



Highs et Downs de l'opinion publique:
Une analyse par les médias de la légalisation du
cannabis au Canada

Mémoire

Adrien Cloutier

Maîtrise en science politique

Maître ès Arts (M.A.)

Québec, Canada

© Adrien Cloutier, 2020

Highs et *Downs* de l'opinion publique: Une analyse par les médias de la légalisation du cannabis au Canada

Adrien Cloutier

Mémoire

Sous la direction de:
Yannick Dufresne, directeur de recherche

Résumé

Le chemin menant à la légalisation du cannabis au Canada en 2018 semble aussi sinueux que celui menant à sa prohibition en 1923. De nombreux acteurs ont contribué à la réforme, mais les données disponibles ne permettent pas toujours de comprendre l'influence que ceux-ci ont pu avoir. Ce mémoire de maîtrise se compose de deux études scientifiques complémentaires visant le même objectif principal: contribuer à la compréhension de la légalisation du cannabis, et particulièrement à la compréhension des rôles joués par l'opinion publique et par les médias. D'emblée, une étude de la portée de la littérature (*scoping review*) rassemble les connaissances scientifiques actuelles à propos de l'opinion publique et des drogues au Canada. Elle présente 161 références sélectionnées parmi 29 260 études, dont la plus ancienne remonte à 1956. Elle montre que l'opinion publique par rapport au cannabis est sous-étudiée au Canada en comparaison avec l'alcool et le tabac. Elle montre aussi la faible présence des auteurs et des théories en sciences sociales. Enfin, elle révèle la complexité de tracer l'évolution de l'opinion publique avec le peu de données disponibles, et donc de comprendre son impact sur la légalisation. Une seconde étude examine ensuite par analyse textuelle automatisée le traitement médiatique du cannabis au Canada et au Québec dans 29 955 articles tirés de six médias de 1985 à 2020. Cette étude offre une double contribution théorique en mesurant d'abord la normalisation du cannabis selon la théorie de Parker et al. (1998), pour ensuite clarifier le rôle des médias dans l'évolution du cadrage du cannabis selon le modèle de l'activation en cascade de Entman (2004). Les résultats montrent un traitement médiatique du cannabis plus neutre, voire plus positif depuis 2015. En 2019, la probabilité est plus élevée qu'un média aborde le cannabis sous un angle économique plutôt que judiciaire. L'étude expose l'apparition de discours alternatifs dans les médias dès les années 1990, faisant compétition au cadrage prohibitionniste défendu par les gouvernements. Ensemble, ces deux études offrent des indicateurs supplémentaires sur les influences de l'opinion publique et des médias, et appellent à davantage de recherches afin de peindre le portrait complet de la route ayant mené à la légalisation du cannabis au Canada en octobre 2018.

Abstract

The road to the legalization of cannabis in Canada in 2018 seems as winding as the road to its prohibition in 1923. Many actors have contributed to the reform, but the available data do not always allow to understand the influence they may have had. This master's thesis consists of two complementary studies with the same main objective: to contribute to the understanding of the legalization of cannabis and particularly to the understanding of the roles played by public opinion and the media. First of all, a scoping review brings together current scientific knowledge about public opinion and drugs in Canada. It presents 161 references selected from 29,260 studies, the oldest of which dates back to 1956. It shows that public opinion about cannabis is under-studied in Canada compared to alcohol and tobacco. It also shows the low presence of authors and theories from the social sciences. Finally, it reveals the complexity of tracing the evolution of public opinion with the limited data available, and thus of understanding its impact on legalization. A second study then examines by automated textual analysis the media treatment of cannabis in Canada and Quebec in 29,955 articles drawn from six media from 1985 to 2020. This study makes a double theoretical contribution by first measuring the normalization of cannabis according to the theory of Parker, Aldridge, & Measham (1998), and then clarifying the role of the media in the evolution of the framing of cannabis according to Entman's (2004) cascade activation model. The results show a more neutral or even positive media treatment of cannabis since 2015. In 2019, there is a higher probability that the media will approach cannabis from an economic rather than a judicial perspective. The study also shows the emergence of alternative discourses in the media as early as the 1990s, competing with the prohibitionist framework put forward by governments. Taken together, these two studies provide additional indicators of public and media influences, and call for more researches to paint a complete picture of the road to cannabis legalization in Canada in October 2018.

Table des matières

Résumé	ii
Abstract	iv
Liste des figures	vii
Remerciements	viii
Avant-propos	x
Introduction	1
0.1 Contexte	3
0.2 Cadre théorique	7
0.2.1 Théorie de la normalisation	8
0.2.2 Modèle d'activation en cascade	10
0.3 Question et hypothèses de recherche	14
0.4 Méthodologies de recherche	18
0.4.1 Étude de la portée de la littérature	18
0.4.2 Analyse du contenu médiatique	19
Article 1: <i>Highs and Downs: A Scoping Review of Public Opinion</i>	
 about Cannabis, Alcohol and Tobacco in Canada	22
1.1 Abstract	22
1.2 Résumé	23
1.3 Introduction	24
1.4 Methodology	25
1.5 Results	29
1.5.1 Trends	29
1.5.2 Methodologies Used	30
1.5.3 Disciplines of First Authors	31
1.5.4 Populations Studied	32
1.5.5 Three Dimensions of Public Opinion	34
1.6 Discussion	37
1.7 References	42
1.7.1 Results of the Scoping Review	42

1.7.2	Other References	61
Article 2: Framing Cannabis: An Automated Text Analysis of the		
	Canadian Media from 1985 to the Legalization	63
2.1	Abstract	63
2.2	Résumé	64
2.3	Introduction	65
2.4	Context	66
2.5	Theoretical Framework	68
	2.5.1 Normalization Theory	68
	2.5.2 Cascading Activation Model	70
2.6	Hypotheses	73
2.7	Methodology	75
2.8	Results	78
	2.8.1 Sentiment Analysis	78
	2.8.2 Frequency of Terms	79
	2.8.3 Topic Modeling	81
	2.8.4 Framing Cannabis	83
2.9	Discussion	86
2.10	References	89
2.11	Appendix	95
Conclusion		98
Bibliographie		103

Liste des figures

1	Le réseau de l'activation en cascade d'Entman (2004) adapté pour le cas canadien avec inspiration de Giasson et Dubois (2018).	12
2	Continuum du cadrage selon Entman (2004).	13
1.1	Literature Handling Flowchart of the Canadian Public Opinion and Drugs.	27
1.2	Scholarly Literature per Substance since 1956.	30
1.3	Scholarly Literature per Decade since the 1950s.	31
1.4	Scholarly Literature per Discipline since 1956.	32
1.5	Scholarly Literature per Studied Population since 1956.	33
1.6	Network Analysis of the Authors Included in the Scoping Review. . .	38
2.1	Entman's Cascading Activation Network (2004) Adapted for the Canadian Case with Inspiration from Giasson and Dubois (2018).	71
2.2	Frame Continuum from Entman (2004).	72
2.3	Number of Articles Collected per Year Containing the Keywords Cannabis and Marijuana.	76
2.4	The Tone Index of Media Articles on Cannabis from 1985 to 2020. . .	78
2.5	The 20 Most Frequent Words per Period in the Articles of the English-Language Media.	80
2.6	Document-Topic Probabilities (Gamma) for the English-Language Media.	82
2.7	Document-Topic Probabilities (Gamma) for the French-Language Media.	83
2.8	Trends in Support for Some Form of Cannabis Legalization According to Surveys Conducted from 1970 to 2019.	85
2.9	The 20 Most Frequent Words per Period in the Articles of the French-Language Media.	95
2.10	Word-Topic Probabilities (Beta) for the English-Language Media. . .	96
2.11	Word-Topic Probabilities (Beta) for the French-Language Media. . .	97

Remerciements

Ce mémoire est loin d'être parfait, mais il est le reflet le plus précis à ce jour de mes capacités et de ma persévérance.

Il est aussi marqué par l'apport de celles et ceux qui ont croisé ma route au cours des dernières années.

D'abord, un merci très sincère à Yannick Dufresne, mon directeur, qui m'a offert les outils, la vision et les opportunités que je possède aujourd'hui. Merci d'avoir cru en moi dès le départ.

Merci à mes désormais nombreux collègues de la CLESSN qui m'impressionnent tous les jours et qui m'encouragent à me dépasser. J'ai terminé ce mémoire en confinement, COVID-19 oblige, et votre présence au quotidien m'a manqué.

Merci aux excellents professeurs à la maîtrise en science politique de l'Université Laval qui m'ont appris le vocabulaire scientifique et qui ont contribué à mon épanouissement académique. Merci particulièrement à Sule Tomkinson, à Thierry Giasson, à Mathieu Ouimet et à Éric Montigny pour leur confiance. Merci à tous les membres du GRCP pour leurs conseils et leur amitié.

Évidemment, merci à mes parents, à mes grands-parents et à mon frère. Vous êtes et serez toujours le fondement de mes accomplissements.

Enfin, merci à mes colocs, Charles, Laurie, Fred, Dan, Je et François, qui ont traversé avec moi ces longues années d'études et qui seront encore là — j'en suis sûr — pour la suite des choses.

Avant-propos

Ce mémoire de maitrise présente deux articles scientifiques rédigés en anglais et rassemblés par une introduction et une conclusion commune.

Au moment du dépôt final, les deux articles n’avaient pas été soumis à des revues scientifiques à des fins de publications, mais elles étaient toutes deux en voie de l’être.

Le premier article, *Highs and Downs: A Scoping Review of Public Opinion about Cannabis, Alcohol and Tobacco in Canada*, est réalisé en collaboration avec mes collègues Camille Tremblay-Antoine et Nadjim Fréchet. Je demeure toutefois le principal auteur, ayant procédé à la collecte des données, à leur analyse et à la rédaction.

Le second article, *Framing Cannabis: An Automated Text Analysis of the Canadian Media from 1985 to the Legalization*, s’inscrit comme une réalisation personnelle, dont je suis l’unique auteur.

Dans les deux cas, l’apport de mon directeur, le professeur Yannick Dufresne, et des membres de mon comité d’évaluation, les professeurs Thierry Giasson et Mathieu Ouimet, ne saurait être sous-estimé et mérite d’être ici rementionné.

Introduction

Les politiciens et les experts sont de plus en plus nombreux à reconnaître l'importance de prendre en considération les attitudes des citoyens et leurs perceptions lors de la phase de création des politiques publiques (INSPQ, 2019). À propos de l'alcool et des drogues, la littérature scientifique démontre que plus une personne considère qu'il est *normal* de consommer, plus elle a tendance à consommer afin de suivre cette *norme perçue* (Arbour-Nicitopoulos, Kwan, Lowe, Taman, & Faulkner, 2010; Cunningham & Selby, 2007; Perkins, 2007).

Toutefois, des analyses empiriques et théoriques présentées dans ce mémoire révèlent une limite importante à l'examen des origines de la légalisation du cannabis au Canada: il est problématique de tracer l'évolution de l'opinion publique canadienne sur le cannabis en se basant uniquement sur les données disponibles. Peu d'études ont été réalisées au cours des cinquante dernières années, et encore moins ont tenté de comprendre, selon des théories en sciences sociales, les raisons derrière les changements dans l'opinion publique sur le cannabis (Hathaway, Erickson, & Lucas, 2007).

Malgré tout, l'augmentation des appuis à une forme ou à une autre de légalisation à partir du début des années 2000 est documentée (Fischer, Ialomiteanu, Russell, Rehm, & Mann, 2016; Hathaway et al., 2007; Millhorn et al., 2009). La littérature scientifique défend d'ailleurs l'idée d'une *normalisation* du cannabis au Canada depuis les dernières décennies, mesurée entre autres par l'augmentation du taux de consommation, de la tolérance sociale, mais aussi par des changements dans la culture populaire

et dans le traitement médiatique du cannabis (Duff et al., 2012; Hathaway, Comeau, & Erickson, 2011; Hathaway, Mostaghim, Erickson, Kolar, & Osborne, 2018).

Deux ans après la légalisation au Canada, il est d'intérêt de contribuer empiriquement à la compréhension du chemin parcouru depuis la prohibition du cannabis en 1923. Particulièrement, ce mémoire souhaite clarifier les rôles joués par l'opinion publique et par les médias en tant qu'acteurs clés dans le cadrage du cannabis au fil des années.

Pour accomplir ces objectifs, deux études scientifiques sont réalisées. D'abord, une étude de la portée de la littérature (*scoping review*) résume les connaissances scientifiques actuelles à propos de l'opinion publique et du cannabis au Canada. Elle englobe aussi l'alcool et le tabac pour permettre des comparaisons avantageuses entre les substances. Cette étude montre que l'opinion publique par rapport au cannabis est sous-étudiée au Canada en regard de l'alcool et du tabac. Elle révèle ainsi la complexité de comprendre son impact sur la légalisation. Elle montre aussi la faible présence des auteurs en sciences sociales, et donc de l'apport de leurs théories.

La seconde étude est directement dérivée de la première. Elle emploie des méthodologies en analyse textuelle automatisée pour étudier la couverture médiatique du cannabis dans six médias canadiens de 1985 à 2020. Elle vise à combler des limites de la littérature relevées dans le *scoping review* et à contribuer théoriquement et empiriquement à la mesure de l'influence des médias dans la normalisation et dans le cadrage du cannabis au Canada.

Pour ce faire, cette deuxième étude mobilise d'abord une théorie issue des travaux en santé publique et montrée comme étant largement utilisée dans les dernières années — la théorie de la normalisation de Parker et al. (1998). Cette théorie suppose l'idée d'un passage du cannabis de la marginalité vers le grand public observé entre autres par des changements dans la couverture médiatique. Une autre théorie cette fois issue de la communication politique — le modèle de l'activation en cascade de Entman

(2004) — permet ensuite l’analyse du rôle des médias dans l’évolution du cadrage du cannabis.

Ensemble, ces deux études dressent un portrait complet de la littérature scientifique et permettent une double contribution théorique utile pour répondre à la question de recherche suivante: **les médias canadiens ont-ils normalisé le cannabis?**

Afin de situer la recherche, ce mémoire débute par une brève présentation du contexte particulier dans lequel s’inscrit le cannabis au Canada. Il détaille ensuite le cadre théorique permettant de dériver les hypothèses empiriquement testables, présentées par la suite avec une description de la question de recherche. Cette introduction au mémoire se conclut par un résumé des deux études produites, qui sont ensuite jointes dans leur entièreté. Une conclusion générale, présentée en toute dernière partie, permet de rassembler les principaux résultats, d’exposer les limites de la recherche et de relever ses contributions.

0.1 Contexte

Le cannabis est une substance illégale au Canada depuis 1923. Il est toutefois complexe de retracer les raisons de cette prohibition qui ne font pas consensus (Erickson & Hyshka, 2009; Martel, 2006). En effet, à l’époque, le cannabis est une drogue peu connue de l’opinion publique, consommée marginalement sans engendrer de problèmes de santé publique (Giffen, Boorman, & Endicott, 1991).

En fait, avant 1908, il n’existe aucune législation sur les drogues au Canada. Le cannabis est d’ailleurs prescrit par de nombreux médecins, et le chanvre est fréquemment cultivé pour la fabrication de cordes et de papier. La première loi sur les drogues au Canada est adoptée en 1908 et interdit la production, la vente et l’importation de l’opium, une drogue arrivée d’Asie en même temps que les premiers immigrants chinois. La raison est en grande partie raciste (Morin, 2017). La publication d’ouvrages

comme «The Black Candle» d'Emily Murphy en 1922 et d'histoires dans les médias contribuent à définir publiquement «le problème de la drogue en termes de crainte des Blancs face à une vague croissante d'immigration au Canada» (Haines, Johnson, Carter, & Arora, 2009; Hathaway & Erickson, 2003).

La prohibition du cannabis en 1923 est aujourd'hui reconnue comme une «solution sans problème», adoptée à l'unanimité sans rationalité apparente et sans débat à la Chambre des communes du Canada (Erickson & Oscapella, 1999; Fischer, Alal-Leppilampi, Single, & Robins, 2003; P. J. Giffen, 1993). Les premières saisies n'ont eu lieu qu'en 1932 au Canada. Des documents de la Chambre des communes datant des années 1920 indiquent même que de nombreux députés n'avaient jamais entendu parler du cannabis lors de l'adoption de la loi (Hathaway & Erickson, 2003).

C'est plutôt au cours des années 60 que la consommation de marijuana se répand, particulièrement chez les jeunes de la classe moyenne associés au mouvement *hippie*. Le manque d'information sur la drogue, mêlé à une panique causée, entre autres, par les médias d'information entraînent un durcissement des attitudes (Erickson & Hyshka, 2009; Martel, 2006; McRobbie & Thornton, 1995).

Des études publiées en 1968 et en 1969 par l'*Alcoholism and Drug Addiction Research Foundation of Ontario* (ARF) fournissent une démonstration de l'état des drogues au pays à cette époque. D'abord, une toute première revue de la littérature scientifique concernant la consommation de drogues au Canada montre que 17 études sur 22 (77%) se penchent exclusivement sur le comportement des jeunes étudiants des écoles secondaires, particulièrement en Ontario (Martel, 2006). Il n'existait alors aucune étude pancanadienne sur les comportements de consommation de drogues.

Afin de calmer le débat public entourant l'usage de drogues au pays, le ministre de la Santé et du Bien-être, John Munro, mandate stratégiquement en 1969 la Commission Le Dain afin de récolter des données sur le phénomène de la consommation de drogues non médicales au Canada. L'objectif est de fournir au gouvernement un

état de la consommation au pays, les raisons de cette consommation et des recommandations visant à la réduire. À la surprise générale, dans le rapport «Le cannabis» publié en 1972, la majorité des commissaires recommande de «décriminaliser la possession de petites quantités de cannabis et la culture à des fins personnelles» (Le Dain, 1972). Cette recommandation ne sera pas retenue par le gouvernement libéral de Pierre Elliott Trudeau.

Le Canada est l'un des premiers pays au monde à mettre en place une telle commission d'examen, mais aucune avancée significative de révision des lois n'est cependant réalisée dans les quatre décennies suivantes. Le début des années 2000 voit naître quelques tentatives — quoiqu'infructueuses — de décriminalisation. En 2002, le Comité spécial du Sénat sur les drogues illicites publie un rapport dans lequel il recommande la légalisation de la possession de cannabis. Plus tard cette même année, un comité de la Chambre des communes recommande cette fois la décriminalisation du cannabis (Erickson & Hyshka, 2009). Aucune des propositions n'ira de l'avant.

À la suite d'une décision judiciaire, le Canada devient en 2001 le premier pays au monde à légaliser le cannabis à des fins thérapeutiques pour certains patients atteints de maladies graves. Les années suivantes voient cependant mourir toutes les tentatives d'élargir l'accès à la substance. En fait, sous la gouverne du gouvernement conservateur de Stephen Harper, de 2006 à 2015, davantage de contrôles sont mis en place (Brochu, Duff, Asbridge, & Erickson, 2011).

C'est finalement en 2015 que le nouveau gouvernement libéral ajoute la légalisation du cannabis à son agenda tel que promis en campagne électorale. Dans son discours du Trône, le premier ministre Justin Trudeau déclare: «Le gouvernement [...] travaillera à assurer la sécurité de la population tout en protégeant les droits et les libertés. Cela comprend le dépôt de mesures législatives [...] qui légaliseront et réglementeront la consommation de marijuana, et limiteront l'accès à cette substance» (Radio-Canada, 2018). Le projet aboutit le 17 octobre 2018, lorsque des Canadiens de Terre-Neuve-

et-Labrador se procurent du cannabis légalement pour la première fois depuis 1923.

Peu d'études à ce jour tentent de comprendre le chemin menant à la légalisation du cannabis au Canada. En fait, contrairement à l'alcool ou au tabac, peu d'études se sont simplement penchées sur l'opinion publique par rapport au cannabis au Canada, et moins encore au Québec. Pour preuve, en 2018, «pour une première fois» le ministère de la Santé et des Services sociaux a mandaté l'Institut de la statistique du Québec (ISQ) afin de réaliser la première édition de l'Enquête québécoise sur le cannabis (EQC). Cette étude fournit «des indicateurs témoignant des normes sociales et des perceptions de la population à l'égard du cannabis [...]» (Institut de la statistique du Québec, 2018).

Selon l'Institut de la statistique du Québec (2018), «le fait de consommer ou non du cannabis peut s'inscrire dans un contexte social où les perceptions et les attitudes de la population à l'égard de cette substance sont plus ou moins favorables». Il est cependant ajouté que «relativement peu» d'information est à ce jour disponible pour comprendre la norme sociale entourant le cannabis.

Ainsi, selon l'EQC, 48% des Québécois de 15 ans et plus estiment qu'il est «tout à fait ou plutôt acceptable socialement de consommer occasionnellement du cannabis à des fins non médicales, 55% de consommer occasionnellement du tabac et 93 % de consommer occasionnellement de l'alcool». L'enquête révèle aussi que «21% des Québécois de 15 ans et plus croient que la consommation occasionnelle de cannabis ne comporte aucun risque et près de 39% jugent que le risque est minime» (Institut de la statistique du Québec, 2018).

Au Canada, depuis la légalisation, l'Enquête nationale sur le cannabis (ENC) suit l'évolution trimestrielle des tendances de consommation, mais pas encore les tendances de l'opinion publique.

En 1970, selon la Commission Le Dain, 3,5% des Canadiens dévoilent avoir consommé du cannabis au moins une fois dans leur vie, et 1% en avoir consommé dans la

dernière année (Le Dain, 1972). En 2017, l'Enquête canadienne sur le tabac, l'alcool et les drogues (ECTAD) révèle que 46,6% des Canadiens déclarent avoir consommé du cannabis au moins une fois dans leur vie (Statistique Canada, 2017). Avant la légalisation, le cannabis était la drogue illicite la plus consommée au Canada (Haines-Saah et al., 2014).

0.2 Cadre théorique

La réalisation de l'étude de la portée de la littérature (*scoping review*), présentée comme premier article, a permis de situer la pertinence de ce mémoire au croisement de la science politique et de la santé publique. Plus précisément, il a été relevé dans le *scoping review* que peu d'experts de la science politique, de la communication politique ou de l'opinion publique en sciences sociales avaient réellement contribué à la littérature sur l'opinion publique et les drogues, un champ largement dominé par les experts en sciences de la santé.

D'une pierre, ce mémoire vise deux coups. D'abord, il vise une contribution à la théorie de la normalisation de Parker et al. (1998), largement utilisée en santé publique et relevée par le *scoping review* comme l'une des théories principales dans le champ de l'opinion publique et des drogues.

Ensuite, il vise une contribution au modèle de l'activation en cascade (*cascading activation model*) développé par Entman (2004) d'abord pour les champs de la communication politique et de l'opinion publique, mais montré comme étant pertinent dans différents contextes (Entman, 2003, 2008).

Ensemble, ces deux modèles théoriques complémentaires permettent de dériver des hypothèses empiriquement testables, desquels sont enfin produits les résultats de la recherche.

0.2.1 Théorie de la normalisation

Les études sur le cannabis au Canada abordent de plus en plus la théorie de la *normalisation* pour décrire le mouvement de la consommation des drogues «de la marginalité vers le grand public» (Asbridge, Valleriani, Kwok, & Erickson, 2016; Duff et al., 2012; Duff & Erickson, 2014; Hathaway et al., 2011; Kolar, Erickson, Hathaway, & Osborne, 2018; Measham & Shiner, 2009; Mostaghim & Hathaway, 2013; Osborne & Fogel, 2007; Shiner & Newburn, 1997). Cette théorie suppose que le cannabis fait désormais partie des drogues douces socialement acceptées au Canada et que les consommateurs éprouvent moins de remords, voire retirent des avantages sociaux liés à sa consommation.

Hathaway et al. (2018) démontrent, par exemple, que les adolescents éprouvent un sentiment d'appartenance lors de la consommation de cannabis en groupe et qu'ils ne font, pour la plupart, jamais affaire directement avec un revendeur inconnu; au contraire, le cannabis est régulièrement partagé entre amis, «comme un cadeau».

Pour mesurer la normalisation d'une drogue, Parker et al. (1998) proposent cinq indicateurs complémentaires:

- (1) l'augmentation de la disponibilité et de l'accessibilité de la drogue dans la communauté;
- (2) l'augmentation du taux d'expérimentation (première consommation);
- (3) l'augmentation du taux de consommateurs réguliers;
- (4) l'augmentation des connaissances sur la drogue par les consommateurs et les non-consommateurs de la drogue et
- (5) l'appropriation de la drogue par la culture populaire (c'est-à-dire par une présence normalisée de la drogue à la télévision, au cinéma, dans les médias, etc.).

D'autres études ont par la suite ajouté des indicateurs pour perfectionner le modèle de

Parker et al. (1998). Parker (2005), par exemple, joint l’acceptabilité sociale (*social accommodation*) comme indicateur de l’intégration et de la tolérance de l’utilisation de la drogue dans la vie de tous les jours. Le changement vers des politiques plus libérales est un autre indicateur relevé entre autres par Duff et al. (2012) et Kolar et al. (2018).

En mesurant quantitativement 35 ans de textes médiatiques sur le cannabis au Canada, ce mémoire contribue à la mesure du cinquième indicateur de Parker et al. (1998) sur «l’appropriation par la culture populaire» du cannabis. Cet «indicateur», très large, est cependant particulièrement complexe à mesurer. Dans le cadre de ce mémoire, il sera plutôt considéré comme une «dimension» de la normalisation, de laquelle seront dérivés deux indicateurs empiriquement testables: l’évolution du **ton** et l’évolution des **thèmes** des articles sur le cannabis.

À propos des drogues, les médias représentent une source importante d’informations. Il est établi que ceux-ci ont joué un rôle majeur dans le processus de *dénormalisation* du tabac au Canada, c’est-à-dire dans la construction de son image négative et problématique (Asbridge et al., 2016; Ashley, 2003; Hammond, Fong, Zanna, Thrasher, & Borland, 2006; Hathaway & Erickson, 2004).

Bien que certaines études se soient penchées sur la question médiatique du cannabis ou aient du moins considéré sa priorité au Canada (Cunningham, Neighbors, Wild, & Humphreys, 2012; Hathaway & Erickson, 2004), aucune n’a évalué son évolution quantitativement, par la mesure de plusieurs indicateurs.

Haines-Saah et al. (2014) examinent les principaux thèmes abordés dans dix journaux anglophones du Canada de 1997 à 2007. Leur étude qualitative de 1999 articles dévoile, entre autres, une normalisation du cannabis bien présente dans les médias, mais «privilegiée». C’est-à-dire que la consommation de cannabis est régulièrement présentée comme «acceptable», «banale» pour certaines tranches de la population comme les élites, les athlètes, les célébrités, principalement des hommes blancs, alors

qu'elle est plutôt présentée comme «déviante» pour les non-blancs, les femmes et les jeunes adultes. Les auteurs relèvent aussi de nombreux articles qui abordent la normalisation du cannabis comme une manière de différencier le Canada «culturellement et socialement» des États-Unis, selon des valeurs plus «progressistes» et «libérales».

À leur grande surprise, Haines-Saah et al. (2014) concluent d'une analyse qualitative que le ton n'a pas changé dans les médias de 1997 à 2007, alors que la consommation de cannabis a quant à elle considérablement augmenté au Canada. Sur le long terme, d'autres chercheurs canadiens observent une tendance vers un ton plus neutre, voire plus positif de la consommation du cannabis dans les médias nord-américains (Hathaway & Erickson, 2004; Hathaway, Mostaghim, Kolar, Erickson, & Osborne, 2016).

D'autres auteurs ont démontré que le traitement médiatique des drogues au Canada a fait l'objet de reportages dramatiques, souvent exagérés (Martel, 2006; McRobbie & Thornton, 1995). La Commission spéciale du Sénat sur les médias de masse conclut en 1970 que les médias ont une influence certaine dans le débat sur la consommation de drogues au Canada (Davey, 1970; Martel, 2006).

Boyd & Carter (2012) ajoutent à la littérature en analysant 15 années de textes médiatiques sur la culture de cannabis dans des journaux nationaux, provinciaux et locaux en Colombie-Britannique. Les auteurs suggèrent que les médias ont négligé certains éléments structurels de la vente illégale de drogue, en coinçant leurs propos dans un angle judiciaire, contribuant aux renforcements des lois (Boyd & Carter, 2014).

0.2.2 Modèle d'activation en cascade

Ce mémoire se construit parallèlement sur le modèle de l'activation en cascade (*cascading activation model*) de Entman (2004). Pour l'auteur, la politique en démocratie consiste à convaincre les autres de concevoir les enjeux selon sa propre interprétation,

afin qu'ils soutiennent vos objectifs. Il est complexe toutefois de déterminer quels sont les acteurs qui possèdent le plus d'influence.

En réalisant des études de cas sur la politique étrangère américaine avec l'utilisation de son modèle, Entman (2004) démontre que «les corrélations entre l'opinion publique et la politique gouvernementale intègrent tellement d'interactions simultanées entre les dirigeants, les médias et les citoyens, que de déterminer qui influence qui reste un grand défi intellectuel».

La Figure 1 présente le modèle tel que conceptualisé par Entman en 2004 dans son ouvrage *Projections of Power: Framing News, Public Opinion and U.S. Foreign Policy*, mais adapté dans ce mémoire pour refléter les particularités de la politique canadienne. Par exemple, plutôt que de présenter l'administration en termes américains par la Maison-Blanche, l'État et la Défense, la Figure 1 s'ajuste au cas canadien selon des propositions de Giasson & Dubois (2018) et inclue dans l'administration le premier ministre, les ministres et leurs cabinets. Des flèches partant de l'opinion publique vers les élites politiques et l'administration ont également été ajoutées au modèle initial pour exposer l'impact que peut avoir la population sur le recadrage des enjeux, toujours selon les propositions de Giasson & Dubois (2018).

Certains acteurs possèdent davantage de pouvoirs pour faire adopter leurs interprétations d'un événement ou d'un enjeu. La métaphore de la cascade sert à expliquer la trajectoire de ces interprétations, ou autrement dit de ce cadrage (*framing*), la plupart du temps élaboré par les acteurs du gouvernement, en haut de la cascade, avant d'être déversé dans le reste du système, d'abord vers les autres élites (experts, députés, anciens politiciens, etc.), puis vers les médias et la population.

Le cadrage, selon Entman (1993), consiste à «sélectionner certains aspects d'une réalité perçue et à les rendre plus saillants dans un texte de communication, de manière à promouvoir une définition particulière du problème, une interprétation causale, une évaluation morale et/ou une recommandation de traitement pour

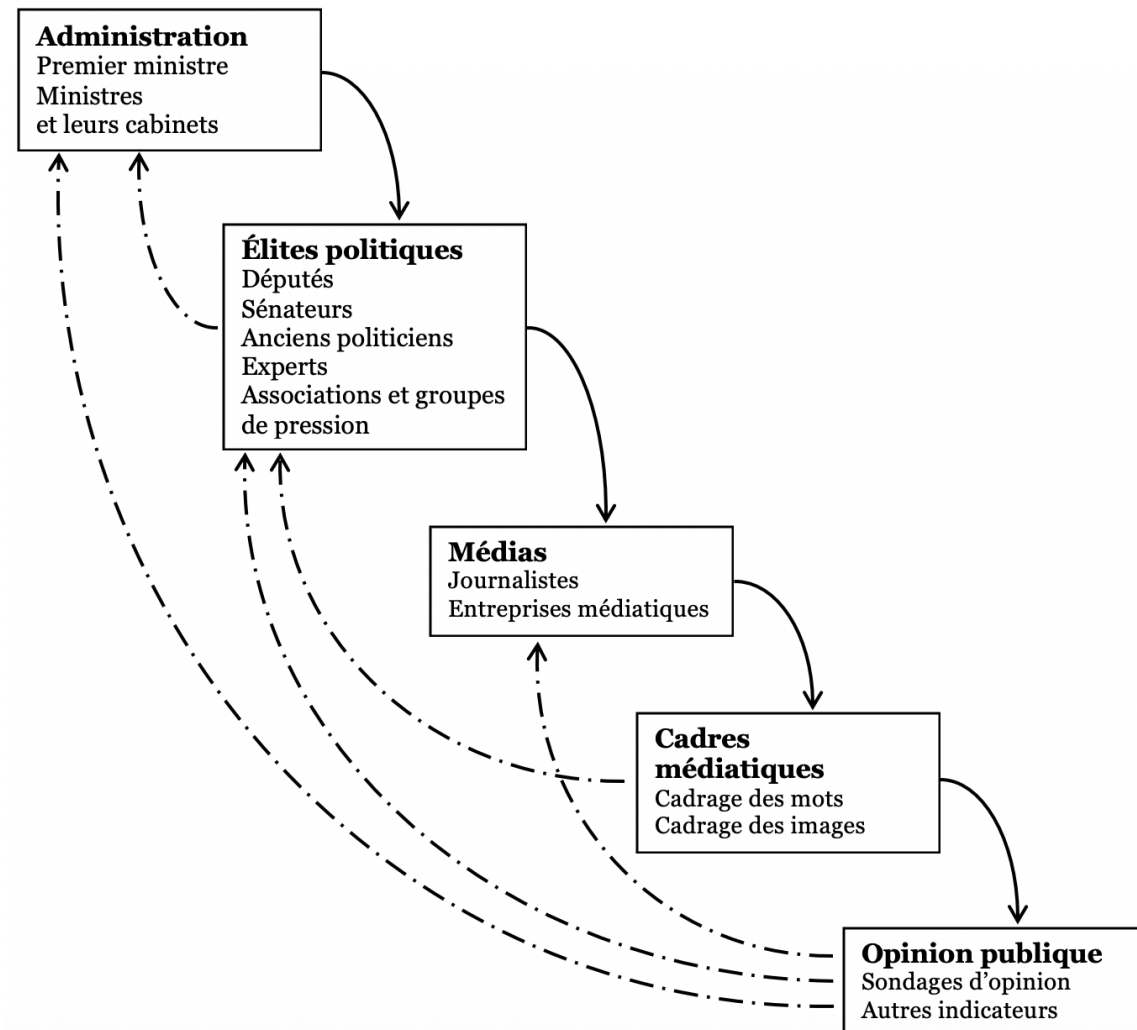


Figure 1: Le réseau de l'activation en cascade d'Entman (2004) adapté pour le cas canadien avec inspiration de Giasson et Dubois (2018).

l'élément décrit». Il s'agit de la définition la plus commune du cadrage dans la littérature, selon la méta-analyse proposée par Lemarier-Saulnier (2016).

La manière dont les citoyens perçoivent leur société est fortement façonnée par les médias (Iyengar & Kinder, 1987). Le cadrage devient ainsi un moyen efficace pour façonner l'opinion publique ou pour modifier les attitudes. Il serait erroné toutefois de croire que tous les cadrages de tous les enjeux suivent la même trajectoire. Entman (2004) souligne que bien que l'opinion publique se trouve tout en bas de la cascade, «les réactions perçues et attendues des citoyens peuvent avoir une incidence significative

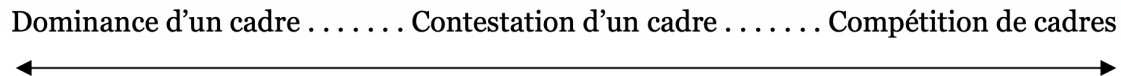


Figure 2: Continuum du cadrage selon Entman (2004).

sur ce que les dirigeants disent et font». Le modèle présente d'ailleurs une circularité, représentée par des flèches pointillées en contresens, démontrant l'impact important que peuvent parfois avoir la population et les médias sur le cadrage et indirectement sur les décisions politiques. Une insatisfaction populaire peut entraîner une obligation du gouvernement de recadrer un enjeu ou de modifier une politique.

Entman (2004) soutient qu'il serait malavisé de tenter d'établir une relation de causalité entre les différents acteurs de la cascade, c'est-à-dire de tenter de mesurer empiriquement qui a influencé l'opinion de qui. En fait, pour l'auteur, ces relations sont si interdépendantes qu'il serait difficile, même conceptuellement, d'en démêler les liens. Le cadrage gouvernemental influence et est influencé par le cadrage médiatique, qui lui aussi influence et est influencé par l'opinion publique, même si le mouvement prédominant va du haut vers le bas. Cependant, chaque situation présente ses particularités. L'objectif central de toutes manœuvres politiques est de générer un soutien ou une opposition à une politique ou à un acteur politique. Il peut arriver qu'un cadrage soit si dominant qu'il ne laisse place à aucune autre interprétation, et donc à aucune critique. D'autres fois, plusieurs cadres provenant de plusieurs niveaux de la cascade peuvent entrer en compétition. Entman (2004) illustre cette complexité à l'aide d'un continuum, représenté par la Figure 2.

Un cadrage dominant, élaboré par le gouvernement et en forme avec un consensus culturel a peu de chances d'être déformé en descendant la cascade. Zaller (1992) soutient d'ailleurs qu'une «image claire» formulée par les élites a toutes les chances d'être adoptée par le public, particulièrement par les individus les plus intéressés par la politique. Pour Zaller (1992), les individus ne pensent jamais par eux-mêmes: ils

sont plutôt influencés par le discours des élites, cadré par les médias et filtré selon leurs propres intérêts, leur éducation, leurs valeurs et leurs biais.

Ainsi, il est ardu, voire impossible d'éviter le cadrage. Entman (2004) construit sur la pensée de Lippmann (1922) en soulignant la distance de plus en plus importante entre un individu et une nouvelle. Peu importe l'enjeu, il est très rare d'obtenir un accès direct aux données, ce qui oblige l'information à transiter par les médias, rendant le cadrage «inéluçtable».

À l'aide de données textuelles issues de six médias canadiens et de données d'opinion publique, ce mémoire démontre la pertinence d'utiliser le modèle de l'activation en cascade pour la compréhension de la légalisation du cannabis au Canada.

Dans un article publié en 2008, Entman lui-même montre l'utilité théorique de son modèle dans différents contextes et dans différents champs d'études (Entman, 2008). Valenzano (2009) utilise le contexte canadien pour appliquer le modèle et contribuer à la compréhension du rôle des journalistes étrangers dans le cadrage des nouvelles de la Maison-Blanche. Giasson & Dubois (2018) considèrent le modèle à l'intérieur du contexte québécois pour comprendre le cadrage opéré par le gouvernement québécois pendant le mouvement de grève étudiante de 2012.

De nombreux acteurs ont tenté d'influencer les politiques publiques sur l'enjeu de la légalisation depuis les années 1960 (Martel, 2006). Le modèle de Entman (2004) permet de clarifier l'influence de différents acteurs et de suivre l'évolution et l'efficacité du cadrage gouvernementale du cannabis au Canada.

0.3 Question et hypothèses de recherche

Ce mémoire a comme principal objectif de contribuer globalement à la compréhension de la légalisation du cannabis au Canada. Pour ce faire, il entrevoit l'accomplissement

de deux objectifs secondaires: d'abord, la réalisation d'une revue de la portée de la littérature sur l'opinion publique et les drogues au Canada, afin de dresser le portrait de l'état actuel des connaissances. Ensuite, l'étude quantitative par analyse textuelle automatisée de la couverture médiatique du cannabis au Canada des trente-cinq dernières années, afin de suivre l'évolution du cadrage médiatique.

Pour réaliser ces objectifs, ce mémoire utilise à la fois la théorie de la normalisation, popularisée en santé publique par Parker et al. (1998), et la théorie de la cascade d'activation de Entman (2004), ayant fait ses preuves en communication politique. Cette combinaison théorique permet de poursuivre les travaux sur la normalisation du cannabis au Canada relevés dans le *scoping review*, mais également d'apporter un éclairage nouveau sur l'évolution du *cadrage* du cannabis de 1985 à 2020.

Plus précisément, ce mémoire vise par l'application de l'approche hypothético-déductive à répondre à la question suivante: **les médias canadiens ont-ils normalisé le cannabis?**

D'emblée, cette question de recherche contribue à la mesure de l'indicateur sur «l'appropriation par la culture populaire» du cannabis issu de la théorie de la normalisation de Parker et al. (1998). Le *scoping review* montre qu'aucune étude au Canada n'a tenté de mesurer par analyse textuelle automatisée l'évolution de la couverture médiatique sur le cannabis au Canada. En traitant cet indicateur plutôt comme une dimension, ce mémoire montre qu'il est possible de la désagréger en deux indicateurs empiriquement testables: l'évolution du **ton** et l'évolution des **thèmes**.

Autrement dit, si les médias ont normalisé le cannabis dans leurs textes depuis 35 ans, il serait premièrement possible de mesurer une évolution positive dans le ton des articles, c'est-à-dire une proportion de plus en plus importante de mots neutres ou positifs tels que «santé», «amis» ou «détente», et de moins en moins de mots négatifs comme «illégal», «crime» ou «dépendance». Il serait deuxièmement possible de mesurer une évolution dans les principaux thèmes, telle qu'une place plus importante

des articles sur l'économie du cannabis, et une place moins importante des articles sur la criminalité du cannabis. Puisque la littérature sur le cannabis au Canada suppose l'idée d'une normalisation culturelle de la substance, notamment au travers des médias, ce mémoire élabore les deux hypothèses suivantes:

Hypothèse 1: Les médias canadiens ont normalisé le cannabis dans le **ton** de leurs textes, c'est-à-dire que les textes contiennent une proportion de plus en plus importante de mots neutres, voire positifs.

Hypothèse 2: Les médias canadiens ont normalisé le cannabis dans les **thèmes** de leurs textes, c'est-à-dire que les textes sont de moins en moins axés sur le thème de la loi et l'ordre.

Seules, les réponses à ces hypothèses ne permettent que de répondre partiellement à la question de recherche. En effet, même si une normalisation est mesurée dans les médias au travers de l'évolution du ton et des thèmes, il reste complexe de déterminer si cette normalisation est bien l'œuvre des entreprises médiatiques et des journalistes, ou si elle est plutôt influencée par un éclatement des cadres chez les élites et dans l'opinion publique.

Entman (2004) met d'ailleurs en garde face à la tentation de chercher une relation de causalité entre le traitement médiatique et les changements dans l'opinion publique. «Qui influence qui» reste une question complexe, même conceptuellement, en raison de l'interdépendance des différents acteurs de la cascade.

Dans le cas du cannabis au Canada, par contre, de nombreuses études publiées depuis les années 2000 présentent un décalage entre l'opinion publique et les législations en vigueur (Fischer et al., 2016; Savas, 2001). Hathaway et al. (2007), par exemple, montrent que les Canadiens sont plus réceptifs que les décideurs publics à l'idée d'éliminer les sanctions criminelles pour une approche davantage centrée sur la santé publique. Brochu et al. (2011) concluent pour leur part, après avoir mené

165 longues entrevues, que les participants canadiens sont ignorants des lois sur le cannabis, et qu’une fois convenablement informés, une majorité les trouve «sévères», «excessives», «absurdes» et «ridicules».

En se basant sur le modèle théorique de l’activation en cascade de Entman (2004), ce mémoire suppose une influence importante de l’opinion publique et des autres élites politiques (députés, sénateurs, experts, groupes de pression, etc.) sur le cadrage médiatique du cannabis.

Le modèle présume une transmission principale des cadrages du haut vers le bas, c’est-à-dire de l’administration aux autres élites politiques, en passant par les médias jusqu’à l’opinion publique.

Comme le présente la Figure 2, dans le cas où plusieurs cadres sont en compétition, il est probable que les médias dérogent au cadrage unique de l’administration pour présenter un ou des «contre-cadrages». Sur cette base théorique, ce mémoire pose une troisième hypothèse:

Hypothèse 3: les médias canadiens ont dérogré au **cadrage** gouvernemental dominant au fur et à mesure que des cadres alternatifs ont émergé et ont été adoptés par les autres élites et par l’opinion publique.

C’est-à-dire qu’avant les discussions politiques sur le cannabis du début des années 2000, il est probable que peu d’articles médiatiques dérogent au thème — ou au cadre — de la loi et l’ordre. Quand les appuis à la légalisation du cannabis se sont mis à augmenter, alors qu’elle était proposée par de plus en plus d’experts et débattue dans l’enceinte même du parlement, il est aussi probable, selon la théorie de l’activation en cascade, que les médias aient diminué l’utilisation du cadre gouvernemental dominant pour faire place à un ou à des contre-cadres.

0.4 Méthodologies de recherche

0.4.1 Étude de la portée de la littérature

Afin de dresser le portrait complet des connaissances scientifiques, ce mémoire présente une étude de la portée de la littérature (*scoping review*) sur l'opinion publique, l'acceptabilité sociale et les perceptions des Canadiennes et des Canadiens par rapport à l'alcool, au cannabis et au tabac. Cette étude révèle les nombreuses failles dans la littérature sur l'opinion publique et les drogues au Canada, mais présente aussi les contributions.

La revue de la littérature suit les lignes directrices du Joanna Briggs Institute (JBI) afin de créer une cartographie fondée sur des données probantes de la littérature en date du mois de décembre 2018. Les études de la portée de la littérature sont définies par la JBI comme un type d'examen permettant d'estimer la taille et la portée d'un corpus documentaire sur un sujet donné. L'objectif est de produire une revue de l'ensemble des études scientifiques sur un sujet afin d'en dégager les consensus, d'en observer les tendances ainsi que d'en identifier les lacunes (Joanna Briggs Institute, 2014).

La réalisation d'une étude de la portée de la littérature a été motivée par cinq objectifs principaux:

- Identifier les articles et les chercheurs clés dans l'étude de l'opinion publique et des drogues au Canada;
- Présenter l'évolution de l'opinion publique canadienne sur le cannabis;
- Comparer l'étude de l'opinion publique envers le cannabis au Canada à l'étude de l'alcool et du tabac;
- Repérer les principales théories présentes dans le champ;
- Discerner les contributions et les lacunes de la littérature.

Toutes les sources récoltées à la suite du processus de sélection ont fait l'objet d'un

tri selon des critères d’inclusion et d’exclusion.

Les critères d’inclusion sont les suivants:

1. Sujet: tout document qui traite, selon son titre ou son résumé, de l’attitude, de l’opinion, de la perception ou de l’acceptabilité sociale concernant la consommation ou la réglementation de cannabis, de tabac, d’alcool ou d’autres drogues;
2. Type de document: article scientifique, livre, mémoire de maîtrise, thèse de doctorat et conférence scientifique;
3. Langue: toutes les langues;
4. Pays de publication: tous; et
5. Population étudiée: canadienne.

Les critères d’exclusion sont les suivants:

1. Sources: les références qui se répètent;
2. Sujet: tout document dont le sujet principal n’est pas lié à l’opinion publique concernant les substances ciblées;
3. Type de documents: articles non publiés, articles en attente de publication, de correction ou de vérification, articles journalistiques, sites web, blogues, critiques de livres et publications d’associations militantes; et
4. Cas: seules les études analysant le cas canadien ou le cas d’une des provinces du pays. Les études analysant d’autres cas sont exclues du corpus final.

0.4.2 Analyse du contenu médiatique

La deuxième étude se construit sur les bases d’une analyse de contenu automatisée dans des articles tirés des médias *La Presse* (remplacé par *La Presse+* à partir de 2016)¹, *Le Devoir*, *Le Journal de Montréal*, *Radio-Canada*, *Toronto Star* et *CBC*

¹*La Presse* a cessé la publication de son journal papier en semaine le 1er janvier 2016 et la fin de semaine à partir de 2018 pour concentrer ses activités sur *La Presse+* et sur son site Web *lapresse.ca*.

News. Ces six médias sont d’abord sélectionnés pour l’importance de leur lectorat et leur impact sur la société, mais également pour la disponibilité de leurs données.

Tous les textes médiatiques sont collectés à partir de la base de données *Eureka.cc*, qui permet la recherche et le téléchargement d’articles de journaux datant de plusieurs décennies. La requête est officialisée après un processus d’essais-erreurs. Elle se compose simplement, autant en anglais qu’en français, des deux expressions suivantes:

$$TEXT = cannabis|marijuana$$

Deux méthodologies sont déployées pour la mesure des trois hypothèses mentionnées précédemment. D’abord, la méthode du dictionnaire permet de mesurer par analyse de sentiments (*sentiment analysis*) l’évolution du ton employé dans les articles sur le cannabis (hypothèse 1). Pour ce faire, le corpus anglophone est croisé avec le Lexicoder sentiment dictionary (LSD), développé par Young & Soroka (2012) et largement reconnu dans la littérature en sciences sociales et en communication politique (ce dictionnaire est inclus dans le *package Quanteda*). Le LSD permet de coder tous les mots qui se retrouvent à la fois dans le corpus et dans le dictionnaire selon qu’ils soient positifs ou négatifs. L’utilisation du LSD est aussi avantageuse puisqu’une version francophone a été élaborée par Duval & Pétry (2016), permettant l’analyse des corpus anglophone et francophone par le même dictionnaire.

Ensuite, pour l’analyse des thèmes (hypothèse 2), ce mémoire se base sur une méthode de classification non supervisée en *Topic modeling* nommé *Latent Dirichlet allocation* (LDA). Il s’agit d’un algorithme construit sur les postulats que (1) tous les documents qui lui sont présentés contiennent un ensemble de thèmes, et (2) que tous ces thèmes comportent des mots qui ont de fortes probabilités de se retrouver ensemble.

Enfin, pour répondre à l’hypothèse 3, des recherches récentes ont démontré la pertinence de mener une analyse de thèmes selon la méthode de *Latent Dirichlet*

allocation comme proxy de l'analyse des cadres (Daud, Li, Zhou, & Muhammad, 2010; Poirier, Ouellet, Rancourt, Béchar, & Dufresne, 2020; Ylä-Anttila, Eranti, & Kukkonen, 2018). Autrement dit, les thèmes relevés comme probables de se trouver dans les documents peuvent également être interprétés comme des cadres.

Autrement dit, plus les médias présentent de nombreux thèmes avec des probabilités partagées de se trouver dans un article, plus le cadrage médiatique se rapproche d'une compétition de cadres (par exemple, quatre thèmes avec chacun 25% de chance de se trouver dans un article). Au contraire, plus un thème a de fortes probabilités d'être le seul représenté, plus il peut être interprété comme un cadre dominant (voir Figure 2).

Par conséquent, ce mémoire présente deux articles scientifiques complémentaires l'un à l'autre: le premier permet de faire état de la littérature et le deuxième d'y contribuer. Les théories mobilisées permettent des retombées à la santé publique et à la science politique. Les méthodologies mises à l'œuvre sont innovantes et pertinentes afin de mesurer les trois hypothèses de recherches. Ce mémoire permet dès lors de contribuer théoriquement et méthodologiquement à la compréhension de la légalisation du cannabis au Canada.

Article 1

Highs and Downs: A Scoping Review of Public Opinion about Cannabis, Alcohol and Tobacco in Canada

1.1 Abstract

Since the legalization of cannabis in October 2018, Canada has emerged as a privileged place for research on the properties of this substance, its health effects, but also on its relation with public opinion. However, this scoping review points out the complexity of tracing the evolution of Canadian public opinion on cannabis based on available scientific data. *Methodology:* This review follows the guidelines of the Joanna Briggs Institute (JBI) and summarizes more than 60 years of research on Canadians' public opinion, perception and knowledge of cannabis. The study also includes alcohol and tobacco in order to provide a meaningful comparison

between substances. *Results:* 161 references selected from over 30,000 studies, with the oldest dating back to 1956, show that public opinion on cannabis is under-studied in Canada compared to alcohol and tobacco. Young people and students are among the most studied populations, unlike Aboriginal communities, immigrants and elderly people. The study reveals the absence of experts in public opinion and political communication, and calls for an imperative need for theoretical frameworks rooted in the work of social scientists.

1.2 Résumé

Depuis la légalisation du cannabis en octobre 2018, le Canada se présente comme un lieu privilégié de recherches sur les propriétés de cette substance, ses effets sur la santé, mais également sur son rapport avec l'opinion publique. Cette étude de la portée de la littérature (*scoping review*) signale toutefois la complexité de tracer l'évolution de l'opinion publique canadienne sur le cannabis en se basant sur les données scientifiques disponibles. *Méthodologie:* cette étude suit les directives du Joanna Briggs Institute (JBI) et résume plus de 60 ans de recherches sur l'opinion publique, les perceptions et les connaissances des Canadiennes et des Canadiens sur le cannabis. L'étude inclut aussi l'alcool et le tabac afin de fournir une comparaison avantageuse entre les substances. *Résultats:* 161 références sélectionnées parmi plus de 30 000 études, dont la plus ancienne remonte à 1956, montrent que l'opinion publique sur le cannabis est sous-étudiée au Canada par rapport à l'alcool et au tabac. Les jeunes et les étudiants font partie des populations les plus étudiées, contrairement aux communautés autochtones, aux immigrants et aux

personnes âgées. L'étude révèle l'absence des experts en opinion publique et en communication politique, et appelle à un besoin impératif de cadres théoriques ancrés dans les travaux des chercheurs en sciences sociales.

Keywords cannabis; alcohol; tobacco; public opinion; scoping review.

1.3 Introduction

More and more politicians and experts are recognizing the importance of considering citizens' attitudes and perceptions when creating public policies to ensure that they are realistically and optimally implemented (INSPQ, 2019). Scientific literature shows that the more a person considers it “normal” to use alcohol and drugs, the more likely they are to consume in order to abide by this “perceived norm” (Arbour-Nicitopoulos et al., 2010; Cunningham & Selby, 2007; Perkins, 2007).

However, the theoretical review conducted in this study reveals a major limitation to the study of the origins of cannabis legalization in Canada: it is difficult to trace the evolution of Canadian public opinion on cannabis based on the available data. Few studies and surveys have been conducted over the past 50 years. Researchers find themselves faced with a lack of information regarding Canadian's perception of cannabis spanning decades (Hathaway et al., 2007; Millhorn et al., 2009).

In order to properly reflect current scientific knowledge, a scoping review of the literature has been conducted. Not only does it review the literature on public opinion, perceptions and knowledge of Canadians on cannabis, but it also includes alcohol and tobacco. These inclusions allow for an advantageous comparison between the substances and demonstrate the weaknesses of the literature on cannabis and public opinion in Canada.

An exploratory review of the literature suggests that few studies have focused on public opinion about cannabis in Canada, and even fewer within the provinces.

Indeed, in 2018, for the first time, the Ministère de la Santé et des Services sociaux mandated the Institut de la statistique du Québec (ISQ) to conduct the first edition of the Enquête québécoise sur le cannabis (EQC). This study provides “indicators of social norms and public perceptions of cannabis [...]” and notes the limited information available on public opinion and cannabis in the province of Quebec (Institut de la statistique du Québec, 2018).

In Canada, since legalization, the National Cannabis Survey (NCS) has tracked quarterly trends in cannabis use, but not yet public opinion trends. Nevertheless, the survey results show a slight increase in use: 16.8% of Canadians aged 15 years or older reported using cannabis in the past three months, compared to 14.9% in 2018, prior to legalization (Statistique Canada, 2019). In 1970, 3.5% of Canadians reported using cannabis at least once in their lifetime, and 1% reported using it in the past year (Le Dain, 1972). In 2017, 46.6% of Canadians report having used cannabis at least once in their lifetime (Statistique Canada, 2017). Prior to legalization, cannabis was the most commonly used illicit drug in Canada, and yet few information was available about its social acceptability (Haines-Saah et al., 2014).

In order to provide a complete picture of scientific knowledge, this research presents a scoping review of the literature on public opinion, social acceptability and Canadians’ perception of alcohol, cannabis and tobacco. This study thus reveals the many gaps in the literature on public opinion and drugs in Canada. It also presents the important contributions of researchers who have taken an interest in this field over the years.

1.4 Methodology

This literature review follows the Joanna Briggs Institute (JBI) guidelines to create an evidence-based mapping of the Canadian public opinion literature on cannabis,

alcohol and tobacco up to December 2018. The objective is to produce a review of all the scientific studies on the subject in order to identify the consensus in the literature, observe trends and identify gaps. Literature scoping studies are defined by the JBI as a type of review that estimates the size and scope of a body of literature on a given topic (Joanna Briggs Institute, 2014).

There are already existing reviews of the academic literature regarding public opinion and alcohol or drug use. Existing literature reviews focus on specific substances, populations or attitudes. This scoping review aims to take a broader approach to the literature to get a better idea of what is known on the evolution of public opinion regarding drug consumption up until now. It also aims at objectively describing the work of the entire research community working in this field (Joanna Briggs Institute, 2015). It follows the methodology of the “JBI Scoping Reviewers Manual”. Thus, a three-step search strategy is used to gather relevant sources.¹

First, a manual literature review of 100 academic references was conducted. The documents included in this analysis made it possible to identify the main keywords used in this sample of the literature.

The second step was to create specific search queries for the relevant databases based on the keywords identified during the manual literature review. Eleven databases were selected to launch the queries: *Sociological Abstracts*, *International Bibliography of the Social Sciences*, *PAIS International*, *Worldwide Political Science Abstracts*, *ProQuest Dissertations and Theses*, *Eric*, *PubMed*, *PsycInfo*, *Web of Science*, *Google Scholar* and *WorldCat*. These are multidisciplinary or specialized documentary databases that provide a wide range of academic texts from various disciplines such as political science, sociology, medicine, psychology, communication and economics. Queries must, of course, be adapted to the particularities of each

¹The document research strategy has been developed in collaboration with Laval University library consultant Richard Dufour. The coding of the documents has been done by a Laval University student, Guillaume Bertrand. The authors would like to thank them both for their contribution.

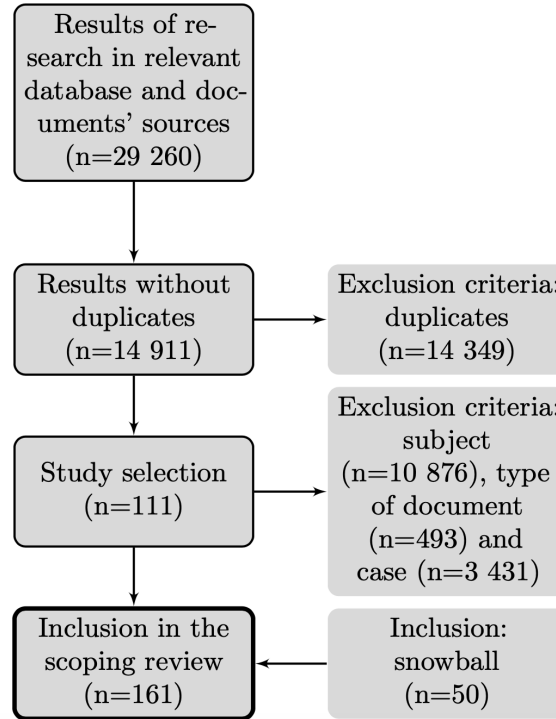


Figure 1.1: Literature Handling Flowchart of the Canadian Public Opinion and Drugs.

database, but all are composed of the same keywords which are presented below in the *ProQuest* format:

su((marijuana OR cannabis OR Hashish OR alcohol OR tobacco OR cigarette*) AND (opinion* OR attitude* OR belief*)) OR ti((marijuana OR cannabis OR Hashish OR alcohol OR alcool OR tobacco OR tabac OR cigarette*) AND (opinion* OR attitude* OR belief* OR croyance))

All queries were executed in December 2018. In order to ensure the completeness of the approach, no search constraints in terms of language or year of publication were imposed.

Finally, the third stage involved the creation of a list of all relevant sources based on the query items identified in the previous stage. This final stage of literature gathering resulted in a final list of 29,260 sources, as presented in Figure 1.1.

A research assistant then independently analyzed a list of 100 random sources from

the 29,260 to determine which ones should be excluded or included in the scoping study. To ensure a common evaluation design, the work was compared with that of two of the authors of this study. The concordance rate for the 100 sources was 88%, and the rare disagreements were resolved by the authors following discussion with the assistant.

Inclusion criteria are as follows:

1. Topic: any document that deals, according to its title or summary, with the attitude, opinion, perception or social acceptability of the use or regulation of marijuana, tobacco, alcohol or other drugs;
2. Type of Document: scientific article, book, master's thesis, doctoral dissertation, and scientific conference paper;
3. Language: all languages;
4. Country of publication: all; and
5. Study population: Canadian.

Exclusion criteria are as follows:

1. Sources: references that are repeated;
2. Topic: any document whose main subject is not related to public opinion on the targeted substances;
3. Type of documents: unpublished articles, articles awaiting publication, correction or verification, journalistic articles, websites, blogs, book reviews and publications of activist associations; and
4. Cases: only studies analyzing the Canadian case or the case of the provinces. Studies analyzing other cases are excluded from the final corpus.

The research assistant was then able to proceed with the complete coding of the corpus, before sharing a preliminary corpus of included references to the researchers. Only 111 studies were selected out of the 29,260 according to the inclusion and exclu-

sion criteria. This low number is due in part to the late decision to limit inclusion to studies analyzing the Canadian case.

Finally, the snowball method was used to complete the literature found through the scoping process. The authors reviewed the references for each of the 111 selected studies one by one to add other relevant studies to the corpus that would have gone under the radar. A total of 50 studies were added through this crucial step, which helped identify the limitations of the original queries.

Figure 1.1 shows the process of inclusion and exclusion in the scoping review. A total of 161 sources are included in the final database of sources used for the analysis.

This research is limited, however, by the number of studies that were available in PDF format. Although most results include article titles and abstracts, the data was sometimes insufficient for full coding. Thus, of the 161 articles collected, 39 (24% of the corpus) were not found for a complete reading, leaving missing data in the analysis of the results.

1.5 Results

1.5.1 Trends

In a comparison of public opinion and drug studies in Canada, alcohol is the substance that has received the most attention from researchers since the early 1960s. Figure 1.2 shows that of the 161 studies in the corpus, 76 (47.2%) deal with alcohol, as opposed to 64 for tobacco (39.8%) and 52 for cannabis (32.3%). These categories are not mutually exclusive: several articles deal with two or even all three substances at the same time, as presented on the Venn diagram. However, it is relevant to note that, since the mid-2000s, cannabis has been the most studied substance in public opinion.

Indeed, Figure 1.3 shows a rapid acceleration in the production of studies on

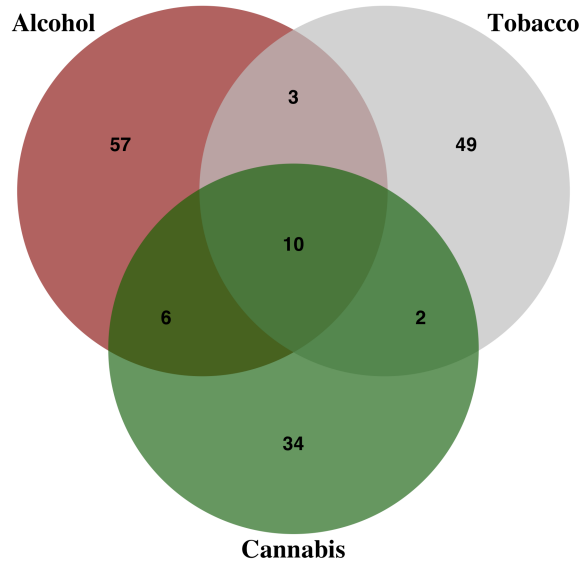


Figure 1.2: Scholarly Literature per Substance since 1956.

public opinion and cannabis since the 1990s. This Figure presents the total number of studies published by decades. While alcohol has historically been the most studied substance in Canada, the number of publications on this substance decreased in the 90s and was surpassed by tobacco studies. Since the 2000s, however, there has been a decline in scientific interest for both alcohol and tobacco. At the same time, cannabis reached a historic level of study in Canada, with 24 studies published during the 2010s, compared to 16 for alcohol and 12 for tobacco.

1.5.2 Methodologies Used

In terms of methodology, most authors rely on the production and analysis of opinion polls. A total of 116 studies used quantitative methodology (77.8% of available data) and only 29 (19.4%) used interviews, qualitative text analysis or other qualitative methods. Cannabis, however, seems to be the subject of a special methodological treatment. In fact, 18 studies in the corpus treated cannabis qualitatively (34.6%), as opposed to 30 that treated it quantitatively (57.7%). In comparison, only 6.3% of qualitative public opinion studies dealt with tobacco, and only 5.3% with alcohol.

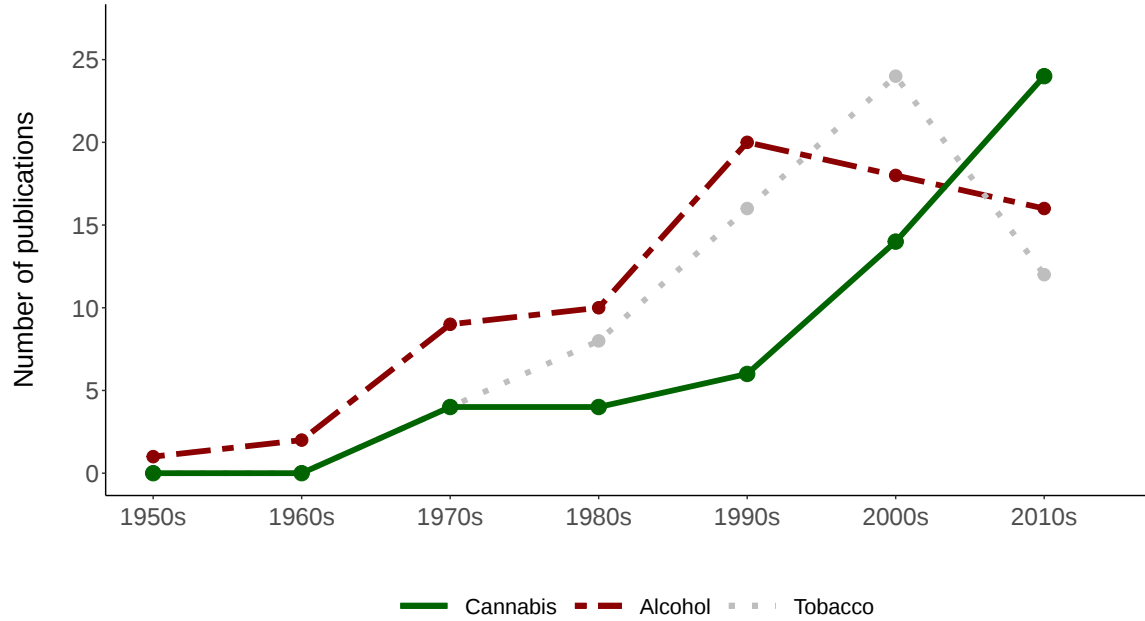


Figure 1.3: Scholarly Literature per Decade since the 1950s.

This peculiarity of the methodological treatment of cannabis remains to be explored, but it may be partly explained by the illegality of the substance (difficulty in finding large samples of consumers, interest in understanding consumer subcultures, etc.).

1.5.3 Disciplines of First Authors

In addition, the majority of the 161 studies in the corpus were conducted by first authors working in the various disciplines of the health sciences. Although each of these studies addressed public opinion about drugs, none was conducted primarily by public opinion experts. For example, 18 studies come directly from the field of mental health, 14 from public health, and 13 from psychology. Nursing produced nine studies, and medicine, seven.

All of these studies account for 71% of the data available in the corpus, while the social sciences field accounts for 29% of the text collection. Two studies are published by first authors who are experts in political science (Birch, 2010; Savas, 2001). The most represented field in social science is sociology, with 17 studies from this field of

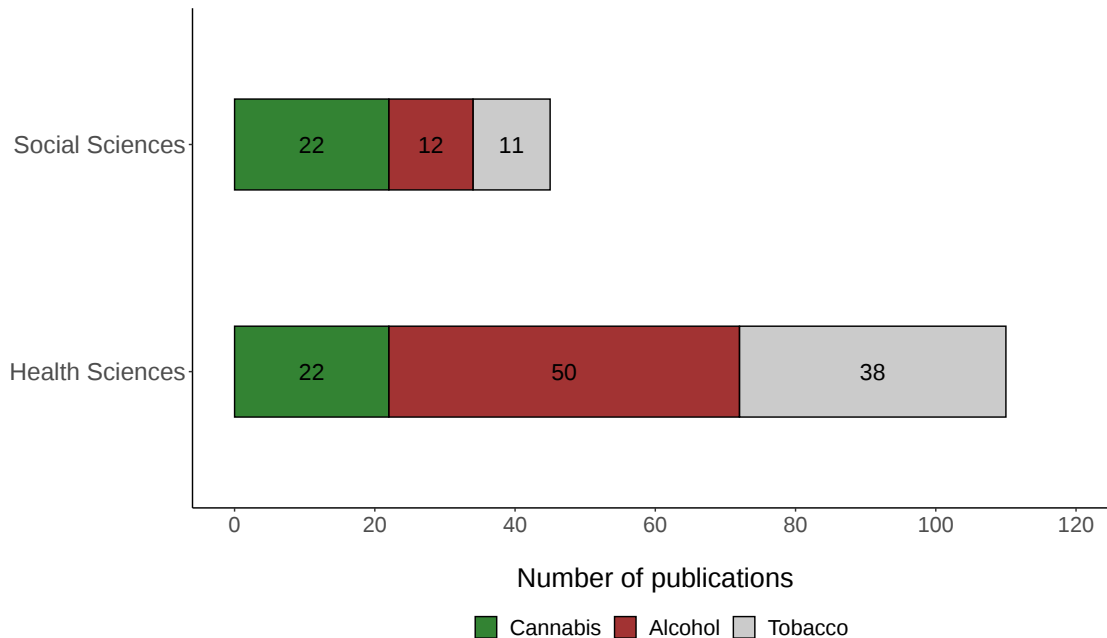


Figure 1.4: Scholarly Literature per Discipline since 1956.

research. Once again, the cannabis studies stand out: Figure 1.4 shows that the same number of studies (22 versus 22) from the corpus available for analysis were carried out by authors from health and social sciences. Thus, 50% of the studies on cannabis and public opinion in the social sciences come from sociology. This data may also partially explain the higher proportion of qualitative studies for cannabis. However, it should be noted that this weak presence of social sciences in the study of public opinion on drugs results in an imperative need for theoretical frameworks rooted in the work of social scientists.

1.5.4 Populations Studied

The scoping process identifies the most studied populations in the 158 studies for which this data is available. Figure 1.5 presents some segments of the Canadian population that are widely represented in the literature and, conversely, others that are underrepresented. Most categories have been coded to be mutually exclusive (i.e., “youth” and “students” are two categories that do not add up, unlike “Aboriginal

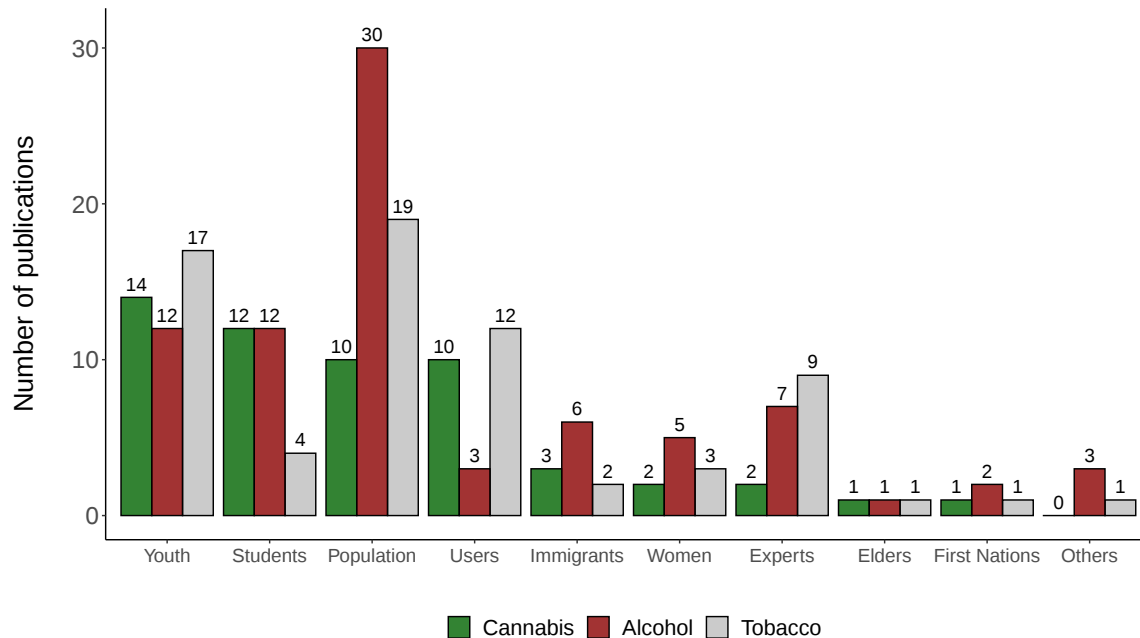


Figure 1.5: Scholarly Literature per Studied Population since 1956.

people” and “women”, for example, in the case of a study on Aboriginal women). It should be noted that only 11 studies in the entire corpus incorporate two sub-population categories in this way.

First of all, the strong presence of youth in Canadian studies is evident: 32 studies deal directly with children and adolescents, both in and out of school. However, it is possible and logical to add to this the studies on students, which include students in CEGEPs, colleges, universities and other professional training. Although not all student populations are young, most are under the age of 30. Thus, a total of 54 studies (34.2% of the 158 studies) deal with young people.

As many studies are population-based, i.e., they deal with samples of the entire Canadian or provincial population (56 studies, or 35.4% of the 158 studies).

There are no studies that focus solely on men, although this group is generally considered to be at greater risk of problematic use. Only six studies directly examined women, and the majority of these studies examined women’s views about drinking during pregnancy (Adrian, Dini, MacGregor, & Stoduto, 1995; April, Audet, Guyon,

& Gagnon, 2010; Guillemette, 2013; Guyon, Audet, April, & De Koninck, 2007; Vézina-Im & Godin, 2011; Waserman, 2012). Only two qualitative studies report on the social acceptability of substances among First Nations individuals (Coleman & Greyeyes, 1999; Guillemette, 2013), and eight among immigrant populations.

As shown in Figure 1.5, cannabis studies generally follow the same trends as alcohol and tobacco studies. However, the results show that fewer population studies and fewer expert studies have been conducted. The latter category includes research that examine the opinions, beliefs, and knowledge about drugs of health professionals, teachers, policy-makers, and other professionals. Users (i.e., regular cannabis users) have conversely been studied more extensively, almost as much as tobacco users (10 studies versus 12).

1.5.5 Three Dimensions of Public Opinion

After a reading of all the available texts selected in the scoping review, a deductive classification of the themes into three categories is offered:

1. the study of knowledge or beliefs (personal, professional or public);
2. the study of norms or perceptions of social norms (and their influences);
3. the study of opinions in relation to public policies (price of substances, sales, control of advertising, etc.).

None of these topics have been shown to be mutually exclusive: indeed, it is possible and likely that most of the studies in the corpus address two or more topics. Other themes may sometimes have arisen during the reading. However, the three themes presented here are largely predominant in the literature. They represent broader categories into which sub-themes may fall. Individually, these three categories can be interpreted as dimensions that, together, provide a broader measure of public opinion on drugs in Canada.

Knowledge and Beliefs

Citizens' knowledge of the effects of consumption is a particularly well-studied topic, with 73 studies focusing on it. Several studies conclude that health professionals do not have sufficient knowledge or have incorrect knowledge about substances (Giannetti, 2002; Lefebvre, Ordean, Midmer, Kahan, & Tolomiczenko, 2007; Lepage, Dumas, & Saint-Pierre, 2015). Research also shows that beliefs have been proven to be powerful allies of risky substance use (Ashley, 1999; Ashley, Cohen, & Ferrence, 2001; Borland, Cooper, McNeill, O'Connor, & Cummings, 2011; Borland et al., 2004; Ogborne & Smart, 2001; Pederson, Bull, Ashley, & Lefcoe, 1987). On the subject of cannabis, it has been shown that individuals generally have little knowledge about the laws surrounding and the consequences of consumption (Brochu et al., 2011; Erickson, Maas, & Hathaway, 2013).

The distinction between knowledge and belief is essential. Knowledge about drugs can be measured by asking questions of sophistication that have a true scientific answer (e.g., does tobacco cause cancer?). This measure is used to understand the extent and evolution of concrete knowledge about a drug. Conversely, a belief can be measured by questions about perceptions (e.g., do you think that drinking alcohol facilitates socialization?) that do not necessarily have a scientific answer.

Norms and Perception of Norms

Forty-six studies examined norms or perceptions of norms. According to this literature, norms and perceptions influence consumption. That is, the more positively a person perceives the social norm of substance use, or the more widely a substance is perceived to be used in society (among peers or those around them), the more likely a person is to consume in order to follow that "perceived norm" (Arbour-Nicitopoulos et al., 2010; Cunningham & Selby, 2007; Engs, Hanson, Gliksman, & Smythe, 1990; Hosking et al., 2009; Perkins, 2007; Porath-Waller, Clark, Canadian Centre on Sub-

stance Abuse, & issuing body., 2014; Thakore et al., 2009).

Gender also appears to have an effect on social acceptability: according to the literature, women are less likely to perceive substances positively (Haines et al., 2009; Hathaway et al., 2016; Kolar et al., 2018; Kropp, Lavack, Silvera, & Gabler, 2004). Heavy users are also more likely to underestimate their consumption relative to the average consumer, i.e. to perceive the standard as more generous than it actually is (Cunningham et al., 2012; Garnett et al., 2015). Cannabis is the subject of 19 studies in this category.

The influence of one’s immediate entourage is an inescapable indicator of the probability of using drugs. Studies show that having friends who use drugs increases the acceptability of substances (Bourdon, 2018; Kolar et al., 2018; Krauth, 2005; Kropp et al., 2004; Otten, Wanner, Vitaro, & Engels, 2008). Parents are also an important influence on their children’s substance use and perceptions of substances (Hamilton, Danielson, Mann, & Paglia-Boak, 2012; Maggi et al., 2014; Porath-Waller et al., 2014; Van Der Vorst et al., 2013).

Again, there is an important difference between a norm and the perception of a norm. Through his or her environment (family, friends), a teenager may perceive drug use as acceptable, despite the substance being illegal and marginalized in society. Norms and perceptions of norms can be measured by questions such as “Is it acceptable to drive after consuming more than two alcoholic beverages in the last hour?” or “Compared to the rest of society, how do you rate your use of cannabis? (Very much below normal, below normal, normal, above normal, very much above normal)”.

Opinions on Public Policy

Opinions on public policy have also been the subject of much debate: 51 studies have questioned groups in order to understand and analyze their opinion on current or

potential public policies. There seems to be a growing consensus in the literature that the more an individual consumes alcohol, the more they oppose public controls on consumption (Anglin, Giesbrecht, Ialomiteanu, McAllister, & Ogborne, 2003; Anglin, Kavanagh, & Giesbrecht, 2001, 2002; Giesbrecht, Ialomiteanu, & Anglin, 2005; Giesbrecht, Ialomiteanu, Anglin, & Adlaf, 2007; Ialomiteanu et al., 2010; MacDonald, Stockwell, & Luo, 2011). The link also appears to be true for smokers, who are more likely to oppose restrictive public policies on tobacco (Ashley, 1999; Pederson et al., 1987).

Authors have also noted an increase in support in Canada for the legalization of marijuana or for its decriminalization since the 2000s (Hathaway et al., 2007; Millhorn et al., 2009; Osborne & Fogel, 2017; Stockwell, 2007). Increasingly, Canadians view cannabis policies as too harsh, or even «ridiculous» (Asbridge et al., 2016; Brochu et al., 2011; Fischer et al., 2016; Hathaway et al., 2007; Savas, 2001). Twelve articles in the corpus study public opinion in relation to public policy on cannabis.

1.6 Discussion

All of the authors cited in this study are part of a broad network of actors working on public opinion and substances in Canada. Figure 1.6 shows the many collaborations of the authors selected for the scoping study. It shows each association out of the 161 articles that this work brought together. While certain networks of actors, rather located in the center of the Figure, seem to be closed, a large number of actors, corresponding to the crown of names, have been working in collaboration since 1956, the year of publication of the first article found in the literature review.

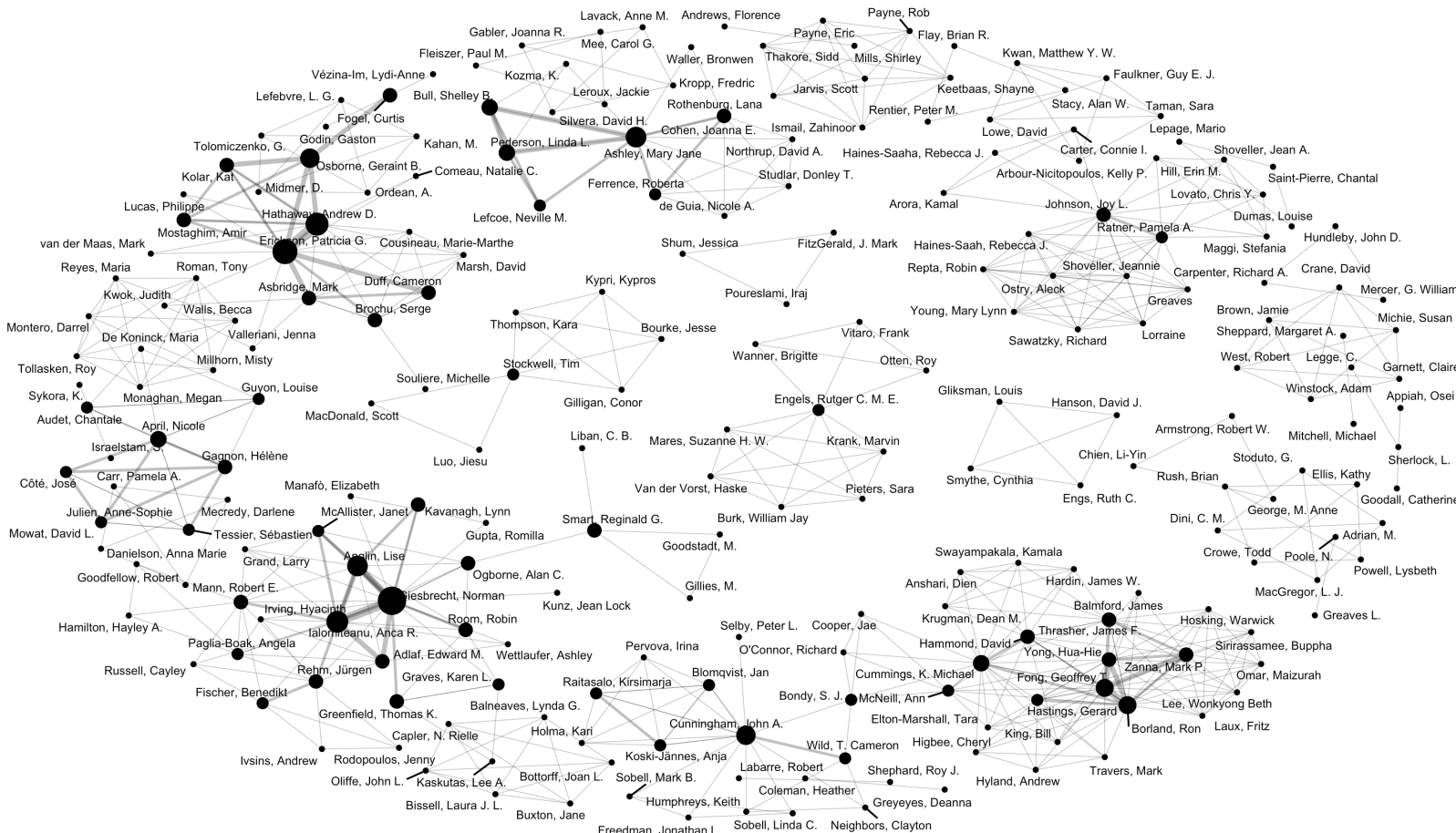


Figure 1.6: Network Analysis of the Authors Included in the Scoping Review.

Some of these networks are particularly important in the field. At the left, Figure 1.6 present many authors from the Institut national de santé publique du Québec (Nicole April, Hélène Gagnon, Louise Guyon, etc.). Below, another network is formed around Norman Giesbrecht of the Centre for Addiction & Mental Health of Ontario. Bottom right, Ron Borland from the Cancer Council Victoria in Australia presented another network of global actors.

The work of all these authors has identified five principal particularities of Canadian literature on public opinion and drugs. First, although there has been a noticeable increase in publications since the 1990s, there are still few Canadian studies on public opinion and cannabis and fewer longitudinal studies that assess Canadians' perceptions. The lack of data in the past explains this void. There is also a need to address the decline in alcohol and tobacco studies. The urgency of studying cannabis should not be used as a reason to slow down work on other substances.

Quantitative methodologies have enabled many cross-sectional studies, but few interviews and qualitative analyses of texts that deepen direct understanding of attitudes and behaviors have been conducted. Cannabis is a special case. Prohibition may have created the scientific need to understand consumption on a smaller scale through the perceptions of at-risk groups, although this assumption remains to be studied. Thus, there are still few studies that quantitatively capture Canadian public opinion on cannabis.

Moreover, the field of research would benefit from the expertise of social science researchers, particularly public opinion and political communications researchers. These experts, with the exception of sociologists, are nearly absent from the current literature. This particular field would strongly benefit from their theoretical and methodological approaches. Besides, the 161 studies identified by this scoping review were published in more than 65 different scientific journals, mostly dedicated to health sciences. The most popular are *Drug and Alcohol Review* (4 studies), *Substance Use &*

Misuse (4 studies), *Drugs: Education, Prevention and Policy* (4 studies), *Journal of Drug Education* (6 studies) and the *Canadian Journal of Public Health* (13 studies).

Then, many groups from the Canadian population are absent from the studies collected. More studies focusing specifically on men, and others on women (not just pregnant women) need to be conducted. Aboriginal communities have also been the subject of few public opinion studies, as have immigrants and elders, while behavioral studies highlight substance misuse in these populations.

However, these findings do not suggest slowing the rate of publication on alcohol, tobacco, youth or students. Rather, they encourage increasing the rate of publication on other substances used and on other groups also targeted as being particularly at risk of misuse. These phenomena of over-representation of certain populations in the literature have been documented by historian Marcel Martel in his book on Canadian public opinion and marijuana in the 1960s and 1970s: “The interest in studying young people was a direct result of [their] media attention” (Martel, 2006). Fifty years later, it is clear that the situation has not changed.

Finally, in the wake of the legalization of cannabis, new studies need to measure Canadian public opinion in comparison with public policies currently in place. In this regard, Canada is a prime research location for comparative policy, since there is as much legislation as there are provinces. This study also highlights the presence of three broad categories of themes in the literature of drugs and public opinion: the study of knowledge or beliefs, the study of norms or perceptions of social norms and the study of opinions in relation to public policies. An evaluation of these three dimensions could provide a more accurate picture of the evolution of public opinion on one or more drugs.

However, this article is limited by the number of articles that could be obtained: only basic information (title, authors, date, abstract) could be obtained for 24.2% of the corpus. The missing articles were mostly older articles. In fact, almost 80% of

the missing articles were published before the year 2000.

In their 1995 article on alcohol trends, Room and colleagues write: “Since public support for alcohol controls is crucial to their effectiveness and long-term viability, regular tracking of public opinion on them is needed, along with efforts to increase their public understanding and support.” (Room, Giesbracht, Graves, & Greenfield, 1995).

By highlighting the contributions and limitations of the current literature on cannabis, as well as on alcohol and tobacco, this article responds to the call made by Room and colleagues, and helps inform the scientific community about the progress of the work, as well as identifying relevant avenues for future research.

1.7 References

1.7.1 Results of the Scoping Review

- Adrian, M., Dini, C. M., MacGregor, L. J., & Stoduto, G. (1995). Substance use as a measure of social integration for women of different ethnocultural groups into mainstream culture in a pluralist society: The example of Canada. *International Journal of the Addictions*, 30(6), 699–734.
- Akerstream, J. A. (1997). *Investigating smoking behaviors and beliefs about smoking among Manitoba students aged 9-18 years* (M.Ed.). University of Manitoba (Canada).
- Anderson, R. E. (1973). *Relationship between sensation seeking and academic achievement, school attendance, academic ability, and alcohol use*.
- Andrews, F., & Mills, S. (1991). Cannabis Use, Attitudes, and the Use of Alcohol: A Causal Analysis. *In American Sociological Association*.
- Anglin, L., & Centre for Addiction and Mental Health. (2001). *Public opinion of Ontario adults on alcohol policy issues: Findings from a 1999 general population survey / Giesbrecht, Norman*. Centre for Addiction; Mental Health.
- Anglin, L., Giesbrecht, N., Ialomiteanu, A., Grand, L., Mann, R., & McAllister, J. (2004). Serving alcohol at home: What do most people do? Findings from a 2001 Ontario adult survey.* *Drugs: Education, Prevention and Policy**, 11(1), 21–33.
- Anglin, L., Giesbrecht, N., Ialomiteanu, A., McAllister, J., & Ogborne, A. (2003). Public Perception of Alcohol Policy Issues Relating Directly or Indirectly to Privatization, 94(3), 6.

- Anglin, L., Kavanagh, L., & Giesbrecht, N. (2001). Alcoho-Related Policy Measures in Ontario: Who Supports What and to What Degree?, 92(1), 5.
- Anglin, L., Kavanagh, L., & Giesbrecht, N. (2002). Public opinion analysis suggesting demographic characteristics of persons tending to favour internal versus external control of drinking behaviour. *Journal of Substance Use*, 7(4), 214–220.
- April, N., Audet, C., Guyon, L., & Gagnon, H. (2010). Représentations sociales et consommation d'alcool pendant la grossesse. *Drogues, Santé et Société*, 9(2), 17.
- Arbour-Nicitopoulos, K. P., Kwan, M. Y. W., Lowe, D., Taman, S., & Faulkner, G. E. J. (2010). Social Norms of Alcohol, Smoking, and Marijuana Use within a Canadian University Setting. *Journal of American College Health*, 59(3), 191–196.
- Asbridge, M., Valleriani, J., Kwok, J., & Erickson, P. G. (2016). Normalization and denormalization in different legal contexts: Comparing cannabis and tobacco. *Drugs: Education, Prevention and Policy*, 23(3), 212–223.
- Ashley, M. J. (1999). *Knowledge about tobacco use and attitudes toward tobacco control: How different are smokers and nonsmokers?* Toronto: Ontario Tobacco Research Unit.
- Ashley, M. J. (2003). *What the public thinks about the tobacco industry and its products* / Cohen, Joanna E. Toronto: Ontario Tobacco Research Unit.
- Ashley, M. J., Bull, S. B., & Pederson, L. L. (1995). Support among smokers and nonsmokers for restrictions on smoking. *American Journal of Preventive Medicine*, 11(5), 283–287.
- Ashley, M. J., Cohen, J., & Ferrence, R. (2001). “Light” and “Mild” Cigarettes: Who Smokes Them? Are They Being Misled?, 92(6), 5.
- Birch, L. M. (2010). *L'utilisation de la recherche sur l'opinion publique dans les*

politiques publiques: Le cas du programme de contrôle du tabagisme.

- Borland, R. (2006). Support for and reported compliance with smoke-free restaurants and bars by smokers in four countries: Findings from the International Tobacco Control (ITC) Four Country Survey. *Tobacco Control*, 15(suppl_3), iii34–iii41.
- Borland, R., Cooper, J., McNeill, A., O'Connor, R., & Cummings, K. M. (2011). Trends in beliefs about the harmfulness and use of stop-smoking medications and smokeless tobacco products among cigarettes smokers: Findings from the ITC four-country survey. *Harm Reduction Journal*, 8.
- Borland, R., Yong, H.H., Balmford, J., Fong, G. T., Zanna, M. P., & Hastings, G. (2009). Do risk minimizing beliefs about smoking inhibit quitting? Findings from the International Tobacco Control (ITC) Four-Country Survey. *Preventive Medicine: An International Journal Devoted to Practice and Theory*, 49(2-3), 219–223.
- Borland, R., Yong, H.H., King, B., Cummings, K. M., Fong, G. T., Elton-Marshall, T., ... McNeill, A. (2004). Use of and beliefs about light cigarettes in four countries: Findings from the International Tobacco Control Policy Evaluation Survey. *Nicotine & Tobacco Research*, 6(Suppl3), 311–321.
- Bottorff, J. L., Bissell, L. J., Balneaves, L. G., Oliffe, J. L., Capler, N. R., & Buxton, J. (2013). Perceptions of cannabis as a stigmatized medicine: A qualitative descriptive study. *Harm Reduction Journal*, 10(1), 2.
- Bourdon, M. (2018). *Étude transversale des facteurs psychosociaux et des croyances reliés à la consommation de cannabis sur les pentes chez des adolescents et adolescentes adeptes de sports de glisse* (D.Ps.). Université du Québec à Chicoutimi (Canada).
- Boyd, N., & Osgoode Hall Law School. (1977). *Results of a survey of attitudes of law*

- students at Osgoode Hall Law School to the use of, and laws relating to marijuana.*
[Toronto]: [N. Boyd, Osgoode Hall Law School, York University].
- Brochu, S., Duff, C., Asbridge, M., & Erickson, P. G. (2011). “There’s what’s on paper and then there’s what happens, out on the sidewalk”: Cannabis users knowledge and opinions of canadian drug laws. *Journal of Drug Issues*, 41(1), 95–115.
- Brochu, S., & Souliere, M. (1988). Long-term evaluation of a life skills approach for alcohol and drug abuse prevention. *Journal of Drug Education*, 18(4), 311–331.
- Brock, J., & Ontario Tobacco Research Unit. (1997). *Today’s medical students: Knowledge, attitudes and behavior toward smoking and cessation / Pederson, Linda Lue,; 1942-*. Toronto: Ontario Tobacco Research Unit.
- Carr, P. A., Mecredy, D., Goodfellow, R., & Mowat, D. L. (1998). Public Opinion Regarding Smoking in Public Places and Workplaces in the Greater Kingston Area, 2.
- Chien, L.Y., George, M. A., & Armstrong, R. W. (2002). Country of Birth and Language Spoken at Home in Relation to Illicit Substance Use, 93(2), 5.
- Clayton, A. B. (1986). Attitudes towards drinking and driving: Their role in the effectiveness of countermeasures. *Alcohol, Drugs & Driving*, 2(1), 1–8.
- Cohen, J. E., Guia, N. A. de, Ashley, M. J., Ferrence, R., Northrup, D. A., & Studlar, D. T. (2002). Predictors of Canadian legislators’ support for tobacco control policies. *Social Science & Medicine*, 55(6), 1069–1076.
- Coleman, H., & Greyeyes, D. (1999). Self-Reported Smoking Behavior and Attitudes in Aboriginal Treatment Centers across Canada. *American Indian Culture and Research Journal*, 23(1), 95– 110.
- Corfield, V. K., & And Others. (1983). *Attitudes toward Nutrition, Locus of Control*

and Smoking Behavior (pp. 1–16).

- Cunningham, J. A., Blomqvist, J., Koski-Jännes, A., & Raitasalo, K. (2012). Societal images of Cannabis use: Comparing three countries. *Harm Reduction Journal*, 9.
- Cunningham, J. A., Neighbors, C., Wild, T. C., & Humphreys, K. (2012). Normative misperceptions about alcohol use in a general population sample of problem drinkers from a large metropolitan city. *Alcohol and Alcoholism*, 47(1), 63–66.
- Cunningham, J. A., & Selby, P. L. (2007). Implications of the Normative Fallacy in Young Adult Smokers Aged 19–24 Years. *American Journal of Public Health*, 97(8), 1399–1400.
- Cunningham, J. A., Sobell, L. C., Freedman, J. L., & Sobell, M. B. (1994). Beliefs about the Causes of Substance Abuse: A Comparison of Three Drugs. *Journal of Substance Abuse*, 6(2), 219–226.
- Cunningham, J. A., Wild, T. C., Bondy, S. J., & Lin, E. (2001). Impact of normative feedback on problem drinkers: A small-area population study. *Journal of Studies on Alcohol*, 62(2), 228–233.
- De Guia, N. A. (1998). How provincial and territorial legislators view tobacco and tobacco control: Findings from a Canadian study. *Chronic Diseases in Canada*, 19(2), 57–61.
- De Guia, N. A. (2001). *Support for tobacco control policies: How congruent are the attitudes of legislators and the public?* Ontario Tobacco Research Unit, University of Toronto.
- Denys, J. G. (1968). *An exploratory and descriptive study on the behaviour and attitudes of Ontario teenagers to alcohol and drugs* (Master's thesis). University of Windsor (Canada).

- Duff, C., Asbridge, M., Brochu, S., Cousineau, M.M., Hathaway, A. D., Marsh, D., & Erickson, P. G. (2012). A Canadian perspective on cannabis normalization among adults. *Addiction Research & Theory*, 20(4), 271–283.
- Duff, C., & Erickson, P. G. (2014). Cannabis, risk and normalisation: Evidence from a canadian study of socially integrated, adult cannabis users. *Health, Risk & Society*, 16(3), 210–226.
- Eliahy, M., Canada, & Health and Welfare Canada. (1992). *The use of alcohol and other drugs by older Canadians and its consequences / Clarke, Juanne N.; 1944- ; (Juanne Nancarrow)*, Health; Welfare Canada.
- Engs, R. C., Hanson, D. J., Gliksman, L., & Smythe, C. (1990). Influence of religion and culture on drinking behaviours: A test of hypotheses between Canada and the USA. *Addiction*, 85(11), 1475–1482.
- Erickson, P. G., Maas, M. van der, & Hathaway, A. D. (2013). Revisiting Deterrence: Legal Knowledge, Use Context and Arrest Perception for Cannabis. *Sociologicky Casopis*, 49(3), 427–448.
- Fischer, B., Ialomiteanu, A. R., Russell, C., Rehm, J., & Mann, R. E. (2016). Public Opinion towards Cannabis Control in Ontario: Strong but Diversified Support for Reforming Control of Both Use and Supply. *Canadian Journal of Criminology and Criminal Justice*, 58(3), 443.
- Fischer, B., Rodopoulos, J., Rehm, J., & Ivsins, A. (2006). Toking and driving: Characteristics of Canadian university students who drive after cannabis use—an exploratory pilot study. *Drugs: Education, Prevention and Policy*, 13(2), 179–187.
- Fitzgerald, S. M. (1995). *Relationship between comprehensive school health education and the smoking knowledge, attitudes, and behaviour of grade nine adolescents* (M.Ed.). Memorial University of Newfoundland (Canada).

- Gagné, L. (2008). The 2005 British Columbia smoking cessation mass media campaign and short-term changes in smokers attitudes. *Journal of Health Communication*, 13(2), 125–148.
- Gagnon, H., Côté, J., April, N., Julien, A.S., & Tessier, S. (2013). Predictors of intention not to use cannabis among young adults who attend adult education centers. *Addiction Research & Theory*, 21(2), 123–131.
- Gagnon, H., Tessier, S., Cote, J., April, N., & Julien, A.S. (2012). Psychosocial Factors and Beliefs Related to Intention to Not Binge Drink Among Young Adults. *Alcohol and Alcoholism*, 47(5), 525–532.
- Garnett, C., Crane, D., West, R., Michie, S., Brown, J., & Winstock, A. (2015). Normative misperceptions about alcohol use in the general population of drinkers: A cross-sectional survey. *Addictive Behaviors*, 42, 203–206.
- Gassman, R. A. (1995). Attitudes of beginning MSW students toward alcoholics: *A test of the labeling perspective and the development of a taxonomy* (Ph.D.). Rutgers The State University of New Jersey - New Brunswick.
- Giannetti, V. J. (2002). Attitudes and knowledge concerning alcohol abuse: Curriculum implications. *Journal of Health & Social Policy*, 15(1), 45–58.
- Giannopoulos, S. S. (1996). *The perception of substance use in the Greek Canadian community of Vancouver*.
- Giesbrecht, N., & Greenfield, T. K. (1999). Public opinions on alcohol policy issues: A comparison of American and Canadian surveys. *Addiction*, 94(4), 521–531.
- Giesbrecht, N., Ialomiteanu, A., & Anglin, L. (2005). Drinking patterns and perspectives on alcohol policy: Results from two Ontario surveys. *Alcohol and Alcoholism*, 40(2), 132–139.

- Giesbrecht, N., Ialomiteanu, A., Anglin, L., & Adlaf, E. (2007). Alcohol marketing and retailing: Public opinion and recent policy developments in Canada. *Journal of Substance Use*, 12(6), 389–404.
- Giesbrecht, N., Ialomiteanu, A., Room, R., & Anglin, L. (2001). Trends in Public Opinion on Alcohol Policy Measures: Ontario 1989-1998. *Journal of Studies on Alcohol*, 62(2), 142–149.
- Giesbrecht, N., & Kavanagh, L. (1999). Public opinion and alcohol policy: Comparison of two Canadian general population surveys. *Drug and Alcohol Review*, 18(1), 7–19.
- Gilligan, C., Thompson, K., Bourke, J., Kypri, K., & Stockwell, T. (2014). 'Everybody Else Is Doing It'-Norm Perceptions Among Parents of Adolescents. *Journal of Studies on Alcohol and Drugs*, 75(6), 908–918.
- Goodall, C., & Appiah, O. (2008). Adolescents' Perceptions of Canadian Cigarette Package Warning Labels: Investigating the Effects of Message Framing. *Health Communication*, 23(2), 117– 127.
- Goodstadt, M., Smart, R. G., & Gillies, M. (1978). Public attitudes toward increasing the price of alcoholic beverages. *Journal of Studies on Alcohol*, 39(9), 1630–1632.
- Green, M. A. (2010). *Tobacco use among individuals with mental illness: Nurses' knowledge, confidence, attitudes, and practice* (M.N.). University of Manitoba (Canada).
- Greenfield, T. K., Graves, K. L., & Kaskutas, L. A. (1999). Long-term effects of alcohol warning labels: Findings from a comparison of the United States and Ontario, Canada. *Psychology and Marketing*, 16(3), 261–282.
- Guillemette, C. (2013). *Mieux comprendre les croyances associées à la consommation*

tion ou non d'alcool après un enseignement sur l'ensemble des troubles causés par l'alcoolisation fœtale chez les femmes Innues enceintes de la communauté d'Uashat mak Mani-Utenam (Master's thesis). Université du Québec à Chicoutimi (Canada).

Guyon, L., Audet, C., April, N., & De Koninck, M. (2007). Tabagisme et grossesse. Représentations sociales chez des mères québécoises. *Drogues, Santé et Société*, 6(1), 105–142.

Haines, R. J., Johnson, J. L., Carter, C. I., & Arora, K. (2009). “I couldn't say, I'm not a girl” – Adolescents talk about gender and marijuana use. *Social Science & Medicine*, 68(11), 2029– 2036.

Haines-Saah, R. J., Johnson, J. L., Repta, R., Ostry, A., Young, M. L., Shoveller, J., ... Ratner, P. A. (2014). The privileged normalization of marijuana use—an analysis of canadian newspaper reporting, 1997–2007. *Critical Public Health*, 24(1), 47–61.

Hamilton, H. A., Danielson, A. M., Mann, R. E., & Paglia-Boak, A. (2012). The Roles of Family, Peer, School, and Attitudinal Factors in Cannabis Use Across Immigrant Generations of Youth. *Journal of Drug Issues*, 42(1), 46–58.

Hammond, D., Fong, G. T., Zanna, M. P., Thrasher, J. F., & Borland, R. (2006). Tobacco denormalization and industry beliefs among smokers from four countries. *American Journal of Preventive Medicine*, 31(3), 225–232.

Hathaway, A. D. (2004). Cannabis careers reconsidered: Transitions and trajectories of committed long-term users, 25.

Hathaway, A. D., Comeau, N. C., & Erickson, P. G. (2011). Cannabis normalization and stigma: Contemporary practices of moral regulation. *Criminology & Criminal Justice*, 11(5), 451–469.

- Hathaway, A. D., & Erickson, P. G. (2004). A tale of two stimulants. *Canadian Journal of Communication*, 29(1).
- Hathaway, A. D., Erickson, P. G., & Lucas, P. (2007). Canadian Public Opinion on Cannabis. *Canadian Review of Social Policy/Revue Canadienne de Politique Sociale*, (59), 44–55.
- Hathaway, A. D., Mostaghim, A., Erickson, P. G., Kolar, K., & Osborne, G. (2018). “It’s Really No Big Deal”: The Role of Social Supply Networks in Normalizing Use of Cannabis by Students at Canadian Universities. *Deviant Behavior*, 39(12), 1672–1680.
- Hathaway, A., Mostaghim, A., Kolar, K., Erickson, P. G., & Osborne, G. (2016). A nuanced view of normalisation: Attitudes of cannabis non-users in a study of undergraduate students at three Canadian universities. *Drugs: Education, Prevention & Policy*, 23(3), 238–246.
- Hetherington, R. W. (1977). *Attitudes and knowledge about alcohol among Saskatchewan adolescents*. [publisher not identified].
- Holma, K., Koski-Jännes, A., Raitasalo, K., Blomqvist, J., Pervova, I., & Cunningham, J. A. (2011). Perceptions of Addictions as Societal Problems in Canada, Sweden, Finland and St. Petersburg, Russia. *European Addiction Research*, 17(2), 106–112.
- Hosking, W., Borland, R., Yong, H.H., Fong, G., Zanna, M., Laux, F., ... Omar, M. (2009). The effects of smoking norms and attitudes on quitting intentions in Malaysia, Thailand and four Western nations: A cross-cultural comparison. *Psychology & Health*, 24(1), 95–107.
- Hyland, A., Higbee, C., Borland, R., Travers, M., Hastings, G., Fong, G. T., & Cummings, K. M. (2009). Attitudes and beliefs about secondhand smoke and

- smoke-free policies in four countries: Findings from the International Tobacco Control Four Country Survey. *Nicotine & Tobacco Research*, 11(6), 642–649.
- Ialomiteanu, A. R., Giesbrecht, N., Adlaf, E. M., Irving, H., Paglia-Boak, A., & Rehm, J. (2010). An Exploratory Approach to Analyzing Alcohol Control Policy Opinions Held by Ontario Adults. *International Journal of Environmental Research and Public Health*, 7(3), 827–841.
- Ialomiteanu, A. R., Giesbrecht, N., Adlaf, E. M., & Wettlaufer, A. (2014). Trends in public opinion on alcohol issues during a period of increasing access to alcohol: Ontario, Canada, 1996-2011. *Drug and Alcohol Review*, 33(3), 249–258.
- Israelstam, S., & Sykora, K. (1988). The nature of alcoholism - opinions of Canadian alcohol intervention workers. *British Journal of Addiction*, 83(10), 1215–1219.
- Kim, Y. C., Alcoholism Commission of Saskatchewan, & Research Division. (1973). *Survey on community's attitudes toward alcohol use and alcoholism / Reid, John,; active 1972- ; author*. Regina: Research Division, Alcoholism Commission of Saskatchewan.
- Kirkwood, K. J., & Peel Board of Education, M. (. (1986). *A Survey of Students and Educators Their Views on Alcohol, Drugs, and Tobacco*. Distributed by ERIC Clearinghouse.
- Kolar, K., Erickson, P., Hathaway, A., & Osborne, G. (2018). Differentiating the drug normalization framework: A quantitative assessment of cannabis use patterns, accessibility, and acceptability attitudes among university undergraduates. *Substance Use & Misuse*.
- Krauth, B. V. (2005). Peer effects and selection effects on smoking among Canadian youth. *Canadian Journal of Economics/Revue Canadienne d'économique*, 38(3), 735–757.

- Kropp, F., Lavack, A. M., Silvera, D. H., & Gabler, J. R. (2004). Alcohol Consumption Among University Students: A Multi-Country Study of Attitudes, Values, Identity, and Consumer Influence. *Journal of Nonprofit & Public Sector Marketing*, 12(2), 1–28.
- Kunz, J. L., & Giesbrecht, N. (1999). Gender, Perceptions of Harm, and Other Social Predictors of Alcohol Use in a Punjabi Community in the Toronto Area. *Substance Use & Misuse*, 34(3), 403–419.
- Lazarus, J.A. C. (1977). *Attitudes of high school students towards marijuana smoking* (M.H.K.). University of Windsor (Canada).
- Lee, C. H. (1956). *Propaganda, public opinion and alcohol advertising: A study of the techniques of propaganda as used by the alcohol industry to influence public opinion*.
- Lefebvre, L. G., Ordean, A., Midmer, D., Kahan, M., & Tolomiczenko, G. (2007). Physicians' knowledge of alcohol, tobacco and folic acid in pregnancy. *Substance Abuse*, 28(1), 3–9.
- Legge, C., & Sherlock, L. (1991). Perception of alcohol use and misuse in three ethnic communities: Implications for prevention programming. *International Journal of the Addictions*, 25(sup5), 629–653.
- Lepage, M., Dumas, L., & Saint-Pierre, C. (2015). Teaching smoking cessation to future nurses: Quebec educators' beliefs. *Western Journal of Nursing Research*, 37(3), 376–393.
- MacDonald, S., Stockwell, T., & Luo, J. (2011). The relationship between alcohol problems, perceived risks and attitudes toward alcohol policy in Canada. *Drug and Alcohol Review*, 30(6), 652–658.

- Magee, L. S. (1993). *Sociodemographic, social influence, and psychological variables as predictors of alcohol-related attitudes and behaviours in a university sample* (Master's thesis). University of Windsor (Canada).
- Maggi, S., Lovato, C. Y., Hill, E. M., Johnson, J. L., Ratner, P. A., & Shoveller, J. A. (2014). *Adolescents' Perceptions of Parental Influences on Their Smoking Behavior: A Content Analysis* (pp. 132–149). SAGE Publications, 2455 Teller Road, Thousand Oaks, CA 91320.
- Manafò, E., Giesbrecht, N., & Gupta, R. (2014). Survey of Ontario health professionals' knowledge, attitudes and beliefs of alcohol-related harms: Key findings. *Journal of Substance Use*, 19(4), 295–300.
- Martel, M. (2006). *Not this time: Canadians, public policy, and the marijuana question, 1961-1975*. Toronto [Ontario] : University of Toronto Press, Ottawa, Ontario : Canadian Electronic Library.
- Matthews, V. L. F., & author. (1975). *Smoking behavior and attitudes among members of the Canadian Public Health Association / Bolaria, Rosemary, ; author*. Dept. of Social; Preventive Medicine, College of Medicine, University of Saskatchewan.
- McKittrick, E. P. (1966). *Attitudes of high school students in Manitoba toward the use of alcoholic beverages* (Ph.D.). University of Ottawa (Canada).
- Mercer, G. W., Hundleby, J. D., & Carpenter, R. A. (1978). Adolescent Drug Use and Attitudes toward the Family. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, 10(1), 79–90.
- Millhorn, M., Monaghan, M., Montero, D., Reyes, M., Roman, T., Tollasken, R., & Walls, B. (2009). North Americans' Attitudes Toward Illegal Drugs. *Journal of Human Behavior in the Social Environment*, 19(2), 125–141.

- Mostaghim, A., & Hathaway, A. D. (2013). Identity Formation, Marijuana and “The Self”: A Study of Cannabis Normalization among University Students. *Frontiers in Psychiatry*, 4.
- Negrette, J. C. (1970). Attitudes toward the behavior of alcoholics: Comparative study in three subcultures in Quebec. *Toxicomanies*, 3(2), 193–212.
- Normandin-Baribeau, D. (1980). *Changement d’attitudes chez les alcooliques suite à un séjour en centre de réadaptation* (Master’s thesis). Université du Québec à Trois-Rivières (Canada).
- Northcott, H. C., University of Alberta, & Population Research Laboratory. (1980). *Government influence, media influence, and quitting smoking / Jarvis, George K.,; 1935-.* Edmonton: Population Research Laboratory, Dept. of Sociology, University of Alberta.
- Ogborne, A. C., & Smart, R. G. (2001). Public Opinion on the Health Benefits of Moderate Drinking: Results from a Canadian National Population Health Survey. *Addiction*, 96(4), 641–649.
- Osborne, G. B., & Fogel, C. (2008). Understanding the Motivations for Recreational Marijuana Use Among Adult Canadians. *Substance Use & Misuse*, 43(3-4), 539–572.
- Osborne, G. B., & Fogel, C. (2017). Perspectives on Cannabis Legalization Among Canadian Recreational Users. *Contemporary Drug Problems*, 44(1), 12–31.
- Osborne, G., & Fogel, C. (2007). The normalization of marijuana use by adult canadian users. *International Journal of Crime, Criminal Justice, and Law*, 2(2), 201–225.
- Otten, R., Wanner, B., Vitaro, F., & Engels, R. C. M. E. (2008). Own and Friends’

- Smoking Attitudes and Social Preference as Early Predictors of Adolescent Smoking. *Journal of Clinical Child and Adolescent Psychology*, 37(4), 808–819.
- Pallett, J. H. (1985). *Belief systems of alcoholics and problem drinkers*. Ottawa: National Library of Canada.
- Paul, M. K. (1977). Comparative attitudes of university students and school teachers on the use and legalization of marijuana. *Journal of Drug Education*, 7(4), 323–335.
- Paul M. Fleischer, C. G. M., Jackie Leroux. (1996). Public Support for a 100% Smoke-free By-law in Scarborough, 3.
- Pederson, L. L., & And Others. (1981). The Effects of a Smoking Education Program on the Behavior, Knowledge and Attitudes of Children in Grades 4 and 6. *Journal of Drug Education*, 11(2), 141–49.
- Pederson, L. L., & And Others. (1983). *Prevalence of and Factors Related to Cigarette Smoking among Students in Grade 6* (pp. 305–12).
- Pederson, L. L., Bull, S. B., Ashley, M. J., & Kozma, D. (1992). Restrictions on smoking: Changes in knowledge, attitudes and predicted behaviour in metropolitan toronto from 1983 to 1988. *Canadian Journal of Public Health= Revue Canadienne de Sante Publique*, 83(6), 408–412.
- Pederson, L. L., Bull, S. B., Ashley, M. J., & Lefcoe, N. M. (1987). A Population Survey in Ontario Regarding Restrictive Measures on Smoking: Relationship of Smoking Status to Knowledge, Attitudes and Predicted Behaviour. *International Journal of Epidemiology*, 16(3), 383–391.
- Pederson, L. L., Bull, S. B., Ashley, M. J., & Lefcoe, N. M. (1989). A population survey on legislative measures to restrict smoking in Ontario: III. Variables related

- to attitudes of smokers and nonsmokers. *American Journal of Preventive Medicine*, 5(6), 313–322.
- Perkins, H. W. (2007). Misperceptions of peer drinking norms in Canada: Another look at the "reign of error" and its consequences among college students. *Addictive Behaviors*, 32(11), 2645–2656.
- Pickett, N. D. (2007). *Prescription stimulants, alcohol, and marijuana: Examining university students' attitudes*.
- Poland, B. D. (2000). Heterogeneity among smokers and non-smokers in attitudes and behaviour regarding smoking and smoking restrictions. *Tobacco Control*, 9(4), 364–371.
- Porath, A. J., Carleton University, & Department of Psychology. (2003). *Adolescents' initiation and cessation of cigarette smoking and marijuana use: The influence of their attitudes, peers, and prenatal exposure to nicotine and marijuana* (Master's thesis). Carleton University, Ottawa.
- Porath-Waller, A. J. (2008). *Driving high: A study of student driving behaviours and attitudes towards marijuana use and driving* (PhD thesis).
- Porath-Waller, A. J., Clark, H. author., Canadian Centre on Substance Abuse, & issuing body. (2014). *What Canadian youth think about cannabis: Technical report / Brown, Jonathan E., ; Author*. Ottawa, Ontario: Canadian Centre on Substance Abuse.
- Poureslami, I., Shum, J., & FitzGerald, J. M. (2015). Why do Chinese people with COPD continue smoking: The attitudes and beliefs of Chinese residents of Vancouver, Canada. *Diversity and Equality in Health and Care*, 12(1), 18–27.
- Room, R., Giesbracht, N., Graves, K., & Greenfield, T. (1995). Trends in public

- opinion about alcohol policy initiatives in Ontario and the US 1989–91. *Drug and Alcohol Review*, 14(1), 35–47.
- Room, R., Ogborne, A., & Giesbrecht, N. (2006). Case studies of alcohol policy formation: Power politics, public opinion, and research. In *Sober reflections: Commerce, public health, and the evolution of alcohol policy in Canada, 1980-2000*. McGill-Queens University Press.
- Ross, N. A. (1997). *Attitudes toward smoking in the Community Intervention Trial for Smoking Cessation (COMMIT)* (Ph.D.). McMaster University (Canada).
- Rush, B., Ellis, K., Crowe, T., & Powell, L. (1994). How general practitioners view alcohol use. Clearing up the confusion., 10.
- Savas, D. (2001). Public opinion and illicit drugs: Canadian attitudes towards decriminalizing the use of marijuana. P. Basham (éd.). *Sensible Solutions to the Urban Drug Problem, Vancouver, the Fraser Institute*.
- Schwanke, S. L. (1974). *The effectiveness of altering smoking behavior and attitudes under two treatment intensities* (M.Ed.). University of Alberta (Canada).
- Shephard, R. J., & LaBARRE, R. (1978). Current Attitudes towards Smoking in Toronto, 7.
- Sheppard, M. A. (1989). Adolescents' perceptions of cannabis use by their peers: Does it have anything to do with behavior? *Journal of Drug Education*, 19(2), 157–164.
- Sheppard, M. A., Goodstadt, M. S., & Willett, M. M. (1987). Peers or parents: Who has the most influence on cannabis use? *Journal of Drug Education*, 17(2), 123–128.
- Sheppard, M. A., & Mitchell, M. (1986). Young people's view of alcohol and its use.

Journal of Alcohol and Drug Education, 31(2), 1–7.

Skinner, G. W. N. (1989). *Public perceptions of alcohol problems, treatment policies and treatment services: A Newfoundland perspective.*

Smart, R. G., & Liban, C. B. (1981). The Need for Attitude Changes concerning Drinking and Drinking Problems. *Journal of Alcohol and Drug Education*, 27(1), 47–61.

Smillie, C. L. (1980). *The effect of an integrated smoking and health curriculum on the level of knowledge and attitude of selected grade six students* (Master's thesis). Dalhousie University (Canada).

Smith, M. H. (1999). *Drug use, alcohol use and outdoor recreation: A study of the perception of drug use and alcohol use in outdoor recreation activities among selected rural residents of Southwestern New Brunswick.* [S.l.: s.n.].

Sorensen, M. (1994). *Teenage smoking behaviour and attitudes in Edmonton and St. Albert, 1994.* Krahn, Harvey. Edmonton, Alta.: University Of Alberta.

Stacy, A. W., Rentier, P. M., & Flay, B. R. (1994). Attitudes and Health Behavior in Diverse Populations: Drunk Driving, Alcohol Use, Binge Eating, Marijuana Use, and Cigarette Use, 13.

Stockwell, T. (2007). *Cannabis use in British Columbia: Patterns of use, perceptions and public opinion as assessed in the 2004 Canadian addiction survey.* [Victoria, B.C.] : Centre for Addictions Research of BC, (Saint-Lazare, Quebec : Gibson Library Connections, 2008).

Thakore, S., Ismail, Z., Jarvis, S., Payne, E., Keetbaas, S., Payne, R., & Rothenburg, L. (2009). The Perceptions and Habits of Alcohol Consumption and Smoking Among Canadian Medical Students. *Academic Psychiatry*, 33(3), 193–197.

- Thrasher, J. F., Swayampakala, K., Cummings, K. M., Hammond, D., Anshari, D., Krugman, D. M., & Hardin, J. W. (2016). Cigarette package inserts can promote efficacy beliefs and sustained smoking cessation attempts: A longitudinal assessment of an innovative policy in Canada. *Preventive Medicine: An International Journal Devoted to Practice and Theory*, 88, 59–65.
- Troman, J. R. (. R. (1994). *An examination of the relationship between personal, social, and behavioral attitudes of non-traditional re-entry college students, alcohol use, and negative alcohol behavior* (PhD thesis).
- Van Der Vorst, H., Krank, M., Engels, R. C. M. E., Pieters, S., Burk, W. J., & Mares, S. H. W. (2013). The mediating role of alcohol-related memory associations on the relation between perceived parental drinking and the onset of adolescents' alcohol use. *Addiction*, 108(3), 526–533.
- Veevers, J. E. (1971). Drinking attitudes and drinking behavior: An exploratory study.
- Vega, G. (1982). *Effects of migration on alcohol use a survey of drinking patterns, attitudes and alcohol-related problems among Ecuadorians in Ecuador and in Montréal* (Master's thesis). McGill University (Canada).
- Vézina-Im, L.A., & Godin, G. (2011). Psychosocial determinants of intention to abstain from drinking alcohol while pregnant among a sample of women of child-bearing age. *Addiction Research & Theory*, 19(2), 128–137.
- Waller, B., Cohen, J. E., & Ashley, M. J. (2004). *Youth attitudes towards tobacco control: A preliminary assessment. Chronic Diseases in Canada*, 25(3-4), 97–100.
- Waserman, J. (2012). Highs and lows: Canadian perspectives on women and substance use: N. Poole and L. Greaves (eds). Centre for Addiction and Mental Health, Toronto, 2007. 542 pp. *Archives of Women's Mental Health*, 15(3), 235–

- Weber, T. R. (1996). The influence of acculturation on attitudes toward alcohol and alcohol use within the punjabi community: An exploratory analysis. *Substance Use & Misuse*, 31(11-12), 1715–1732.
- Whitehead, P. C. (1975). *Drinking practices and attitudes in Saskatchewan*. [Place of publication not identified]: [publisher not identified].
- Whitehead, P. C., New Brunswick, & Department of Health. (1978). *Two years of panel studies in Fredericton, N.B.: Attitudes and behaviours toward alcoholic beverages*. Fredericton, N.B.: Alcoholism Program, Dept. of Health, Fredericton, New Brunswick.
- Willson, K. L. (2005). *Identifying heterogeneity of attitudes among smokers and non-smokers regarding smoking and smoking restrictions* (Master's thesis). University of Toronto (Canada).
- Wirzman, J. L. (2009). *Effectiveness of one smoking cessation education session on changing client attitudes about their smoking behaviors in adults seeking treatment for substance addictions* (Master's thesis). D'Youville College.
- Wong, J. (2016). Using Elite Athletes to Promote Drug Abstinence: Evaluation of a Single-Session School-Based Drug Use Prevention Program Delivered by Junior Hockey Players. *Journal of Child & Adolescent Substance Abuse*, 25(4), 370–383.

1.7.2 Other References

- Erickson P.G. & Hyshka E. (2009). Four decades of cannabis criminals in canada: 1970-2010. *Amsterdam LF* 2: 1.
- Erickson P.G. & Oscapella E. (1999). Cannabis in canada-a puzzling policy. *Inter-*

- national journal of drug policy* 4(10): 313–318.
- Hathaway A.D. & Erickson P.G. (2003). Drug reform principles and policy debates: Harm reduction prospects for cannabis in canada. *Journal of drug issues* 33(2): 465–495.
- INSPQ. (2019). *Dossier de consultation: Projet sur les perceptions de la consommation d'alcool au Québec*. Institut national de santé publique du Québec.
- Institut de la statistique du Québec (2018) *Enquête québécoise sur le cannabis 2018: La consommation de cannabis et les perceptions des Québécois: un portrait préliminaire*.
- Joanna Briggs Institute. (2014). Qari critical appraisal tools. *Joanna Briggs Institute reviewers' manual*: 2014 edition : 177.
- Joanna Briggs Institute. (2015). Reviewers' manual 2015: Methodology for jbi scoping reviews. *Joanna Briggs Institute reviewers' manual*: 2015 edition : 24.
- Le Dain G. (1972). Le cannabis. *Rapport-Le cannabis*. Ottawa: Information Canada.
- McRobbie A. and Thornton S.L. (1995). Rethinking'moral panic'for multi-mediated social worlds. *British journal of sociology* : 559–574.
- Morin M. (2017). *Ô Cannabis: Tout ce qu'il faut savoir sur le cannabis, sa prohibition et sa légalisation*.
- P.J. Giffen & S.L. Shirley Endicott. (1993). Panic and indifference: The politics of canada's drug laws. *American Journal of Sociology* 99(2): 521–522.

Article 2

Framing Cannabis: An Automated Text Analysis of the Canadian Media from 1985 to the Legalization

2.1 Abstract

The road towards the legalization of cannabis in Canada in 2018 appears to be as winding as the road to its prohibition in 1923. This study contributes to the understanding of legalization by first measuring the normalization of cannabis in Canada through the media according to the theory of Parker et al. (1998). It then uses Entman's (2004) cascading activation model to clarify the role of the media as influential actors in the evolution of cannabis framing in Canada. *Methodology:* An automated text analysis of media coverage of cannabis in Canada and Quebec from 1985 to 2020 is conducted. Nearly 30,000 articles from six media outlets are studied

using sentiment analysis and topic modeling (Latent Dirichlet allocation). *Results:* As of 2015, the media treatment of cannabis is more neutral or even more positive than it has ever been. There is now a greater likelihood that the media will approach cannabis from an economic standpoint rather than a law and order perspective. The results show the emergence of alternative discourses in the media as early as the 1990s, competing with the prohibitionist frame put forward by governments at the time.

2.2 Résumé

Le chemin menant à la légalisation du cannabis au Canada en 2018 semble aussi sinueux que celui menant à sa prohibition en 1923. Cette étude contribue à la compréhension de la légalisation en mesurant d’abord la normalisation du cannabis au Canada au travers des médias selon la théorie de Parker et al. (1998). Puis, elle fait usage du modèle de l’activation en cascade de Entman (2004) pour clarifier le rôle des médias comme acteurs d’influence dans l’évolution du cadrage du cannabis au Canada. *Méthodologie:* Cette étude procède à l’analyse textuelle automatisée de la couverture médiatique du cannabis au Canada et au Québec de 1985 à 2020. Près de 30 000 articles tirés de six médias sont étudiés selon des analyses de sentiments et de thèmes (Latent Dirichlet allocation). *Résultats:* Depuis 2015, le traitement médiatique du cannabis est plus neutre, voire plus positif qu’il ne l’a jamais été. La probabilité est désormais plus élevée qu’un média aborde le cannabis sous un angle économique plutôt que judiciaire. Les résultats montrent l’apparition de discours alternatifs dans les médias dès les années 1990, faisant compétition au cadrage prohibitionniste mis de l’avant à l’époque par les gouvernements.

Keywords cannabis; media; text analysis; normalization; framing; cascading activation model.

2.3 Introduction

Cannabis has been an illegal substance in Canada since 1923. However, it is difficult to trace the reasons behind this prohibition. At the time, cannabis was a drug little known to the public, used marginally without causing public health issues (Erickson & Hyshka, 2009; Giffen et al., 1991; Martel, 2006).

Empirical and theoretical analyses conducted as part of this study further reveal limitations in examining the origins of cannabis legalization in Canada. While it is difficult to understand the reasons for prohibition, it seems just as complex to understand the path that led to legalization in October 2018.

More specifically, a scoping review of 161 studies shows that it is difficult to track the evolution of Canadian public opinion on cannabis based on available data (Cloutier, Tremblay-Antoine, & Fréchet, n.d.). Few studies and surveys on this topic have been conducted over the past five decades (Hathaway et al., 2007). The scoping review also notes the low presence of researchers — and therefore theories — from political science, particularly from the field of public opinion and political communication, in drug studies in Canada.

In order to contribute to the understanding of cannabis legalization in Canada, this study circumvents the limitations imposed by the lack of public opinion data and examines media coverage of cannabis from 1985 to 2020. Based on the theory of Parker et al. (1998), the study aims to measure the “normalization” of cannabis in nearly 30,000 articles from six major Canadian media outlets using text mining methodologies.

Additionally, this study uses Entman’s (2004) cascading activation model to

clarify the role of the media as an influential actor in the evolution of cannabis “normalization”. In other words, this study presents the evolution over time of the frames used by the media in their coverage of cannabis. It then compares them with the evolution of governmental framing and the evolution of public opinion as represented by the available data.

This theoretical complementarity helps to clarify the role of the media in the process leading up to the legalization of cannabis in Canada and thus to answer the following research question: **Did the Canadian media normalize cannabis?**

2.4 Context

Prior to 1908, there was no drug legislation in Canada. Cannabis was prescribed by many doctors, and hemp was frequently cultivated for rope and paper making. The first drug law in Canada was passed in 1908 and prohibited the production, sale and importation of opium.

Cannabis prohibition in 1923 is now recognized as a “no problem solution”, passed unanimously without apparent rationality or debate in the Canadian House of Commons (Erickson & Oscapella, 1999; Fischer et al., 2003; P. J. Giffen, 1993). It was not until 1932 that the first seizures of marijuana were made in Canada. House of Commons documents from the 1920s even indicate that many members of Parliament had never even heard of cannabis (Hathaway & Erickson, 2003).

Rather, it was in the 1960s that marijuana use began to spread, particularly among middle-class youth associated with the “hippie” movement. In order to calm the public debate surrounding drug use in Canada, Health and Welfare Minister John Munro strategically mandated the Le Dain Commission in 1969 to collect data on the phenomenon of non-medical drug use in Canada.

The objective was to provide the government with a picture of drug use in

Canada, the reasons for such use and recommendations for reducing it. To everyone's surprise, in the 1972 "Cannabis report", the majority of the commissioners recommended decriminalizing the possession of small amounts of cannabis and the cultivation of cannabis for personal use (Le Dain, 1972). This recommendation was not adopted by Pierre Elliott Trudeau's Liberal government.

Canada was one of the first countries in the world to establish such a review commission, but no significant progress in revising the laws was made over the next four decades. However, in the early 2000s, there were a few, albeit unsuccessful, attempts at decriminalization. In 2002, the Senate Special Committee on Illegal Drugs issued a report recommending the legalization of cannabis possession. Later that year, a House of Commons committee recommended the decriminalization of cannabis (Erickson & Hyshka, 2009). None of the proposals would move forward.

Following a court decision in 2001, Canada became the first country in the world to legalize cannabis for therapeutic purposes for certain patients with serious illnesses. However, in the years that followed, all attempts to expand access to the substance died. In fact, under Stephen Harper's Conservative government from 2006 to 2015, more controls were put in place (Brochu et al., 2011).

It was finally in 2015 that the new Liberal government added the legalization of cannabis to its agenda. In the Speech from the Throne following his election victory, Prime Minister Justin Trudeau said: "The government [...] will work to ensure public safety while protecting rights and freedoms. This includes introducing legislation [...] that will legalize and regulate the use of marijuana and limit access to it" (Radio-Canada, 2018). The project concluded on October 17, 2018, when Canadians in Newfoundland and Labrador obtained cannabis legally for the first time since 1923.

Few studies have yet attempted to understand the path that led to the legalization of cannabis in Canada. In fact, unlike alcohol or tobacco, few studies have simply examined public opinion about cannabis in Canada. Since legalization, the National

Cannabis Survey (NCS) has tracked quarterly trends in consumption patterns, but not yet trends in public opinion.

In 1970, according to the Le Dain Commission, 3.5% of Canadians reported using cannabis at least once in their lifetime, and 1% reported using in the past year (Le Dain, 1972). In 2017, the Canadian Tobacco, Alcohol and Drug Survey (CTADS) reported that 46.6% of Canadians have used cannabis at least once in their lifetime (Statistique Canada, 2017). Prior to legalization, cannabis was the most commonly used illicit drug in Canada (Haines-Saah et al., 2014).

2.5 Theoretical Framework

This study has two main objectives. First, it contributes to Parker et al. (1998)’s normalization theory, widely used in public health and identified as one of the main theories in the field of public opinion and drugs (Cloutier et al., n.d.). Second, it contributes to the cascading activation model, developed by Entman (2004) first for the fields of political communication and public opinion, but shown to also be relevant in different contexts (Entman, 2003, 2008).

2.5.1 Normalization Theory

Cannabis studies in Canada use normalization theory to describe the movement of drug use from the fringe to the mainstream (Asbridge et al., 2016; Duff et al., 2012; Duff & Erickson, 2014; Hathaway et al., 2011, 2018; Kolar et al., 2018; Measham & Shiner, 2009; Mostaghim & Hathaway, 2013; Osborne & Fogel, 2007; Shiner & Newburn, 1997). This theory assumes that cannabis has become one of the socially accepted soft drugs in Canada and that users experience less remorse with its use and even reap social benefits.

To measure drug normalization, Parker et al. (1998) proposes five complementary

indicators, in addition to two other indicators derived from subsequent scientific work (Duff et al., 2012; Kolar et al., 2018; Parker, 2005).

1. an increase in drug availability and accessibility in the community;
2. an increase in the rate of experimentation (first-time users);
3. an increase in the rate of regular users;
4. an increase in knowledge about drugs by drug users and non-users;
5. an increase in cultural accommodation (i.e. normalization of drugs on television, in movies, in the media, etc.);
6. an increase in social accommodation (i.e., tolerance of drug use in everyday life); and
7. the shift towards more liberal policies.

By quantitatively measuring 35 years of media texts on cannabis in Canada, this study contributes to the measurement of the fifth indicator on “cultural accommodation” of cannabis. This indicator is very broad, yet particularly complex to measure. It is seen in this study as a “dimension” of normalization, from which two empirically testable indicators are derived: changes in the **tone** and changes in the **topics** of cannabis articles.

When it comes to drugs, media are an important source of information. It has been established that the media has played a major role in the process of “denormalization” of tobacco in Canada, i.e. in the construction of its negative and problematic image (Asbridge et al., 2016; Ashley, 2003; Hammond et al., 2006; Hathaway & Erickson, 2004).

While some studies have addressed the media issue of cannabis or at least considered it a priority in Canada (Cunningham et al., 2012; Hathaway & Erickson, 2004), none has quantitatively assessed its evolution through the measurement of indicators.

Haines-Saah et al. (2014) examines the main themes addressed in ten English-language newspapers in Canada from 1997 to 2007. Their qualitative study of 1999

articles revealed, among other things, a normalization of cannabis that is well present in the media, but “privileged”. That is, cannabis use is regularly presented as “acceptable” for certain segments of the population such as elites, athletes, celebrities, mainly men, while it is presented as “deviant” for non-whites, women and young adults.

Haines-Saah et al. (2014) concluded from a qualitative analysis that the tone has not changed in the media over the past ten years, while cannabis use has significantly increased in Canada. Over the long term, other Canadian researchers have observed a trend towards a more neutral or even more positive tone of cannabis use in North American media (Hathaway & Erickson, 2004; Hathaway et al., 2016).

Other studies have shown that the media treatment of drugs in Canada has been the subject of dramatic, often exaggerated coverage (Boyd & Carter, 2014; Martel, 2006; McRobbie & Thornton, 1995). The Senate Special Committee on the Mass Media concluded in 1970 that the media have had a definite influence on the debate on drug use in Canada (Davey, 1970).

2.5.2 Cascading Activation Model

The cascading activation model of Entman (2004) is then used to clarify the media’s influential role in the normalization process of cannabis. According to Entman, politics in a democracy is about convincing others to view issues your way, so that they support your goals. However, determining which actors have the most influence remains complex.

By conducting case studies on U.S. foreign policy using its cascading activation model, Entman (2004) demonstrates that “correlations between public opinion and government policy incorporate so many simultaneous interactions among leaders, media and citizens that determining who influences whom remains a large intellectual challenge”.

Figure 2.1 presents the model as conceptualized by Entman in 2004, but adapted

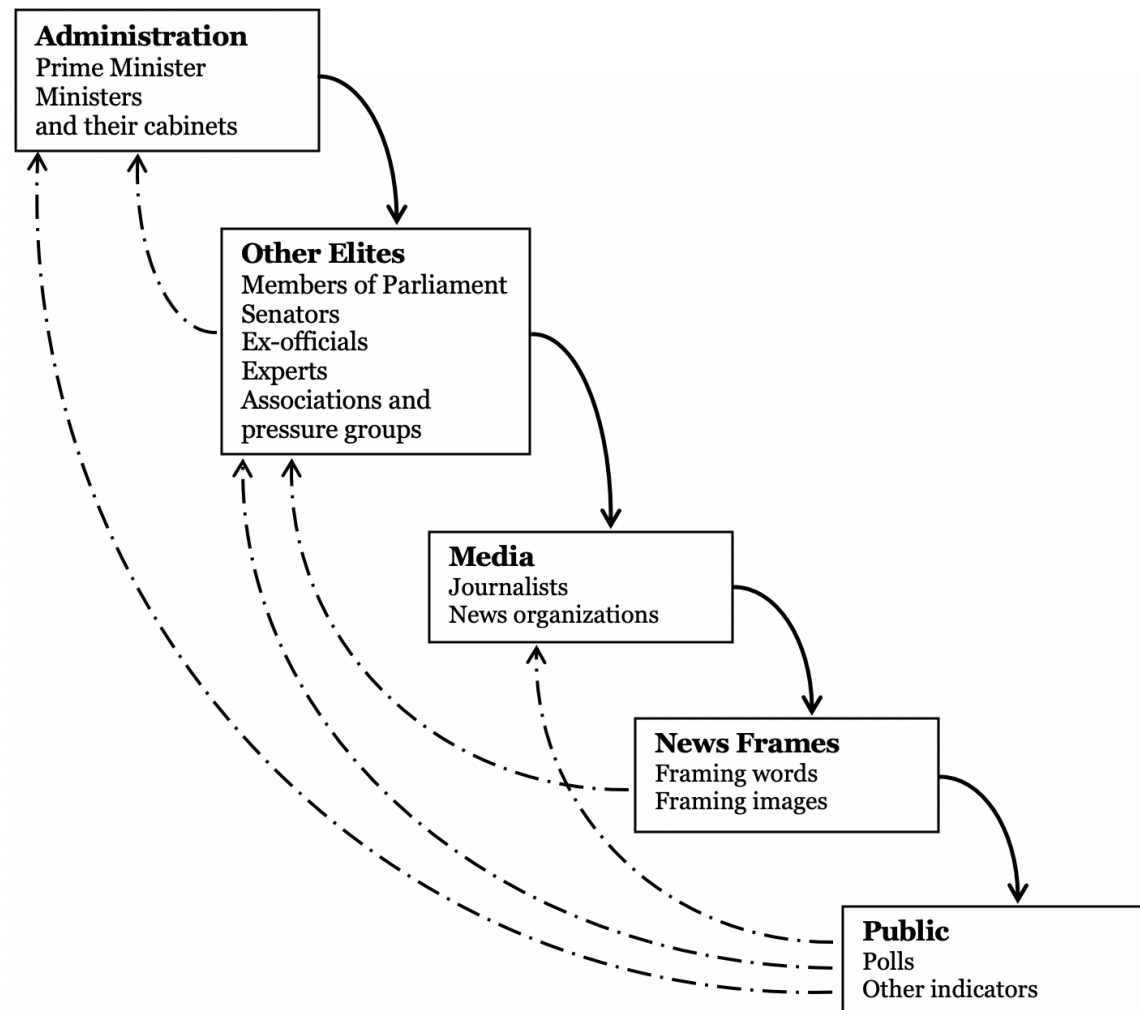


Figure 2.1: Entman’s Cascading Activation Network (2004) Adapted for the Canadian Case with Inspiration from Giasson and Dubois (2018).

in this study to reflect the particularities of Canadian politics. For example, according to proposals by Giasson & Dubois (2018), the model includes the Prime Minister, Ministers and their cabinets in the “Administration”. Arrows from public opinion to political elites and the administration were also added to the model to show the impact that the public can have on reframing, again according to proposals made by Giasson & Dubois (2018). Some actors have more power to push through their interpretations of an event or an issue (Entman, 2004). The cascade metaphor is used to explain the trajectory of this interpretation, or “framing”, most often developed



Figure 2.2: Frame Continuum from Entman (2004).

by government actors at the top of the cascade, before being poured into the rest of the system, first to the elites, then to the media and to the population.

Framing, according to Entman’s (1993) definition, consists of “selecting some aspects of a perceived reality and making them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described”. This is the most common definition of framing in the literature (Lemarier-Saulnier, 2016).

It would be wrong, however, to assume that all frames of all issues follow the same path. Entman (2004) points out that, although public opinion is at the very bottom of the cascade, the perceived and expected reactions of citizens can have a significant impact on what leaders say and do. The model has indeed a circularity, represented by arrows dotted in the opposite direction, demonstrating the important impact that the public and the media can sometimes have on the framing and on political decisions. Popular dissatisfaction can lead to an obligation from the government to reframe an issue.

Sometimes, one frame may be so dominant that it leaves no room for alternative interpretations and, therefore, no room for criticism. At other times, several frames from several levels of the cascade may compete. Entman (2004) illustrates this complexity using a continuum, represented by Figure 2.2. A dominant, government-developed and culturally consensual frame is unlikely to be distorted as it goes down the cascade. Zaller (1992) argues that a “clear picture” formulated by elites is likely to be adopted by the public, especially by those most interested in politics. Iyengar & Kinder (1987) also shows that framing is an effective means of shaping public opinion or changing citizens’ attitudes.

Many actors have tried to influence public policy on the issue of legalization since the 1960s (Martel, 2006). The model helps to clarify the influence of different actors and to track the evolution and effectiveness of the government frames of cannabis in Canada.

2.6 Hypotheses

This study aims, through the application of the hypothetico-deductive approach, to answer the following research question: **Did the Canadian media normalize cannabis?**

This question contributes to the measurement of Parker et al. (1998)’s normalization theory indicator of “cultural accommodation” of cannabis. By treating this indicator as a dimension, it can be disaggregated into two indicators of the normalization of cannabis in the media: the evolution of the **tone** and the evolution of the **topics**.

In other words, if the media have normalized cannabis in their texts over the last 35 years, it would first be possible to measure a positive change in the tone of the articles, i.e. an increasing proportion of neutral or positive words. Second, it would be possible to measure a change in the topics, with an increase of mundane topics. Since many years of literature on cannabis in Canada has assumed the idea of a cultural normalization of the substance, this study makes the following first two assumptions:

Hypothesis 1: The Canadian media have normalized cannabis in the **tone** of their texts, i.e. texts contain an increasing proportion of neutral or even positive words.

Hypothesis 2: The Canadian media have normalized cannabis in the **topics** of their texts, i.e., texts are less and less focused on the topic of law and order.

The answers to these hypotheses alone would only partially answer the research question. Indeed, even if a normalization is measured in the media through changes in tone and topics, it remains complex to determine whether this normalization is indeed the work of news organization and journalists, or whether it is rather influenced by “counter-frames” popular among elites and public opinion.

Using media data and based on Entman’s (2004) theoretical model of cascading activation, this study assumes a significant influence of public opinion and other political elites (MPs, senators, experts, pressure groups, etc.) on the media framing of cannabis. The cascading activation model presumes a main top-down transmission of the framing, i.e. from the administration to the other political elites, then to the media and to public opinion. In the case where several frames are in competition, it is likely that the media will deviate from the administration’s single framing to present one or more counter-frames (see Figure 2.2). On this theoretical basis, this paper poses a third hypothesis:

Hypothesis 3: The Canadian media have deviated from the dominant governmental **framing** of cannabis as alternative frames have emerged and been adopted by the other elites and public opinion.

Prior to the political discussions on cannabis in the early 2000s, few media articles likely deviated from the topic — or frame — of cannabis-related crime. When support for cannabis legalization began to increase, proposed by more and more experts and debated in parliament itself, it is also likely, according to cascade activation theory, that the media decreased the use of the dominant governmental frame to present one or more counter-frames.

Table 2.1: Result of data collection

Media	Period of Coverage	n
Journal de Montréal	October 2006 to January 2020	3888
La Presse	April 1988 to January 2016	4850
La Presse+	April 2013 to January 2020	2234
Le Devoir	July 1992 to January 2020	2481
Radio-Canada	July 2005 to January 2020	1731
Total French		15 184
CBC News	November 2004 to January 2020	3826
Toronto Star	January 1985 to January 2020	10 945
Total English		14 771
Grand Total		29 955

2.7 Methodology

This study performs automated text analysis in articles from *The Toronto Star*, *CBC News*, *Le Devoir*, *Le Journal de Montréal*, *Radio-Canada* and *La Presse* (replaced by *La Presse+* as of 2016)¹. These six media are selected primarily for the importance of their readership and their impact on society, but also for the availability of their data over the long term.

All media texts are collected from the *Eureka.cc* database, which allows searching and downloading newspaper articles dating back several decades. The query is formalized after a trial and error process. It simply consists of the following two key words in both English and French:

$$TEXT = cannabis|marijuana$$

This query resulted in the collection of nearly 30,000 articles, as presented in Table 2.1. All the texts were selected manually, allowing a check of their relevance and a treatment of duplicates. These are the digitized versions of texts first published in

¹*La Presse* stopped printing its newspaper on weekdays as of January 1, 2016 and on weekends as of 2018 to focus on *La Presse+* and its website *lapresse.ca*.

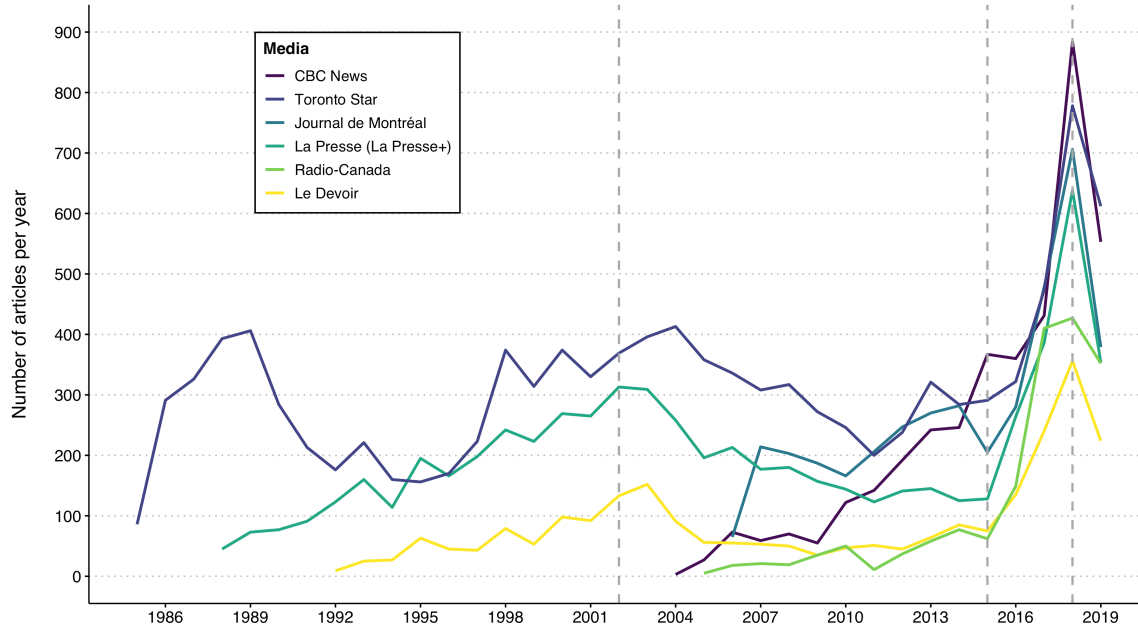


Figure 2.3: Number of Articles Collected per Year Containing the Keywords Cannabis and Marijuana.

the paper editions of the media, with the exception of the texts from *La Presse+*, *Radio-Canada*, and *CBC News*, which are published digitally only. Figure 2.3 shows the number of articles collected per year by media.

Since the texts are offered in PDF format, it is first necessary to clean them from their import format. A first cleaning step with R allows all texts to be transformed into TXT format, which is easier to analyze. Only the media text is retained. A second cleaning step allows the removal of punctuation and unimportant words: stop-words, state verbs, place names, time indicators and terms related to journalism (Grimmer & Stewart, 2013; Silge & Robinson, 2017; Welbers, Van Atteveldt, & Benoit, 2017; Wilkerson & Casas, 2017). Two text mining methodologies are deployed to measure the three hypotheses. The dictionary method is used to measure changes in the tone used in articles on cannabis based on a sentiment analysis (hypothesis 1). To do so, the English corpus is crossed with the Lexicoder sentiment dictionary (LSD), developed by Young & Soroka (2012). The use of the LSD is also advantageous as a

French version has been developed by Duval & Pétry (2016), allowing the analysis of the English and French corpus by the same dictionary.

The Lexicoder allows to code all the words found in both the corpus and the dictionary according to whether they are positive or negative. The *tone index* (y) is then calculated by media as the difference between the proportion of positive words (x_1) and the proportion of negative words (x_2) per month, where N represents the total number of words in a month after the cleaning of the texts, but before the dictionary crossing.

$$y = (x_1/N) - (x_2/N)$$

For the analysis of the topics (hypothesis 2), this article is based on an unsupervised *Topic modeling* classification method called *Latent Dirichlet allocation* (LDA). It is an algorithm built on the assumptions that (1) all documents presented to it contain a set of topics, and (2) all these topics contain words that have a high probability of being found together (Silge & Robinson, 2017).

Good use of the method requires subjective reflection based on a general understanding of the corpus. An LDA does not decide on the optimal number of topics to produce or what they represent. It is the job of researchers to test, by trial and error, different numbers of topics and to stop the analysis when there is a repetition. In this study, 2 to 6 topics were gradually tested for each corpus (English and French).

To answer hypothesis 3, recent studies demonstrated the relevance of conducting a topic modeling according to the method of *Latent Dirichlet allocation* as a proxy for frame analysis (Daud et al., 2010; Poirier et al., 2020; Ylä-Anttila et al., 2018). In other words, topics identified as likely to be found in documents can also be interpreted as frames. In the case of cannabis, the more topics with a shared probability of being in an article, the closer it comes to frame contestation, or even frame parity (e.g., four themes with a 25% chance of being in an article each). Conversely, the

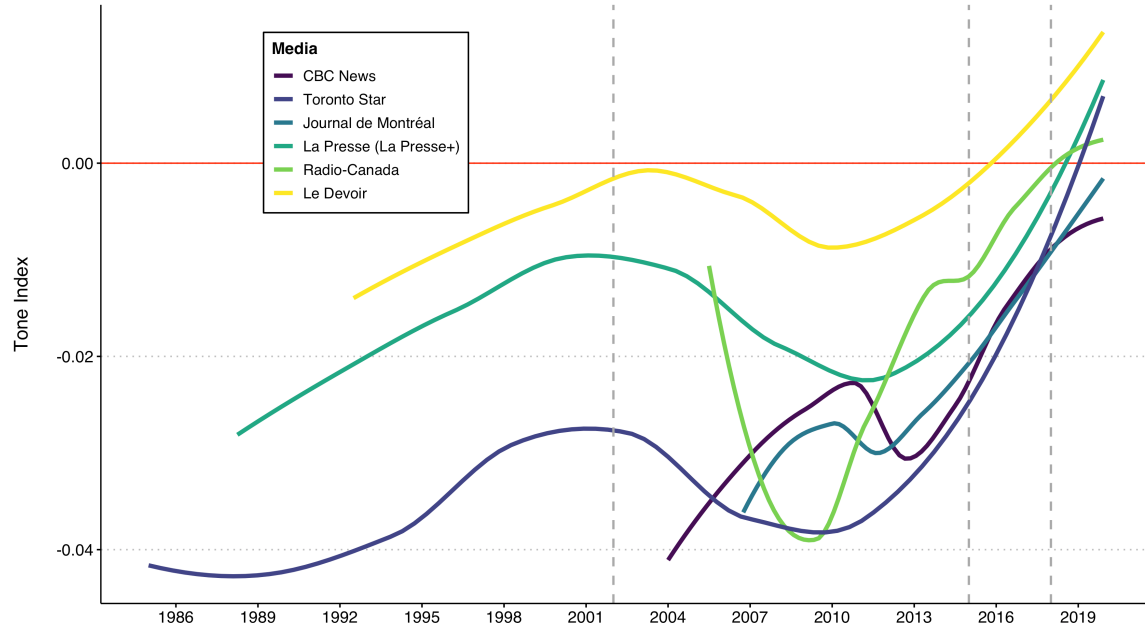


Figure 2.4: The Tone Index of Media Articles on Cannabis from 1985 to 2020.

higher the probability of a theme being the only one represented, the more it can be interpreted as frame dominance (see Figure 2.2).

2.8 Results

2.8.1 Sentiment Analysis

Three main conclusions can be drawn from the sentiment analysis, which apply to both the English and French corpus. First, contrary to hypothesis 1, Figure 2.4 shows that the tone has not progressively increased since the 1980s. Rather, an increase in “waves” is observed. That is to say that different times have led to different media coverage.

Thus, four periods are revealed in the media treatment of cannabis, represented in Figure 2.4 by the vertical dotted lines. The first period appears to run from 1988 to 2002. It covers the years prior to the proposed cannabis reforms in 2002 by the Senate

and the House of Commons. It will be referred to as period A, or “prohibition” period. Period B, or the “pre-legalization” period, begins with the political discussions about legalization in 2002 and ends with the election of Justin Trudeau in 2015. Period C, the “legalization” period, covers 2015 to 2018, the year cannabis was finally legalized. The year 2019, period D, is currently the only full year in which it is possible to observe “post-legalization” trends.

The division of the media tone into four periods leads to a third conclusion: legalization seems to neutralize the media tone, or even lead to an advance in the positive area. This means that the texts contain, on average, an increasing proportion of positive words compared to negative words. This observation is particularly true for *Le Devoir*, which happens to be the most neutral French-language medium in the corpus, all periods combined. However, regardless of their past coverage, all the media have shown a marked increase in the tone of their articles since the end of Period B.

2.8.2 Frequency of Terms

The twenty words with the highest frequency of occurrence per period are presented in Figure 2.5 (and Figure 2.9 in the Appendix). This descriptive analysis is useful to validate the relevance of dividing the corpus by period. For this exercise, all words have been truncated to gather singular and plural, masculine and feminine (for the French corpus), and words of the same family (for example: *police*, *policiers*, *policières* all become *polic*).

During the “prohibition” period, in both the French and English corpus, the majority of the most frequently used terms appear to be part of a major law and order topic surrounding the use, production and distribution of cannabis (*use*, *charge*, *court*, *arrest*, *possess*). The term *cocain* is also recurrent. The actors most present at this period are the police, men, schools and youth, in addition to the government

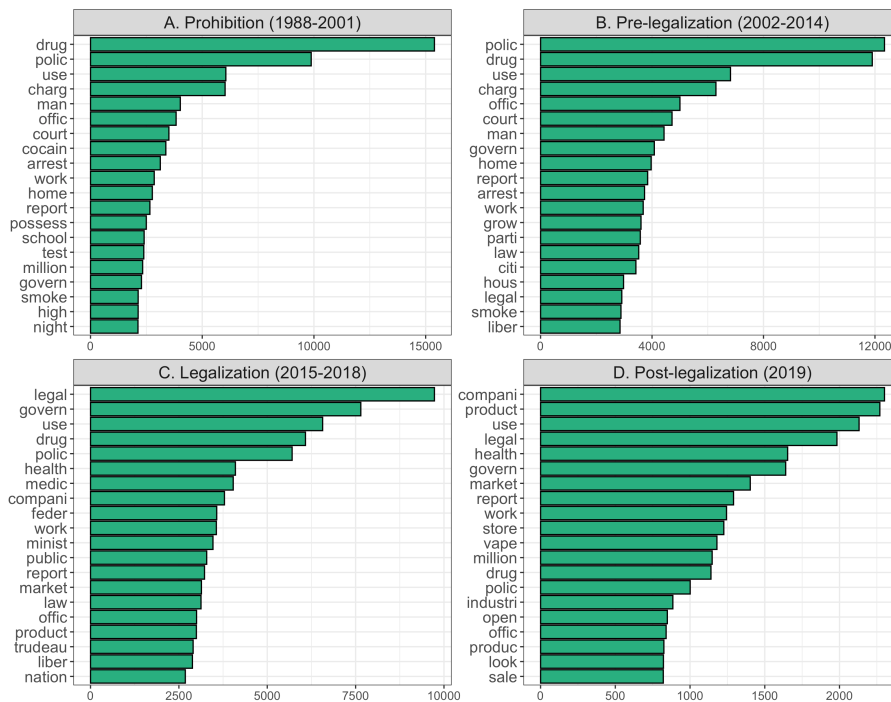


Figure 2.5: The 20 Most Frequent Words per Period in the Articles of the English-Language Media.

(*govern*, *ministr*) in the French-speaking corpus. Little change seems to have taken place during period B, apart from the greater presence of political terms and the appearance of health as an issue in the Francophone corpus. Political actors have also climbed in the ranking.

Period C reveals a major change in the words use in media coverage. The politics surrounding the legalization of cannabis become predominant, virtually eclipsing words associated to justice from the podium. Thus, prime minister Justin Trudeau (and the provinces in the francophone corpus) emerge as key players. The legal market and the cannabis economy are also preparing for their entry into popular culture (*legal*, *compagni*, *market*, *product*).

Finally, in the post-legalization period, *health* becomes the third most frequently used term by the French-speaking media, and the fifth by the English-speaking media in the corpus. The economics of the legal cannabis market become a frequent topic,

and the Société québécoise du Cannabis (SQDC), the state-owned corporation that manages the sale of cannabis throughout Quebec, makes its entry as a key player in the French-language ranking. As in all periods under review, *jeun* (*youth*) remains one of the most popular words in French, while *homm* (*man*) has disappeared from the list since Period C, in both English and French.

2.8.3 Topic Modeling

The use of a *Topic modeling* methodology provides an accurate picture of the evolution of the topics covered in media articles on cannabis.

Unsurprisingly, over the 35 years under study, a large number of topics have been covered by the media. The addition of categories (named k) to the analysis shows little overlap in topics, even beyond six categories. This is due to the size of the corpus and the long period under study. The main topics revealed by the topic modeling range from cannabis culture (film, music, art), sports (controversy, doping), the history of cannabis, health and social services.

However, a longitudinal analysis of the likelihood of these topics occurring in a cannabis news month — a probability named γ (*gamma*) — shows the low dominance of the majority of them. Over 35 years, it was found that only four topics dominated cannabis news in both the French and English corpus. They were named (1) law and order; (2) political debate; (3) legal market; and (4) (counter)culture (or justice and (counter)culture for the English corpus).

Figures 2.6 and 2.7 present the evolution over time of the probability of the presence of these four topics in the corpus.² The first topic of “law and order” refers to the criminality and illegality surrounding cannabis as a drug prohibited by the law. The 20 terms presented as being highly likely to appear together are quite similar to the most common terms in Period A and B (Figure 2.5). In the French-language

²To name the four topics, a ranking of the 20 terms most likely to be found together (probabilities named *beta*) is first analyzed. These graphs (Figures 2.10 and 2.11) can be found in the Appendix.

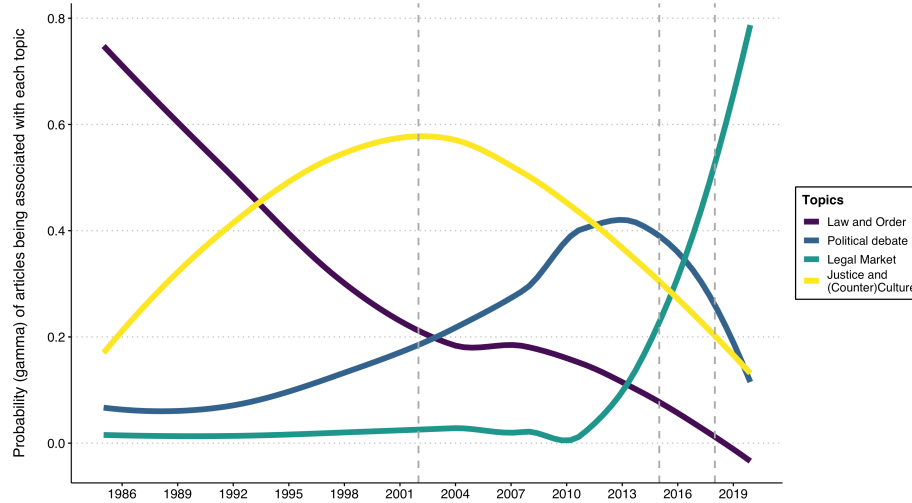


Figure 2.6: Document-Topic Probabilities (Gamma) for the English-Language Media.

corpus, this topic is most likely to occur in the period ranging from 1988 to 2000 and again from 2006 to 2015. In the Anglophone corpus, it dominates until 1993, but then takes up less and less space.

The topic of “political debate” covers the discussions and even the scandals surrounding the issue of cannabis and/or its legalization. The key players are the government(s), political parties, ministers and other politicians. The political debate around cannabis is the main topic in the English-language corpus from 2012 to 2016, and the main topic in the French-language corpus from 2000 to 2006.

The “legal market” topic mainly surrounds the new legal cannabis economy. Government(s), political parties, ministers and young people find themselves as key players alongside the economic players in the industry. In both the French and English-speaking corpus, this topic is marginal until 2012. It begins to make real progress in 2013, and quickly becomes the main topic in 2015, and the only one really likely in 2019.

While the first three topics demonstrate a high degree of concordance between the Anglophone and Francophone corpus, the fourth topic includes a major difference

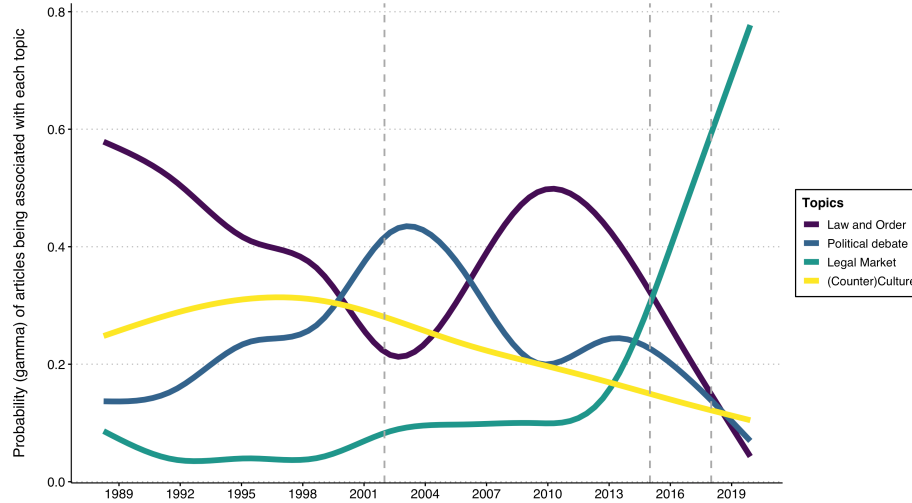


Figure 2.7: Document-Topic Probabilities (Gamma) for the French-Language Media.

between the corpus that needs to be clarified: results show that the Toronto Star and CBC News have only evolved the law and order topic by adding to their texts elements illustrating the “culture” (or “counter-culture”) developed around cannabis. Thus, while this topic is most likely to be present in both media from 1993 to 2012, it remains intimately connected to the law and order topic by presenting terms such as *polic*, *use*, *charge*, *short* and *arrest*, now mixed with terms such as *work*, *world*, *play*, *family*, *friend* and *game*. On the contrary, in the French-speaking corpus, the twenty most likely terms all seem to be related to cannabis (counter)culture. However, this topic is never the most likely, although it runs through all eras, being particularly strong in the late 1990s.

2.8.4 Framing Cannabis

The political context surrounding the issue of cannabis regulation and the analyses conducted in the media texts together provide a more coherent picture of the evolution of the framing and the influence of the various actors in the debate leading to legalization in Canada. Four periods can be traced within Figures presented in

this article. Although this study does not present analyses of the discourse of elected officials, these four eras were determined based on the political context, and may also reflect the frames defended by certain political and scientific elites.

The prohibitionist government frame has always remained explicit: the years of Stephen Harper’s Conservative government (2006 to 2015) even saw a hardening of the messages and policies against cannabis. However, the early 2000s saw some attempts to decriminalize or even legalize cannabis. These attempts took place within the House of Commons and the Senate, and are clearly represented in the media as demonstrated in the results above.

Thus, dividing the corpus by time period reveals a gap between the media frames and the law and order framing advocated by federal governments over decades: the LDA analyses of topics (Figures 2.6 and 2.7) — shown in the literature to be representative of the media frames — show a variation across time periods in the likelihood of using four main frames. In the English-speaking corpus, the law and order frame was even replaced at the turn of the 1990s by a more *social* frame incorporating elements of the culture, or counterculture, that was then developing around cannabis use.

The presentation of the governmental framing of law and order nevertheless remains important, in both the Anglophone and Francophone corpus. The probabilities presented by the LDA analysis are such that it is clear, however, that this frame is no longer “dominant”, according to Entman’s continuum presented in Figure 2.2. Rather, from the 1990s onwards, it has been in competition with other frames, particularly those that have emerged from the debates on the fate of cannabis by certain political elites.

It has also been argued that few studies and surveys in Canada have measured public support for any form of cannabis legalization over the years. By bringing together the available data — i.e., 15 databases from 15 different surveys conducted in Canada from 1970 to 2019 — this study provides an overview of the evolution of

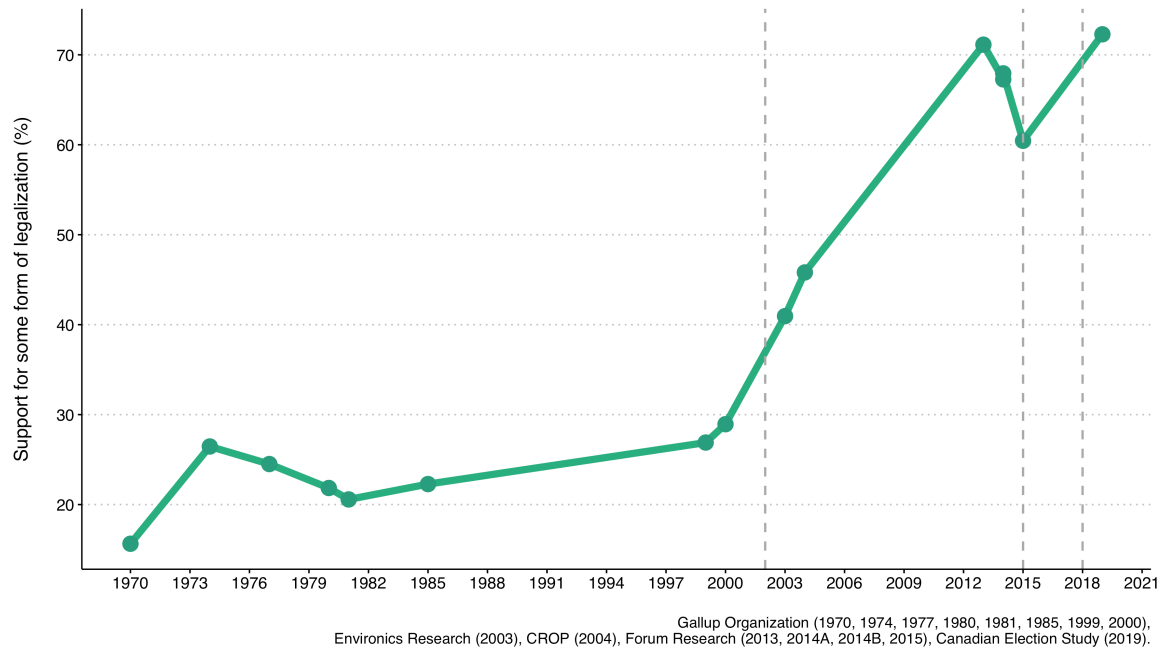


Figure 2.8: Trends in Support for Some Form of Cannabis Legalization According to Surveys Conducted from 1970 to 2019.

public opinion on cannabis in Canada. Figure 2.8 shows that, until the end of the 20th century, less than 30% of Canadians supported legalization. This support rose to almost 50% by the early 2000s, peaking at 72.3% in 2019. However, this information is highly limited by the lack of standardization in sampling methods and question wording (Hathaway et al., 2007). In 1970, for example, the Gallup Organization asked its respondents: “Do you think that the use of marijuana should be legalized or not?” In 2014, Forum Research preferred: “How do you think the government should deal with marijuana?” The Canadian Election Study (CES) asked a question about cannabis for the first time in its history in 2019, preferring a different wording: “Possession of cannabis should be a criminal offence”.

Figure 2.8, although imperfect, shows an almost steady increase in support for cannabis legalization in the early 2000s, when proposals for cannabis reforms by the House of Commons and the Canadian Senate were rejected by the federal government. This result confirms the breakdown of the dominant governmental frame, rejected by a

significant proportion of the Canadian population, and the marked emergence at that time of counter-frames arising from the actions and rhetoric of key actors throughout the cascade (see Figure 2.1).

2.9 Discussion

The use of a large corpus of media texts from six media over a long period of time provides reliable answers to previously developed research hypotheses. First, there is evidence that the tone in articles on cannabis has not quietly progressed from a more negative to a more positive tone, as hypothesis 1 suggested. Rather, it has evolved in “waves”, adapting to current events in different eras. It is clear, however, that the tone is more “neutral” or even more “positive” since 2015 than it has ever been before. However, anticipating the tone for the coming years remains complex. The new context of legalization does, however, suggest that a more neutral tone will be maintained, but future research will be needed to measure this evolution.

It has also been shown that the topics have evolved as envisaged in hypothesis 2, from more negatively connoted topics such as law and order and cannabis-related crime to more neutral topics such as cannabis policy and economics of the legal market.

Responses to both of these hypotheses suggest that a normalization has indeed taken place in the Canadian media, particularly since 2015. As Entman (2004) argues in the context of their own research, it may seem inappropriate to generalize similar findings to the Canadian media as a whole. As Figure 2.4 shows, the tone differs somewhat from media to media. However, the trend is strong and consistent for each of the media analyzed in this study. It suggests that most media in Canada and Quebec may have framed cannabis in the same way over time.

This conclusion confirms the third and final hypothesis: as the years go by, the

media deviate more and more from the prohibitionist government frame, allowing other frames to be potentially included in media texts.

Entman (2004) warns against the temptation to seek a causal relationship between media treatment and changes in public opinion. “Who influences whom” remains a complex question, even conceptually, because of the interdependence of the different actors in the cascade. In the case of cannabis in Canada, on the other hand, many studies published since the 2000s show a discrepancy between public opinion and existing legislation (Fischer et al., 2016; Savas, 2001). Hathaway et al. (2007), for instance, demonstrate that Canadians are more receptive than public policy makers to the idea of eliminating criminal sanctions for a more public health-centered approach. Brochu et al. (2011) conclude, after conducting 165 interviews, that Canadian participants are unaware of cannabis laws, and that once properly informed, a majority find them “harsh”, “excessive”, “absurd” and “ridiculous.”

While a normalization of tone and topics has been shown in media coverage of cannabis since 2015, it is less clear whether the media are at the heart of this normalization. In the early 2000s and even as early as the late 1990s, many actors contributed to the breakdown of the dominant government frame by questioning cannabis prohibition. The emergence of counter-frames can be observed in the media texts of this period. At the same time, public opinion also changed, increasingly supporting the decriminalization or legalization of cannabis.

This study is limited by the lack of data on the evolution of elite discourse about cannabis. However, the available public opinion data, the Canadian scientific literature and the analyses of media coverage presented in this study do, for the moment, place public opinion at the forefront of government elites on this issue. It is also shown that the government framing weakened in the media at the turn of the 2000s, although it remained important in the Quebec and Canadian media until 2015.

A second limitation is the small number of English-language media: a future

study could select more media and measure the continued evolution of media treatment of cannabis in Canada in the post-legalization period.

Despite these limitations, the contributions of this study remain relevant to the fields of political communication, public opinion and public health. By mobilizing one theory from public health and another from political science, it is possible to offer an accurate portrait of the evolution of media coverage and the role of the various actors in the evolution of cannabis-related issues. This information is an additional explanatory indicator of the legalization of cannabis in 2018. Of course, in order to accumulate the data needed to continuously improve public health policies, monitoring will have to be carried out in Canada. This work will be just as useful to other country who might in turn choose the legalization path.

2.10 References

- Asbridge, M., Valleriani, J., Kwok, J., & Erickson, P. G. (2016). Normalization and denormalization in different legal contexts: Comparing cannabis and tobacco. *Drugs: Education, Prevention and Policy*, 23(3), 212–223.
- Ashley, M. J. (2003). *What the public thinks about the tobacco industry and its products* / Cohen, Joanna E. Toronto: Ontario Tobacco Research Unit.
- Boyd, S. C., & Carter, C. (2014). *Killer weed: Marijuana grow ops, media, and justice*. University of Toronto Press.
- Brochu, S., Duff, C., Asbridge, M., & Erickson, P. G. (2011). “There’s what’s on paper and then there’s what happens, out on the sidewalk”: Cannabis users knowledge and opinions of canadian drug laws. *Journal of Drug Issues*, 41(1), 95–115.
- Cloutier, A., Tremblay-Antoine, C., Fréchet, N., & Dufresne, Y. (n.d.). *Highs and downs*. A Scoping Review of Public Opinion about Cannabis, Alcohol and Tobacco in Canada.
- Cunningham, J. A., Neighbors, C., Wild, T. C., & Humphreys, K. (2012). Normative misperceptions about alcohol use in a general population sample of problem drinkers from a large metropolitan city. *Alcohol and Alcoholism*, 47(1), 63–66.
- Daud, A., Li, J., Zhou, L., & Muhammad, F. (2010). Knowledge discovery through directed probabilistic topic models: A survey. *Frontiers of Computer Science in China*, 4(2), 280–301.
- Davey, K. (1970). *Report of the special senate committee on mass media*. The Committee.
- Duff, C., Asbridge, M., Brochu, S., Cousineau, M.-M., Hathaway, A. D., Marsh, D., &

- Erickson, P. G. (2012). A Canadian perspective on cannabis normalization among adults. *Addiction Research & Theory*, 20(4), 271–283.
- Duff, C., & Erickson, P. G. (2014). Cannabis, risk and normalisation: Evidence from a canadian study of socially integrated, adult cannabis users. *Health, Risk & Society*, 16(3), 210–226.
- Duval, D., & Pétry, F. (2016). L’analyse automatisée du ton médiatique: Construction et utilisation de la version française du lexicoder sentiment dictionary. *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, 49(2), 197–220.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm.
- Entman, R. M. (2003). Cascading activation: Contesting the white house’s frame after 9/11. *Political Communication*, 20(4), 415–432.
- Entman, R. M. (2004). *Projections of power: Framing news, public opinion, and us foreign policy*. University of Chicago Press.
- Entman, R. M. (2008). Theorizing mediated public diplomacy: The us case. *The International Journal of Press/Politics*, 13(2), 87–102.
- Erickson, P. G., & Hyshka, E. (2009). Four decades of cannabis criminals in canada: 1970-2010. *Amsterdam LF*, 2, 1.
- Erickson, P. G., & Oscapella, E. (1999). Cannabis in canada-a puzzling policy. *International Journal of Drug Policy*, 4(10), 313–318.
- Fischer, B., Ala-Leppilampi, K., Single, E., & Robins, A. (2003). Cannabis law reform in canada: Is the” saga of promise, hesitation and retreat” coming to an end? 1. *Canadian Journal of Criminology and Criminal Justice*, 45(3), 265–298.
- Fischer, B., Ialomiteanu, A. R., Russell, C., Rehm, J., & Mann, R. E. (2016). Public

- Opinion towards Cannabis Control in Ontario: Strong but Diversified Support for Reforming Control of Both Use and Supply. *Canadian Journal of Criminology and Criminal Justice*, 58(3), 443.
- Giasson, T., & Dubois, P. (2018). Juste part, boycott et loi spéciale. Le cadrage gouvernemental d'un printemps de crise sociale. *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, 51(4), 837–859.
- Giffen, P. J., Boorman, S., & Endicott, S. J. (1991). *Panic and indifference: The politics of canada's drug laws: A study in the sociology of law*. Canadian Centre on Substance Abuse.
- Grimmer, J., & Stewart, B. M. (2013). Text as data: The promise and pitfalls of automatic content analysis methods for political texts. *Political Analysis*, 21(3), 267–297.
- Haines-Saah, R. J., Johnson, J. L., Repta, R., Ostry, A., Young, M. L., Shoveller, J., . . . Ratner, P. A. (2014). The privileged normalization of marijuana use—an analysis of canadian newspaper reporting, 1997–2007. *Critical Public Health*, 24(1), 47–61.
- Hammond, D., Fong, G. T., Zanna, M. P., Thrasher, J. F., & Borland, R. (2006). Tobacco denormalization and industry beliefs among smokers from four countries. *American Journal of Preventive Medicine*, 31(3), 225–232.
- Hathaway, A. D., Comeau, N. C., & Erickson, P. G. (2011). Cannabis normalization and stigma: Contemporary practices of moral regulation. *Criminology & Criminal Justice*, 11(5), 451–469.
- Hathaway, A. D., & Erickson, P. G. (2003). Drug reform principles and policy debates: Harm reduction prospects for cannabis in canada. *Journal of Drug Issues*, 33(2), 465–495.

- Hathaway, A. D., & Erickson, P. G. (2004). A tale of two stimulants. *Canadian Journal of Communication*, 29 (1).
- Hathaway, A. D., Erickson, P. G., & Lucas, P. (2007). Canadian Public Opinion on Cannabis. *Canadian Review of Social Policy/Revue Canadienne de Politique Sociale*, (59), 44–55.
- Hathaway, A. D., Mostaghim, A., Erickson, P. G., Kolar, K., & Osborne, G. (2018). “It’s Really No Big Deal”: The Role of Social Supply Networks in Normalizing Use of Cannabis by Students at Canadian Universities. *Deviant Behavior*, 39(12), 1672–1680.
- Hathaway, A., Mostaghim, A., Kolar, K., Erickson, P. G., & Osborne, G. (2016). A nuanced view of normalisation: Attitudes of cannabis non-users in a study of undergraduate students at three Canadian universities. *Drugs: Education, Prevention & Policy*, 23(3), 238–246.
- Iyengar, S., & Kinder, D. R. (1987). *News that matters: Television and american opinion*. University of Chicago Press.
- Kolar, K., Erickson, P., Hathaway, A., & Osborne, G. (2018). Differentiating the drug normalization framework: A quantitative assessment of cannabis use patterns, accessibility, and acceptability attitudes among university undergraduates. *Substance Use & Misuse*.
- Le Dain, G. (1972). Le cannabis. *Rapport-Le Cannabis*. Ottawa: Information Canada.
- Lemarier-Saulnier, C. (2016). Cadrer les définitions du cadrage: Une recension multidisciplinaire des approches du cadrage médiatique. *Canadian Journal of Communication*, 41(1).

- Martel, M. (2006). *Not this time: Canadians, public policy, and the marijuana question, 1961-1975*. Toronto [Ontario] : University of Toronto Press, Ottawa, Ontario : Canadian Electronic Library.
- McRobbie, A., & Thornton, S. L. (1995). Rethinking'moral panic'for multi-mediated social worlds. *British Journal of Sociology*, 559–574.
- Measham, F., & Shiner, M. (2009). The legacy of “normalisation”: The role of classical and contemporary criminological theory in understanding young people’s drug use. *International Journal of Drug Policy*, 20(6), 502–508.
- Mostaghim, A., & Hathaway, A. D. (2013). Identity Formation, Marijuana and “The Self”: A Study of Cannabis Normalization among University Students. *Frontiers in Psychiatry*, 4.
- Osborne, G., & Fogel, C. (2007). The normalization of marijuana use by adult canadian users. *International Journal of Crime, Criminal Justice, and Law*, 2(2), 201–225.
- Parker, H. (2005). Normalization as a barometer: Recreational drug use and the consumption of leisure by younger britons. *Addiction Research & Theory*, 13(3), 205–215.
- Parker, H. J., Aldridge, J., & Measham, F. (1998). *Illegal leisure: The normalization of adolescent recreational drug use*. Psychology Press.
- P. J. Giffen, S. L., Shirley Endicott. (1993). Panic and indifference: The politics of canada’s drug laws. *American Journal of Sociology*, 99(2), 521–522.
- Poirier, W., Ouellet, C., Rancourt, M.-A., Béchard, J., & Dufresne, Y. (2020). (Un) covering the covid- 19 pandemic: Framing analysis of the crisis in canada. *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, 1–7.

- Radio-Canada. (2018). Légalisation du cannabis: Comment en sommes-nous arrivés là? *Radio-Canada*.
- Savas, D. (2001). Public opinion and illicit drugs: Canadian attitudes towards decriminalizing the use of marijuana. *P. Basham (éd.). Sensible Solutions to the Urban Drug Problem, Vancouver, the Fraser Institute*.
- Shiner, M., & Newburn, T. (1997). Definitely, maybe not? The normalisation of recreational drug use amongst young people. *Sociology*, 31(3), 511–529.
- Silge, J., & Robinson, D. (2017). *Text mining with r: A tidy approach*. " O'Reilly Media, Inc."
- Statistique Canada. (2017). *Enquête canadienne sur le tabac, l'alcool et les drogues*.
- Welbers, K., Van Atteveldt, W., & Benoit, K. (2017). Text analysis in r. *Communication Methods and Measures*, 11(4), 245–265.
- Wilkerson, J., & Casas, A. (2017). Large-scale computerized text analysis in political science: Opportunities and challenges. *Annual Review of Political Science*, 20, 529–544.
- Ylä-Anttila, T., Eranti, V., & Kukkonen, A. (2018). Topic modeling as a method for frame analysis: Data mining the climate change debate in india and the usa.
- Young, L., & Soroka, S. (2012). Affective news: The automated coding of sentiment in political texts. *Political Communication*, 29(2), 205–231.
- Zaller, J. R. (1992). *The nature and origins of mass opinion*. Cambridge university press.

2.11 Appendix

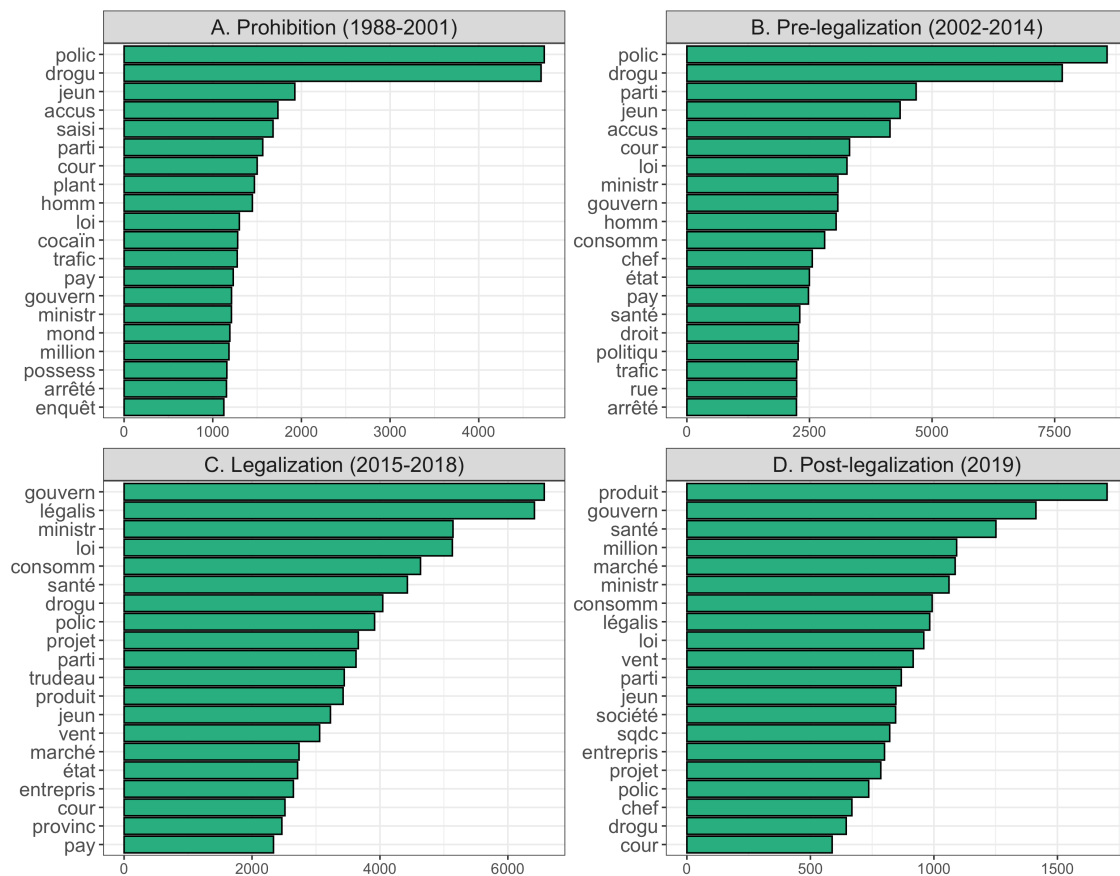


Figure 2.9: The 20 Most Frequent Words per Period in the Articles of the French-Language Media.

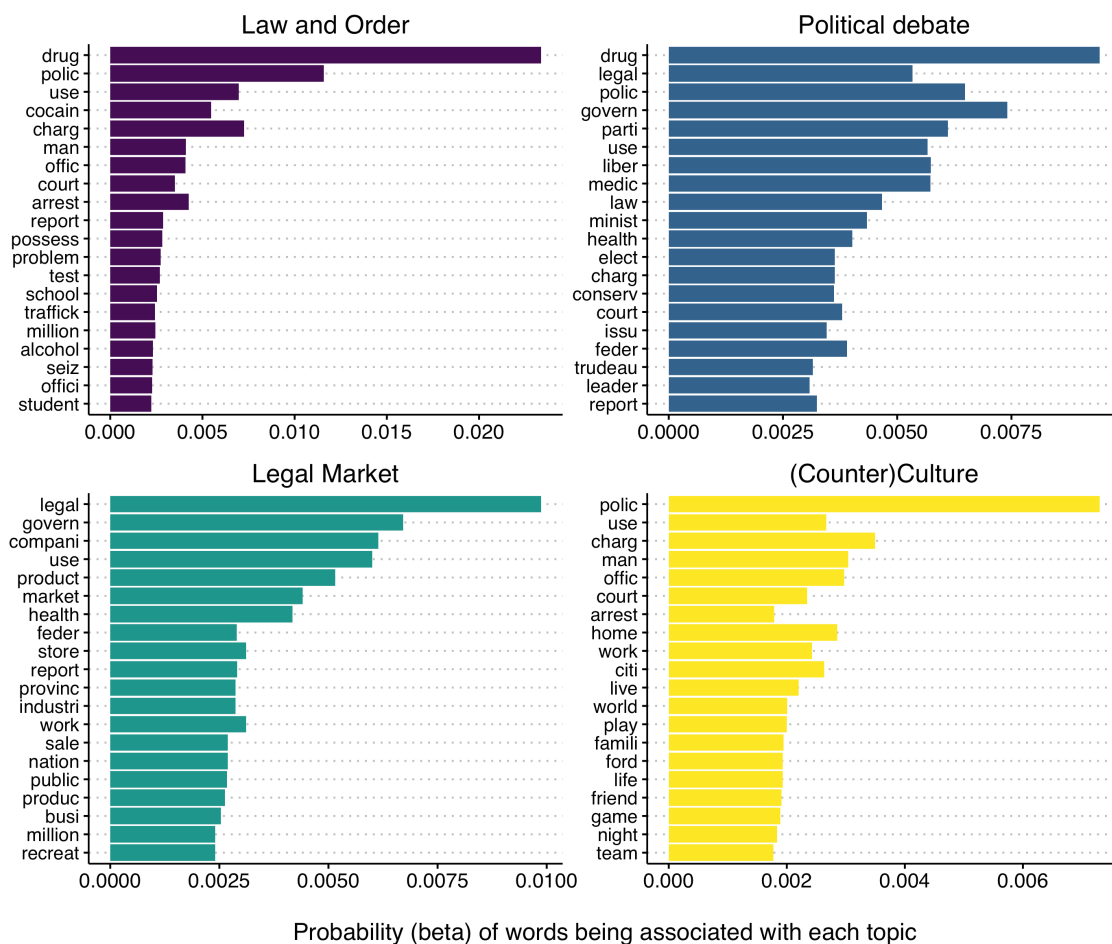
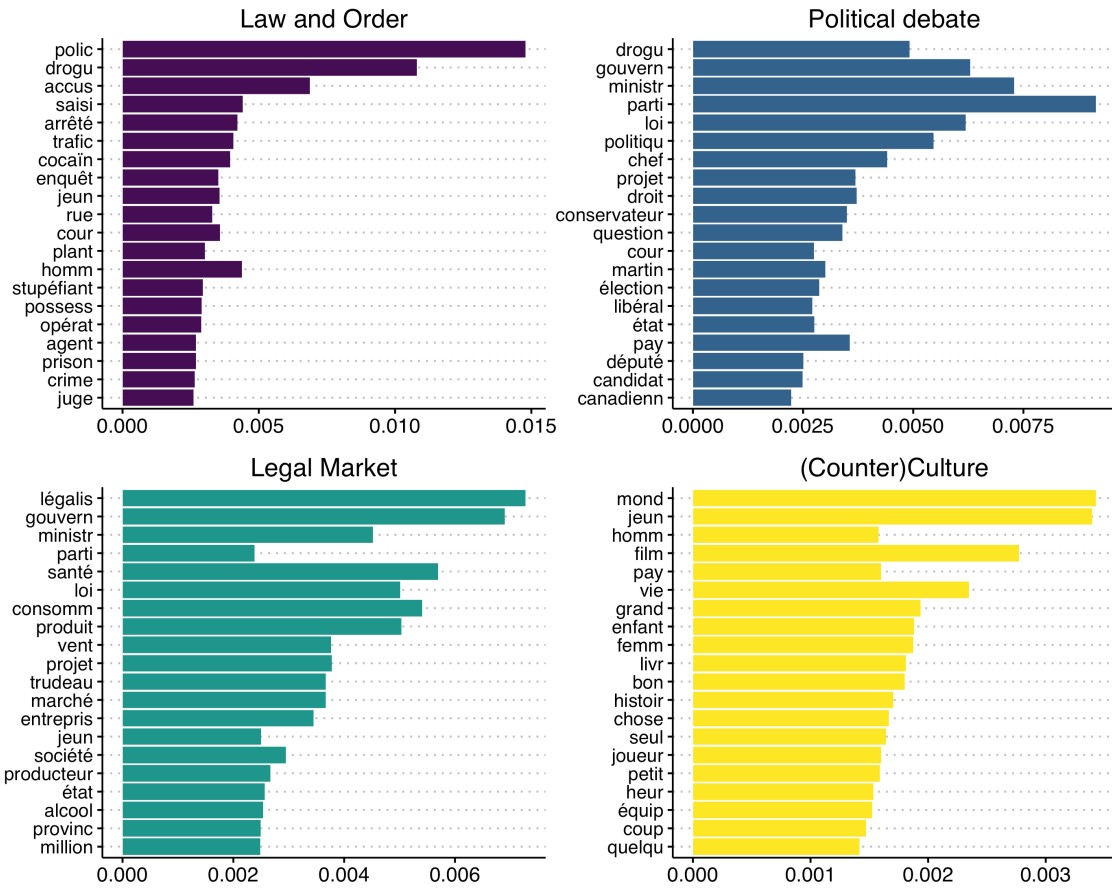


Figure 2.10: Word-Topic Probabilities (Beta) for the English-Language Media.



Probability (beta) of words being associated with each topic

Figure 2.11: Word-Topic Probabilities (Beta) for the French-Language Media.

Conclusion

Par la rédaction de deux études scientifiques complémentaires, ce mémoire permet une contribution à la compréhension de la légalisation du cannabis au Canada. Il a été montré que peu d'études ont tenté à ce jour de comprendre le chemin ayant mené à la légalisation en 2018. Il a aussi été montré que peu de données quantitatives d'opinion publique et de couverture médiatique sur le cannabis avaient été récoltées par le passé au Canada. Enfin, ce mémoire a relevé l'importance de prendre en considération l'opinion publique et le traitement médiatique afin d'offrir un portrait juste des attitudes et des influences pouvant entraîner un comportement de consommation de drogues.

Il est complexe de comprendre les processus qui ont engendré, après près de 100 ans de prohibition, les changements adéquats pour permettre la légalisation. Comme il a été montré dans le second article, près de 75% des Canadiennes et Canadiens se disent favorables à la légalisation en 2019, alors qu'à peine 25% appuient le projet vingt ans plus tôt.

Ces questionnements ont mené à la réalisation de l'étude de la portée de la littérature (*scoping review*) sur l'opinion publique et les drogues au Canada, présenté comme premier article de ce mémoire. Suivant les directives du Joanna Briggs Institute, cette étude a permis de collecter et d'analyser 161 études scientifiques, dont la plus ancienne remonte à 1956.

Le *scoping review* relève la faiblesse de l'étude de l'opinion publique sur le

cannabis au Canada, en comparaison à l'étude de l'alcool et du tabac. Il est aussi ressorti de l'étude que les jeunes et les étudiants sont surétudiés par rapport à d'autres segments de la population considérés comme à risque d'une consommation problématique. Le *scoping review* a également permis de tracer le réseau de collaboration des auteurs et d'analyser leur provenance (leur discipline), les méthodes utilisées et les thèmes les plus étudiés, entre autres.

Peu de limites sont reconnues à la méthodologie du *scoping review*, qui offre un portrait exhaustif de l'état de la littérature scientifique sur un sujet de recherche. L'important nombre de résultats peut toutefois compliquer les tâches de traitement et d'analyse. Néanmoins, de nombreuses opportunités de recherches ont émergé de cette étude de la littérature. Plusieurs pourront encore être accomplies à l'avenir afin de poursuivre les contributions au champ de l'opinion publique et des drogues au Canada. Dans le contexte de la légalisation du cannabis, ces contributions peuvent avoir un impact majeur sur l'évolution des politiques publiques et sur la compréhension des comportements de consommations.

Ainsi, la seconde étude de ce mémoire est directement dérivée de la première. Elle trouve sa pertinence dans le peu d'études qui ont été réalisées au Canada par rapport à la couverture médiatique du cannabis. Elle contribue également à la compréhension des liens entre l'opinion publique, le traitement médiatique et le message gouvernemental par l'utilisation d'un modèle issue de la science politique. Ce domaine d'études et les sous-champs de la communication politique et de l'opinion publique sont montrés dans le *scoping review* comme étant particulièrement absents de la littérature scientifique.

En ce sens, la seconde étude apporte une double contribution théorique, d'abord en mobilisant une théorie issue des travaux en santé publique et montrée comme étant largement utilisée dans les dernières années — la théorie de la normalisation de Parker et al. (1998). Cette théorie suppose l'idée d'un passage du cannabis de la marginalité

vers le grand public pouvant être observé entre autres par des changements dans la couverture médiatique.

Puis, une seconde contribution théorique provient de la mobilisation d’une autre théorie issue cette fois de la communication politique et ayant fait ses preuves dans divers contextes — le modèle de l’activation en cascade de Entman (2004). Cette théorie permet la compréhension de l’influence des gouvernements, des élites, des médias et de l’opinion publique sur l’évolution du cadrage de divers enjeux ou événements.

Ensemble, ces théories permettent par la méthode hypothético-déductive de dériver trois hypothèses testables empiriquement pour répondre à la question de recherche suivante: **les médias canadiens ont-ils normalisé le cannabis?** Ces hypothèses sont:

1. Les médias canadiens ont normalisé le cannabis dans le **ton** de leurs textes, c’est-à-dire que les textes contiennent une proportion de plus en plus grande de mots neutres, voire positifs.
2. Les médias canadiens ont normalisé le cannabis dans les **thèmes** de leurs textes, c’est-à-dire que les textes sont de moins en moins axés sur le thème de la loi et l’ordre.
3. Les médias canadiens ont dérogé au **cadrage** gouvernemental dominant de la loi et l’ordre à mesure que des cadres alternatifs ont émergé et ont été adoptés par les autres élites et par l’opinion publique.

Pour tester empiriquement ces trois hypothèses, 29 955 articles contenant les mots clés «cannabis et «marijuana» ont été collectés dans *Le Journal de Montréal*, *Le Devoir*, *Radio-Canada*, *La Presse* (et *La Presse+*), *CBC News* et *Toronto Star*.

Deux méthodologies ont permis le traitement quantitatif des textes et la production des résultats. D’abord, une analyse de sentiments à partir du dictionnaire

Lexicoder de Young & Soroka (2012) (version française traduite par Duval & Pétry (2016)) dévoile l'évolution du ton (mots positifs versus mots négatifs) dans les articles du corpus. Ensuite, une analyse en *Topic modeling* fait ressortir les thèmes les plus probables de se trouver dans le corpus. Ces thèmes peuvent ensuite être considérés comme des «cadres» dont l'utilisation par les médias évolue au fil des années.

Chacune de ces méthodologies présente des limites, notamment à la validation des résultats et à leur application optimale dans différents contextes. Un biais de comparaison peut surgir de l'analyse des résultats du corpus anglophone et du corpus francophone. Idéalement, une traduction entière du corpus francophone pourrait être opérée pour permettre une comparaison égale des termes, nonobstant de la langue, selon le croisement avec un seul dictionnaire. Aussi, le traitement des textes en «bag of words» ne permet pas de considérer la structure linguistique et l'ordre des mots. D'autres recherches pourraient faire l'analyse des *phrases* dans les textes médiatiques plutôt que des *mots* pour offrir de nouvelles possibilités d'analyses. Dans tous les cas, puisque cette étude rassemble des articles médiatiques publiés sur une période de 35 ans, il est possible que le sens de certains mots ait changé avec le temps. C'est-à-dire que des mots pouvaient avoir une connotation positive en 1985, mais négative en 2020. Cette hypothèse pourrait également faire l'objet d'une vérification empirique. Sans être entièrement éliminées, toutes ces limites sont diminuées par la réalisation de tests de validité lors de toutes les étapes de codage (Grimmer & Stewart, 2013).

Les résultats du second article montrent une normalisation du cannabis dans les médias particulièrement forte depuis 2015 selon le **ton** et les **thèmes** abordés (hypothèses 1 et 2). Les articles sont de plus en plus neutres, c'est-à-dire qu'ils présentent une proportion plus égale de mots positifs et de mots négatifs. Les articles abordent aussi plus régulièrement l'économie ou la politique entourant le cannabis, et moins régulièrement la loi et l'ordre. Cette normalisation semble cependant varier d'époque en époque selon l'actualité, ou plutôt selon l'influence et l'importance de

différents **cadres** (hypothèse 3). Autrement dit, le cadrage de loi et d'ordre, défendu depuis la prohibition par les différents gouvernements à Ottawa, est dominant dans les médias jusqu'à l'arrivée au début des années 2000 de débats politiques sur l'avenir du cannabis. Au même moment, des cadrages plus politiques, plus culturels et plus économiques commencent à percer dans les textes médiatiques. Ces «contre-cadrages» marquent la fin de la domination du cadrage gouvernementale du cannabis, et le début d'une contestation du cadre, voire d'une compétition de cadres dans les médias. L'opinion publique change drastiquement à la même époque, démontrant encore une fois la forte interdépendance des acteurs, et la difficulté de déterminer «qui a le plus influencé qui» (Entman, 2004).

Outre la double contribution théorique précédemment énoncée, ce mémoire apporte une contribution méthodologique importante à l'analyse de textes des médias francophones au Canada. En effet, la réalisation de ce mémoire a permis la création d'un code permettant l'importation en R, le nettoyage et l'analyse d'une très grande quantité d'articles provenant de la base de données *Eureka.cc*. Ce code pourra servir à l'analyse médiatique d'autres sujets à l'intérieur d'autres contextes scientifiques.

Enfin, ce mémoire se concentre particulièrement sur l'opinion publique et le traitement médiatique du cannabis au Canada. Il offre, par le fait même, des indicateurs supplémentaires à la compréhension de la légalisation. Il n'apporte pas l'ensemble des réponses. Il ne permet pas de formuler des observations causales, et démontre au contraire la complexité des relations entre les différents acteurs dans ce contexte. De nombreuses études scientifiques ont tenté de comprendre les raisons derrière la prohibition du cannabis en 1923. D'autres devront encore être réalisées afin de peindre le portrait complet de la route sinueuse ayant mené à la légalisation du cannabis au Canada en octobre 2018.

Bibliographie

- Adrian, M., Dini, C. M., MacGregor, L. J., & Stoduto, G. (1995). Substance use as a measure of social integration for women of different ethnocultural groups into mainstream culture in a pluralist society: The example of Canada. *International Journal of the Addictions*, 30(6), 699–734.
- Anglin, L., Giesbrecht, N., Ialomiteanu, A., McAllister, J., & Ogborne, A. (2003). Public Perception of Alcohol Policy Issues Relating Directly or Indirectly to Privatization, 94(3), 6.
- Anglin, L., Kavanagh, L., & Giesbrecht, N. (2001). Alcohol-Related Policy Measures in Ontario: Who Supports What and to What Degree?, 92(1), 5.
- Anglin, L., Kavanagh, L., & Giesbrecht, N. (2002). Public opinion analysis suggesting demographic characteristics of persons tending to favour internal versus external control of drinking behaviour. *Journal of Substance Use*, 7(4), 214–220.
- April, N., Audet, C., Guyon, L., & Gagnon, H. (2010). Représentations sociales et consommation d'alcool pendant la grossesse. *Drogues, Santé et Société*, 9(2), 17.
- Arbour-Nicitopoulos, K. P., Kwan, M. Y. W., Lowe, D., Taman, S., & Faulkner, G. E. J. (2010). Social Norms of Alcohol, Smoking, and Marijuana Use within

- a Canadian University Setting. *Journal of American College Health*, 59(3), 191–196.
- Asbridge, M., Valleriani, J., Kwok, J., & Erickson, P. G. (2016). Normalization and denormalization in different legal contexts: Comparing cannabis and tobacco. *Drugs: Education, Prevention and Policy*, 23(3), 212–223.
- Ashley, M. J. (1999). *Knowledge about tobacco use and attitudes toward tobacco control: How different are smokers and nonsmokers?* Toronto: Ontario Tobacco Research Unit.
- Ashley, M. J. (2003). *What the public thinks about the tobacco industry and its products* / Cohen, Joanna E. Toronto: Ontario Tobacco Research Unit.
- Ashley, M. J., Cohen, J., & Ferrence, R. (2001). “Light” and “Mild” Cigarettes: Who Smokes Them? Are They Being Misled?, 92(6), 5.
- Birch, L. M. (2010). *L’utilisation de la recherche sur l’opinion publique dans les politiques publiques: Le cas du programme de contrôle du tabagisme.*
- Borland, R., Cooper, J., McNeill, A., O’Connor, R., & Cummings, K. M. (2011). Trends in beliefs about the harmfulness and use of stop-smoking medications and smokeless tobacco products among cigarettes smokers: Findings from the ITC four-country survey. *Harm Reduction Journal*, 8.
- Borland, R., Yong, H.-H., King, B., Cummings, K. M., Fong, G. T., Elton-Marshall, T., ... McNeill, A. (2004). Use of and beliefs about light cigarettes in four countries: Findings from the International Tobacco Control Policy Evaluation Survey. *Nicotine & Tobacco Research*, 6(Suppl3), 311–321.
- Bourdon, M. (2018). *Étude transversale des facteurs psychosociaux et des croyances reliés à la consommation de cannabis sur les pentes chez des adolescents*

- et adolescentes adeptes de sports de glisse* (D.Ps.). Université du Québec à Chicoutimi (Canada).
- Boyd, S., & Carter, C. (2012). Using children: Marijuana grow-ops, media, and policy. *Critical Studies in Media Communication*, 29(3), 238–257.
- Boyd, S. C., & Carter, C. (2014). *Killer weed: Marijuana grow ops, media, and justice*. University of Toronto Press.
- Brochu, S., Duff, C., Asbridge, M., & Erickson, P. G. (2011). “There’s what’s on paper and then there’s what happens, out on the sidewalk”: Cannabis users knowledge and opinions of canadian drug laws. *Journal of Drug Issues*, 41(1), 95–115.
- Cloutier, A., Tremblay-Antoine, C., & Fréchet, N. (n.d.). *Highs* and *downs*. A scoping review of public opinion about cannabis, alcohol and tobacco in canada.
- Coleman, H., & Greyeyes, D. (1999). Self-Reported Smoking Behavior and Attitudes in Aboriginal Treatment Centers across Canada. *American Indian Culture and Research Journal*, 23(1), 95–110.
- Cunningham, J. A., Neighbors, C., Wild, T. C., & Humphreys, K. (2012). Normative misperceptions about alcohol use in a general population sample of problem drinkers from a large metropolitan city. *Alcohol and Alcoholism*, 47(1), 63–66.
- Cunningham, J. A., & Selby, P. L. (2007). Implications of the Normative Fallacy in Young Adult Smokers Aged 19–24 Years. *American Journal of Public Health*, 97(8), 1399–1400.
- Daud, A., Li, J., Zhou, L., & Muhammad, F. (2010). Knowledge discovery through directed probabilistic topic models: A survey. *Frontiers of Computer Science*

- in China*, 4(2), 280–301.
- Davey, K. (1970). *Report of the special senate committee on mass media*. The Committee.
- Duff, C., Asbridge, M., Brochu, S., Cousineau, M.-M., Hathaway, A. D., Marsh, D., & Erickson, P. G. (2012). A Canadian perspective on cannabis normalization among adults. *Addiction Research & Theory*, 20(4), 271–283.
- Duff, C., & Erickson, P. G. (2014). Cannabis, risk and normalisation: Evidence from a canadian study of socially integrated, adult cannabis users. *Health, Risk & Society*, 16(3), 210–226.
- Duval, D., & Pétry, F. (2016). L’analyse automatisée du ton médiatique: Construction et utilisation de la version française du lexicoder sentiment dictionary. *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, 49(2), 197–220.
- Engs, R. C., Hanson, D. J., Gliksman, L., & Smythe, C. (1990). Influence of religion and culture on drinking behaviours: A test of hypotheses between Canada and the USA. *Addiction*, 85(11), 1475–1482.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm.
- Entman, R. M. (2003). Cascading activation: Contesting the white house’s frame after 9/11. *Political Communication*, 20(4), 415–432.
- Entman, R. M. (2004). *Projections of power: Framing news, public opinion, and us foreign policy*. University of Chicago Press.
- Entman, R. M. (2008). Theorizing mediated public diplomacy: The us case. *The International Journal of Press/Politics*, 13(2), 87–102.

- Erickson, P. G., & Hyshka, E. (2009). Four decades of cannabis criminals in canada: 1970-2010. *Amsterdam LF*, 2, 1.
- Erickson, P. G., Maas, M. van der, & Hathaway, A. D. (2013). Revisiting Deterrence: Legal Knowledge, Use Context and Arrest Perception for Cannabis. *Sociologicky Casopis*, 49(3), 427–448.
- Erickson, P. G., & Oscapella, E. (1999). Cannabis in canada-a puzzling policy. *International Journal of Drug Policy*, 4(10), 313–318.
- Fischer, B., Ala-Leppilampi, K., Single, E., & Robins, A. (2003). Cannabis law reform in canada: Is the” saga of promise, hesitation and retreat” coming to an end? 1. *Canadian Journal of Criminology and Criminal Justice*, 45(3), 265–298.
- Fischer, B., Ialomiteanu, A. R., Russell, C., Rehm, J., & Mann, R. E. (2016). Public Opinion towards Cannabis Control in Ontario: Strong but Diversified Support for Reforming Control of Both Use and Supply. *Canadian Journal of Criminology and Criminal Justice*, 58(3), 443.
- Garnett, C., Crane, D., West, R., Michie, S., Brown, J., & Winstock, A. (2015). Normative misperceptions about alcohol use in the general population of drinkers: A cross-sectional survey. *Addictive Behaviors*, 42, 203–206.
- Giannetti, V. J. (2002). Attitudes and knowledge concerning alcohol abuse: Curriculum implications. *Journal of Health & Social Policy*, 15(1), 45–58.
- Giasson, T., & Dubois, P. (2018). Juste part, boycott et loi spéciale. Le cadrage gouvernemental d’un printemps de crise sociale. *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, 51(4), 837–859.

- Giesbrecht, N., Ialomiteanu, A., & Anglin, L. (2005). Drinking patterns and perspectives on alcohol policy: Results from two Ontario surveys. *Alcohol and Alcoholism*, 40(2), 132–139.
- Giesbrecht, N., Ialomiteanu, A., Anglin, L., & Adlaf, E. (2007). Alcohol marketing and retailing: Public opinion and recent policy developments in Canada. *Journal of Substance Use*, 12(6), 389–404.
- Giffen, P. J., Boorman, S., & Endicott, S. J. (1991). *Panic and indifference: The politics of canada's drug laws: A study in the sociology of law*. Canadian Centre on Substance Abuse.
- Grimmer, J., & Stewart, B. M. (2013). Text as data: The promise and pitfalls of automatic content analysis methods for political texts. *Political Analysis*, 21(3), 267–297.
- Guillemette, C. (2013). *Mieux comprendre les croyances associées à la consommation ou non d'alcool après un enseignement sur l'ensemble des troubles causés par l'alcoolisation fœtale chez les femmes Innues enceintes de la communauté d'Uashat mak Mani-Utenam* (Master's thesis). Université du Québec à Chicoutimi (Canada).
- Guyon, L., Audet, C., April, N., & De Koninck, M. (2007). Tabagisme et grossesse. Représentations sociales chez des mères québécoises. *Drogues, Santé et Société*, 6(1), 105–142.
- Haines, R. J., Johnson, J. L., Carter, C. I., & Arora, K. (2009). “I couldn't say, I'm not a girl” – Adolescents talk about gender and marijuana use. *Social Science & Medicine*, 68(11), 2029–2036.
- Haines-Saah, R. J., Johnson, J. L., Repta, R., Ostry, A., Young, M. L., Shoveller, J., ... Ratner, P. A. (2014). The privileged normalization of marijuana use—an

- analysis of canadian newspaper reporting, 1997–2007. *Critical Public Health*, 24(1), 47–61.
- Hamilton, H. A., Danielson, A. M., Mann, R. E., & Paglia-Boak, A. (2012). The Roles of Family, Peer, School, and Attitudinal Factors in Cannabis Use Across Immigrant Generations of Youth. *Journal of Drug Issues*, 42(1), 46–58.
- Hammond, D., Fong, G. T., Zanna, M. P., Thrasher, J. F., & Borland, R. (2006). Tobacco denormalization and industry beliefs among smokers from four countries. *American Journal of Preventive Medicine*, 31(3), 225–232.
- Hathaway, A. D., Comeau, N. C., & Erickson, P. G. (2011). Cannabis normalization and stigma: Contemporary practices of moral regulation. *Criminology & Criminal Justice*, 11(5), 451–469.
- Hathaway, A. D., & Erickson, P. G. (2003). Drug reform principles and policy debates: Harm reduction prospects for cannabis in canada. *Journal of Drug Issues*, 33(2), 465–495.
- Hathaway, A. D., & Erickson, P. G. (2004). A tale of two stimulants. *Canadian Journal of Communication*, 29(1).
- Hathaway, A. D., Erickson, P. G., & Lucas, P. (2007). Canadian Public Opinion on Cannabis. *Canadian Review of Social Policy/Revue Canadienne de Politique Sociale*, (59), 44–55.
- Hathaway, A. D., Mostaghim, A., Erickson, P. G., Kolar, K., & Osborne, G. (2018). “It’s Really No Big Deal”: The Role of Social Supply Networks in Normalizing Use of Cannabis by Students at Canadian Universities. *Deviant Behavior*, 39(12), 1672–1680.

- Hathaway, A., Mostaghim, A., Kolar, K., Erickson, P. G., & Osborne, G. (2016). A nuanced view of normalisation: Attitudes of cannabis non-users in a study of undergraduate students at three Canadian universities. *Drugs: Education, Prevention & Policy*, 23(3), 238–246.
- Hosking, W., Borland, R., Yong, H.-H., Fong, G., Zanna, M., Laux, F., ... Omar, M. (2009). The effects of smoking norms and attitudes on quitting intentions in Malaysia, Thailand and four Western nations: A cross-cultural comparison. *Psychology & Health*, 24(1), 95–107.
- Ialomiteanu, A. R., Giesbrecht, N., Adlaf, E. M., Irving, H., Paglia-Boak, A., & Rehm, J. (2010). An Exploratory Approach to Analyzing Alcohol Control Policy Opinions Held by Ontario Adults. *International Journal of Environmental Research and Public Health*, 7(3), 827–841.
- INSPQ. (2019). *Dossier de consultation: Projet sur les perceptions de la consommation d'alcool au québec*. Institut national de santé publique du Québec.
- Institut de la statistique du Québec. (2018). *Enquête québécoise sur le cannabis 2018: La consommation de cannabis et les perceptions des Québécois: un portrait prélégalisation*.
- Iyengar, S., & Kinder, D. R. (1987). *News that matters: Television and american opinion*. University of Chicago Press.
- Joanna Briggs Institute. (2014). QARI critical appraisal tools. *Joanna Briggs Institute Reviewers' Manual: 2014 Edition*, 177.
- Joanna Briggs Institute. (2015). Reviewers' manual 2015: Methodology for jbi scoping reviews. *Joanna Briggs Institute Reviewers' Manual: 2015 Edition*, 24.

- Kolar, K., Erickson, P., Hathaway, A., & Osborne, G. (2018). Differentiating the drug normalization framework: A quantitative assessment of cannabis use patterns, accessibility, and acceptability attitudes among university undergraduates. *Substance Use & Misuse*.
- Krauth, B. V. (2005). Peer effects and selection effects on smoking among Canadian youth. *Canadian Journal of Economics/Revue Canadienne d'économie*, 38(3), 735–757.
- Kropp, F., Lavack, A. M., Silvera, D. H., & Gabler, J. R. (2004). Alcohol Consumption Among University Students: A Multi-Country Study of Attitudes, Values, Identity, and Consumer Influence. *Journal of Nonprofit & Public Sector Marketing*, 12(2), 1–28.
- Le Dain, G. (1972). Le cannabis. *Rapport-Le Cannabis*. Ottawa: Information Canada.
- Lefebvre, L. G., Ordean, A., Midmer, D., Kahan, M., & Tolomiczenko, G. (2007). Physicians' knowledge of alcohol, tobacco and folic acid in pregnancy. *Substance Abuse*, 28(1), 3–9.
- Lemarié-Saulnier, C. (2016). Cadrer les définitions du cadrage: Une recension multidisciplinaire des approches du cadrage médiatique. *Canadian Journal of Communication*, 41(1).
- Lepage, M., Dumas, L., & Saint-Pierre, C. (2015). Teaching smoking cessation to future nurses: Quebec educators' beliefs. *Western Journal of Nursing Research*, 37(3), 376–393.
- Lippmann, W. (1922). *Public opinion*. Routledge.

- MacDonald, S., Stockwell, T., & Luo, J. (2011). The relationship between alcohol problems, perceived risks and attitudes toward alcohol policy in Canada. *Drug and Alcohol Review*, 30(6), 652–658.
- Maggi, S., Lovato, C. Y., Hill, E. M., Johnson, J. L., Ratner, P. A., & Shoveller, J. A. (2014). *Adolescents' Perceptions of Parental Influences on Their Smoking Behavior: A Content Analysis* (pp. 132–149). SAGE Publications, 2455 Teller Road, Thousand Oaks, CA 91320.
- Martel, M. (2006). *Not this time: Canadians, public policy, and the marijuana question, 1961-1975*. Toronto [Ontario] : University of Toronto Press, Ottawa, Ontario : Canadian Electronic Library.
- McRobbie, A., & Thornton, S. L. (1995). Rethinking'moral panic'for multi-mediated social worlds. *British Journal of Sociology*, 559–574.
- Measham, F., & Shiner, M. (2009). The legacy of “normalisation”: The role of classical and contemporary criminological theory in understanding young people’s drug use. *International Journal of Drug Policy*, 20(6), 502–508.
- Millhorn, M., Monaghan, M., Montero, D., Reyes, M., Roman, T., Tollasken, R., & Walls, B. (2009). North Americans’ Attitudes Toward Illegal Drugs. *Journal of Human Behavior in the Social Environment*, 19(2), 125–141.
- Morin, M. (2017). *Ô cannabis: Tout ce qu’il faut savoir sur le cannabis, sa prohibition et sa légalisation*.
- Mostaghim, A., & Hathaway, A. D. (2013). Identity Formation, Marijuana and “The Self”: A Study of Cannabis Normalization among University Students. *Frontiers in Psychiatry*, 4.

- Ogborne, A. C., & Smart, R. G. (2001). Public Opinion on the Health Benefits of Moderate Drinking: Results from a Canadian National Population Health Survey. *Addiction*, 96(4), 641–649.
- Osborne, G. B., & Fogel, C. (2017). Perspectives on Cannabis Legalization Among Canadian Recreational Users. *Contemporary Drug Problems*, 44(1), 12–31.
- Osborne, G., & Fogel, C. (2007). The normalization of marijuana use by adult canadian users. *International Journal of Crime, Criminal Justice, and Law*, 2(2), 201–225.
- Otten, R., Wanner, B., Vitaro, F., & Engels, R. C. M. E. (2008). Own and Friends' Smoking Attitudes and Social Preference as Early Predictors of Adolescent Smoking. *Journal of Clinical Child and Adolescent Psychology*, 37(4), 808–819.
- Parker, H. (2005). Normalization as a barometer: Recreational drug use and the consumption of leisure by younger britons. *Addiction Research & Theory*, 13(3), 205–215.
- Parker, H. J., Aldridge, J., & Measham, F. (1998). *Illegal leisure: The normalization of adolescent recreational drug use*. Psychology Press.
- Pederson, L. L., Bull, S. B., Ashley, M. J., & Lefcoe, N. M. (1987). A Population Survey in Ontario Regarding Restrictive Measures on Smoking: Relationship of Smoking Status to Knowledge, Attitudes and Predicted Behaviour. *International Journal of Epidemiology*, 16(3), 383–391.
- Perkins, H. W. (2007). Misperceptions of peer drinking norms in Canada: Another look at the "reign of error" and its consequences among college students. *Addictive Behaviors*, 32(11), 2645–2656.

- P. J. Giffen, S. L., Shirley Endicott. (1993). Panic and indifference: The politics of canada's drug laws. *American Journal of Sociology*, 99(2), 521–522.
- Poirier, W., Ouellet, C., Rancourt, M.-A., Béchar, J., & Dufresne, Y. (2020). (Un) covering the covid-19 pandemic: Framing analysis of the crisis in canada. *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, 1–7.
- Porath-Waller, A. J., Clark, H. author., Canadian Centre on Substance Abuse, & issuing body. (2014). *What Canadian youth think about cannabis: Technical report / Brown, Jonathan E., ; Author*. Ottawa, Ontario: Canadian Centre on Substance Abuse.
- Radio-Canada. (2018). Légalisation du cannabis: Comment en sommes-nous arrivés là? *Radio-Canada*.
- Room, R., Giesbracht, N., Graves, K., & Greenfield, T. (1995). Trends in public opinion about alcohol policy initiatives in Ontario and the US 1989–91. *Drug and Alcohol Review*, 14(1), 35–47.
- Savas, D. (2001). Public opinion and illicit drugs: Canadian attitudes towards decriminalizing the use of marijuana. P. Basham (éd.). *Sensible Solutions to the Urban Drug Problem, Vancouver, the Fraser Institute*.
- Shiner, M., & Newburn, T. (1997). Definitely, maybe not? The normalisation of recreational drug use amongst young people. *Sociology*, 31(3), 511–529.
- Silge, J., & Robinson, D. (2017). *Text mining with r: A tidy approach*. " O'Reilly Media, Inc."
- Statistique Canada. (2017). *Enquête canadienne sur le tabac, l'alcool et les drogues*.
- Statistique Canada. (2019). *Enquête nationale sur le cannabis*.

- Stockwell, T. (2007). *Cannabis use in British Columbia: Patterns of use, perceptions and public opinion as assessed in the 2004 Canadian addiction survey*. [Victoria, B.C.] : Centre for Addictions Research of BC, (Saint-Lazare, Quebec : Gibson Library Connections, 2008).
- Thakore, S., Ismail, Z., Jarvis, S., Payne, E., Keetbaas, S., Payne, R., & Rothenburg, L. (2009). The Perceptions and Habits of Alcohol Consumption and Smoking Among Canadian Medical Students. *Academic Psychiatry*, 33(3), 193–197.
- Valenzano, J. M. (2009). Framing the war on terror in canadian newspapers: Cascading activation, canadian leaders, and newspapers. *Southern Communication Journal*, 74(2), 174–190.
- Van Der Vorst, H., Krank, M., Engels, R. C. M. E., Pieters, S., Burk, W. J., & Mares, S. H. W. (2013). The mediating role of alcohol-related memory associations on the relation between perceived parental drinking and the onset of adolescents' alcohol use. *Addiction*, 108(3), 526–533.
- Vézina-Im, L.-A., & Godin, G. (2011). Psychosocial determinants of intention to abstain from drinking alcohol while pregnant among a sample of women of childbearing age. *Addiction Research & Theory*, 19(2), 128–137.
- Waserman, J. (2012). Highs and lows: Canadian perspectives on women and substance use. *Archives of Women's Mental Health*, 15(3), 235–236.
- Welbers, K., Van Attevelde, W., & Benoit, K. (2017). Text analysis in R. *Communication Methods and Measures*, 11(4), 245–265.
- Wilkerson, J., & Casas, A. (2017). Large-scale computerized text analysis in political science: Opportunities and challenges. *Annual Review of Political Science*, 20, 529–544.

- Ylä-Anttila, T., Eranti, V., & Kukkonen, A. (2018). Topic modeling as a method for frame analysis: Data mining the climate change debate in india and the usa.
- Young, L., & Soroka, S. (2012). Affective news: The automated coding of sentiment in political texts. *Political Communication*, 29(2), 205–231.
- Zaller, J. R. (1992). *The nature and origins of mass opinion*. Cambridge university press.