0.17–0.28)	<.001 <sup>†</sup>

\*69 dropped due to refused for policy question.

<sup>†</sup>indicates significance at the 0.05 level.

Reports of Canadians' opinions on the amount of cannabis advertising where they live varied. Reports that there should be less advertisements was greatest among non-consumers (29.6%), followed by past 12-month consumers (16.7%  $p < .001$ ), weekly/monthly consumers (13.6%,  $p < .001$ ), and was lowest among daily/almost daily consumers (7.5%,  $p < .001$ ). Compared to the rest of Canada, there was no difference reports that there should be less advertisements among people living in QC (24.4%,  $p = .621$ ).

should be raised to 100 mg, as it is preventing frequent consumers from transitioning to the legal market (10, 11). This is partially supported by a 2022 qualitative study, which found that the 10 mg THC limit was a common concern among experienced edible consumers, and caused many of them to purchase from the illegal market (15). For a limit of 30% THC for vaping and extract products, one-quarter of consumers opposed such a limit, with one-third reporting neutrality and 29% reporting support. Notably, there were no differences in support from consumers in the three provinces that had implemented stricter vaping/extract regulations compared to other provinces. Similarly, more than three-quarters of people who purchase and consume dried herb reported that the 30 g purchasing limit made no

difference in their decision to purchase from a legal store. A similar proportion reported that this limit makes them less likely to purchase from a legal store as did that the limit makes them more likely to purchase from a legal store, at around 11% each. Thus, there is little evidence that the limit has affected consumers' transition to the legal market. Overall, while support was lower among consumers than non-consumers, most consumers either supported the current or enhanced restrictions, with low levels of opposition.

Levels of support were generally similar across provinces with more comprehensive restrictions versus others with less restrictive policies, including for cannabis advertising, and THC limits for edibles and vapes/extracts. The lack of difference between



**Table 8.** Logistic regression model examining Canadians who consume edibles' support for the 10 mg THC limit for edibles in Canada (n = 16,724).\*

	% Support	% Neutral	% Oppose	% Don't know	Odds of opposing the THC limit	
					AOR (95%CI)	P level
<b>Province of residence</b>						
Standard edible types (rest of Canada)	32.6%	25.3%	12.2%	29.9%	Reference	Reference
Different edible types (QC)	31.4%	24.6%	12.1%	31.9%	1.16 (0.93–1.44)	.192
<b>Age</b>						
16–25	30.2%	27.1%	11.3%	31.3%	Reference	Reference
26–45	31.7%	31.4%	14.2%	22.7%	1.32 (1.07–1.62)	.009 <sup>†</sup>
46–65	34.0%	23.1%	10.8%	32.0%	1.09 (0.88–1.34)	.453
66+	32.2%	17.0%	11.7%	39.1%	1.30 (0.92–1.82)	.136
<b>Sex-at-birth</b>						
Female	32.6%	22.6%	11.5%	33.4%	Reference	Reference
Male	32.1%	27.7%	12.9%	27.3%	1.16 (0.99–1.35)	.063
<b>Education level</b>						
Less than high school	26.7%	24.6%	13.4%	35.4%	Reference	Reference
High school diploma or equivalent	29.8%	26.8%	12.4%	31.0%	0.89 (0.64–1.24)	.482
Some college or technical vocation	31.9%	25.3%	13.2%	29.6%	0.93 (0.68–1.27)	.634
Bachelor's degree or higher	38.8%	23.5%	10.1%	27.6%	0.68 (0.49–0.93)	.016 <sup>†</sup>
<b>Ethnicity</b>						
White only	32.4%	24.8%	11.7%	31.2%	Reference	Reference
Black only	35.5%	27.8%	14.2%	22.5%	1.26 (0.94–1.70)	.126
East/South East Asian only	35.9%	24.0%	13.8%	26.3%	1.40 (1.05–1.86)	.020 <sup>†</sup>
Indigenous only	39.2%	24.0%	18.0%	18.8%	1.38 (0.93–2.03)	.108
Latino only	24.9%	39.5%	9.1%	26.5%	0.72 (0.45–1.17)	.184
Middle Eastern only	35.4%	24.2%	11.7%	28.6%	1.13 (0.76–1.68)	.559
South Asian only	26.1%	26.9%	14.1%	33.1%	1.48 (1.12–1.97)	.006 <sup>†</sup>
Mixed/Other/Unstated	28.4%	24.3%	12.6%	34.6%	1.09 (0.85–1.41)	.497
<b>Income adequacy</b>						
Very difficult/Difficult	32.2%	25.3%	14.5%	28.0%	Reference	Reference
Neither easy nor difficult	28.5%	27.6%	11.8%	32.1%	0.82 (0.68–1.00)	.045 <sup>†</sup>
Very Easy/Easy	38.0%	23.1%	10.7%	28.2%	0.78 (0.65–0.94)	.009 <sup>†</sup>
Unstated	13.9%	14.0%	9.4%	62.7%	0.63 (0.40–0.97)	.037 <sup>†</sup>
<b>Edible consumption</b>						
Non-consumer	32.1%	23.8%	10.4%	33.7%	Reference	Reference
Past 12-months	33.1%	32.7%	19.5%	14.8%	2.10 (1.76–2.50)	<.001 <sup>†</sup>
Weekly/Monthly	37.1%	31.7%	23.6%	7.7%	2.72 (2.21–3.34)	<.001 <sup>†</sup>
Daily/Almost daily	27.2%	28.3%	35.6%	8.9%	4.86 (2.88–8.22)	<.001 <sup>†</sup>
Don't know	18.3%	33.8%	21.7%	26.2%	2.41 (1.30–4.45)	.005 <sup>†</sup>

\*61 excluded due to refused for policy question; 7 excluded due to refused for edible consumption.

<sup>†</sup>indicates significance at the 0.05 level.

Reports of Canadians' support for the 10 mg THC limit on edibles were high. Opposition was lowest among non-edible consumers (10.4%). Opposition was greater among past 12-month edible consumers (19.5%,  $p < .001$ ), weekly/monthly edible consumers (23.6%,  $p < .001$ ), and was greatest among daily/almost daily edible consumers (35.6%,  $p < .001$ ). Compared to non-consumers, opposition was also greater among those who do not know how frequently they consume edibles (21.7%,  $p = .005$ ). Compared to the rest of Canada, there was no difference in opposition for the edible THC limit among people living in QC (12.1%,  $p = .192$ ).

provinces with stricter regulations versus the rest of Canada suggests that stricter regulations may not be deterring consumers from purchasing cannabis legally. A 2023 study found that consumers were willing to pay premiums for vaping products regulated by Health Canada (30). This suggests that regulatory standards are perceived positively by consumers, likely because they provide reassurance over product quality and safety. This is consistent with research on perceptions of the legal versus illegal market, in which Canadian consumers have reported increasingly positive perceptions over time (28), as well as increasing transitions to legal sources in the first five years since legalization (31, 32). Differences in support for private-only retail markets were found between those living in provinces with private-only markets versus

those living in mixed and public-only markets. In all cases, private-only markets remained the least supported; even in the provinces with private-only markets, where support was highest. This further substantiates the idea that Canadians support regulatory standards, as they align most with the one currently implemented by their provincial government.

### Limitations

The current study is subject to limitations. First, non-probability-based sampling was used to recruit respondents. Thus, the estimates of consumer support and perceptions may not be nationally representative. To make the data more representative of the Canadian population, data were weighted by age,

**Table 9.** Logistic regression model examining Canadians who consume cannabis vaping and extract products' support for a 30% THC limit for vaping and extracts in Canada (n = 16,743).\*

	% Support	% Neutral	% Oppose	% Don't know	Odds of opposing a THC limit	
					AOR (95%CI)	P level
<b>Province of residence</b>						
Standard vaping/extract regulations (rest of Canada)	39.5%	23.4%	11.6%	25.5%	Reference	Reference
Stricter vaping/extract regulations (NL, NS, QC)	41.9%	22.3%	11.3%	24.5%	1.05 (0.87–1.28)	.597
<b>Age</b>						
16–25	37.1%	26.3%	10.4%	26.2%	Reference	Reference
26–45	36.4%	29.6%	13.5%	20.5%	1.44 (1.16–1.79)	.001 <sup>†</sup>
46–65	42.0%	20.8%	10.4%	26.9%	1.33 (1.06–1.67)	.016 <sup>†</sup>
66+	45.0%	14.6%	10.8%	29.6%	1.56 (1.09–2.23)	.015 <sup>†</sup>
<b>Sex-at-birth</b>						
Female	42.7%	19.7%	10.2%	27.4%	Reference	Reference
Male	37.5%	26.6%	12.8%	23.1%	1.25 (1.06–1.46)	.006 <sup>†</sup>
<b>Education level</b>						
Less than high school	34.4%	25.9%	12.2%	27.5%	Reference	Reference
High school diploma or equivalent	37.5%	23.7%	12.4%	26.4%	0.99 (0.71–1.39)	.953
Some college or technical vocation	38.9%	22.9%	12.6%	25.5%	0.99 (0.72–1.37)	.946
Bachelor's degree or higher	47.4%	21.2%	8.9%	22.5%	0.64 (0.46–0.90)	.011 <sup>†</sup>
<b>Ethnicity</b>						
White only	40.6%	22.7%	10.8%	25.9%	Reference	Reference
Black only	40.4%	27.3%	15.2%	17.1%	1.56 (1.01–2.39)	.044 <sup>†</sup>
East/South East Asian only	41.4%	25.2%	11.6%	21.8%	1.36 (1.07–1.73)	.012 <sup>†</sup>
Indigenous only	33.6%	31.4%	16.3%	18.8%	1.39 (0.95–2.03)	.089
Latino only	34.1%	30.7%	15.5%	19.7%	1.57 (0.87–2.81)	.134
Middle Eastern only	46.7%	15.1%	12.5%	25.7%	1.38 (0.90–2.11)	.142
South Asian only	34.3%	23.3%	14.1%	28.3%	1.79 (1.35–2.38)	<.001 <sup>†</sup>
Mixed/Other/Unstated	37.7%	20.2%	12.3%	29.9%	1.14 (0.87–1.49)	.334
<b>Income adequacy</b>						
Very difficult/Difficult	38.0%	23.8%	13.1%	25.1%	Reference	Reference
Neither easy nor difficult	37.5%	25.3%	11.3%	25.9%	0.90 (0.76–1.08)	.267
Very Easy/Easy	46.8%	20.7%	10.6%	21.9%	0.89 (0.73–1.08)	.229
Unstated	16.2%	16.5%	6.5%	60.8%	0.46 (0.28–0.76)	.002 <sup>†</sup>
<b>Vape/extract consumption</b>						
Non-consumer	41.8%	21.5%	9.6%	27.1%	Reference	Reference
Past 12-months	31.9%	34.8%	19.1%	14.2%	2.24 (1.75–2.87)	<.001 <sup>†</sup>
Weekly/Monthly	28.3%	35.0%	26.8%	9.9%	3.42 (2.72–4.29)	<.001 <sup>†</sup>
Daily/Almost daily	21.2%	32.7%	36.4%	9.6%	5.46 (4.04–7.38)	<.001 <sup>†</sup>
Don't know	27.4%	29.2%	14.2%	29.2%	1.46 (0.79–2.70)	.222

\*57 excluded due to refused for policy question; 2 excluded due to refused for vape/extract consumption.

<sup>†</sup>indicates significance at the 0.05 level.

Reports of Canadians' support for a 30% THC limit on vaping/extracts were high. Opposition was lowest among non-vape/extract consumers (9.6%) and those who do not know how frequently they consume vapes/extracts (14.2%,  $p = .222$ ). Opposition was greater among past 12-month vape/extract consumers (19.1%  $p < .001$ ), weekly/monthly vape/extract consumers (26.8%,  $p < .001$ ), and was greatest among daily/almost daily vape/extract consumers (36.4%,  $p < .001$ ). Compared to the rest of Canada, there was no difference opposition for a 30% THC limit among people living in NL, NS, QC (11.3%,  $p = .597$ ).

sex, province, education, and smoking status. Findings reasonably aligned with existing literature, however limited studies regarding consumer perceptions were available for comparison. Therefore, to support this study's findings, future research answering similar questions using other means of sampling is necessary. Additionally, as common among self-reported data, social desirability bias may be implicated in the findings. To answer the question regarding perceptions of the purchasing limit, respondents had to indicate they were aware of the limit. Respondents may have been reluctant to admit not knowing of the policy, and thus answered the question when it did not apply to their purchasing habits. Similarly, participants may have over- or under-estimated their cannabis consumption based on what they perceived as desirable. Finally, future studies

should examine differences in perceptions between “minors” below the minimum legal age of purchase and older consumers.

## Conclusion

Support for cannabis regulatory measures was high among Canadians. Although support for regulatory restrictions was inversely related to cannabis consumption, support among consumers remained high. In addition, few differences in support were observed between provinces, including between provinces with differing regulatory restrictions. Collectively, the results suggest broad support for regulatory restrictions that are implemented to protect public health. Future research should examine policy support and consumer perceptions in a

**Table 10.** Logistic regression model examining Canadians who consume dried herb's perception of the dried herb purchasing limit in Canada (n = 1,320).\*

	% More likely	% No difference	% Less likely	% Don't know	AOR (95%CI)	P level
<b>Province of residence</b>						
Ontario	11.2%	76.3%	11.0%	1.5%	Reference	Reference
Alberta	8.5%	80.9%	8.8%	1.8%	0.66 (0.35–1.26)	.204
British Columbia	8.6%	75.8%	12.3%	3.3%	0.99 (0.44–2.26)	.988
Manitoba	6.8%	87.4%	5.8%	0.0%	0.28 (0.07–1.17)	.081
New Brunswick	6.4%	71.7%	21.9%	0.0%	1.48 (0.58–3.80)	.413
Newfoundland and Labrador	6.0%	74.7%	19.4%	0.0%	2.00 (0.86–4.58)	.107
Nova Scotia	8.4%	77.4%	12.2%	1.9%	0.99 (0.40–2.49)	.989
Prince Edward Island	18.3%	75.7%	3.3%	2.7%	0.26 (0.03–2.54)	.244
Quebec	10.9%	74.6%	13.0%	1.5%	1.29 (0.60–2.43)	.427
Saskatchewan	12.4%	76.5%	11.1%	0.0%	0.88 (0.28–2.75)	.831
<b>Age</b>						
16–25	13.1%	73.7%	10.6%	2.6%	Reference	Reference
26–45	9.1%	76.7%	12.8%	1.4%	1.00 (0.49–2.00)	.989
46–65	7.6%	79.4%	11.6%	1.4%	0.83 (0.38–1.79)	.632
66+	21.4%	72.7%	3.4%	2.5%	0.20 (0.04–1.13)	.068
<b>Sex-at-birth</b>						
Female	11.9%	76.7%	9.3%	2.2%	Reference	Reference
Male	8.7%	76.8%	13.2%	1.3%	1.79 (1.13–2.82)	.013 <sup>†</sup>
<b>Education level</b>						
Less than high school	6.9%	75.9%	15.4%	1.8%	Reference	Reference
High school diploma or equivalent	10.4%	75.3%	12.5%	1.8%	0.99 (0.43–2.30)	.980
Some college or technical vocation	8.1%	78.7%	11.1%	2.1%	0.84 (0.38–1.87)	.673
Bachelor's degree or higher	14.6%	76.1%	8.8%	0.4%	0.86 (0.34–2.19)	.755
<b>Ethnicity</b>						
White only	8.5%	79.0%	11.4%	1.2%	Reference	Reference
Black only	29.3%	60.8%	9.9%	0.0%	0.81 (0.22–3.07)	.760
East/South East Asian only	27.7%	64.7%	7.6%	0.0%	0.63 (0.11–3.71)	.611
Indigenous only	9.1%	62.4%	20.0%	8.5%	2.05 (0.73–5.78)	.172
Latino only	9.5%	89.3%	1.2%	0.0%	0.11 (0.01–0.87)	.037 <sup>†</sup>
Middle Eastern only	27.4%	57.9%	7.6%	7.0%	0.56 (0.10–3.04)	.500
South Asian only	22.9%	71.1%	1.9%	4.2%	0.13 (0.01–1.19)	.071
Mixed/Other/Unstated	5.0%	74.0%	17.7%	3.3%	1.68 (0.73–3.86)	.220
<b>Income adequacy</b>						
Very difficult/Difficult	8.3%	77.1%	12.3%	2.2%	Reference	Reference
Neither easy nor difficult	9.2%	78.0%	11.5%	1.4%	1.04 (0.61–1.78)	.887
Very Easy/Easy	14.7%	74.0%	10.8%	0.5%	1.14 (0.61–2.12)	.681
Unstated	0.0%	80.4%	0.0%	19.6%	<0.01 (<0.01–<0.01)	<.001 <sup>†</sup>
<b>Cannabis consumption</b>						
Past 12-months	17.9%	79.7%	2.1%	0.2%	Reference	Reference
Weekly/Monthly	14.2%	77.1%	6.6%	2.1%	3.23 (0.99–10.61)	.053
Daily/Almost daily	5.9%	75.9%	16.5%	1.7%	10.11 (3.35–30.52)	<.001 <sup>†</sup>

\*1 excluded due to refused for policy question.

<sup>†</sup>indicates significance at the 0.05 level.

Most dried herb consumers reported that the 30 g purchasing limit made no difference in their decision to purchase from a legal store. Reports of being less likely to purchase from a legal store were lowest among past 12-month consumers (2.1%), followed by weekly/monthly consumers (6.6%,  $p = .053$ ), and greatest among daily/almost daily consumers (16.5%,  $p = .001$ ).

broader range of legal markets, including markets in countries such as Uruguay and Germany, which feature low levels of commercialization.

## Disclosure statement

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## ORCID

Anastasia Marquette  <http://orcid.org/0009-0000-9381-6989>

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