

RESEARCH NOTE/NOTE DE RECHERCHE

Replicating "Language Matters": Taking Baselines into Account

Catherine Ouellet¹ (b), Evelyne Brie² and Éric Montigny³

¹Department of Political Science, Université de Montréal, Pavillon Lionel-Groulx 3150, rue Jean-Brillant, Montréal, Québec, H3T 1N8, Canada, ²Department of Political Science, Western University, Social Science Centre, Room 7335, London, Ontario, N6A 5C2, Canada and ³Department of Political Science, Université Laval, Pavillon Charles-De Koninck, 1030, avenue des Sciences-Humaines, Bureau 3456, Québec, G1V 0A6, Canada

Corresponding author: Catherine Ouellet; Email: catherine.ouellet.18@umontreal.ca

Abstract

This study evaluates the visibility of French-speaking scholars in Canadian political science by analyzing the reading materials assigned in Canadian politics courses. Extending Daoust et al.'s (2022) research, we establish a baseline for their calculations and build an original dataset gathered from all political science departments' websites and Google Scholar. Our analysis based on three assumptions about the expected academic representation of francophones—Canada's linguistic composition, the makeup of political science departments and faculty members' productivity—reveals a discrepancy favouring anglophone scholars by up to four percentage points. Our findings extend Daoust et al.'s (2022) contribution by highlighting a similar language-based bias in overall citation practices among Canadian scholars, with French-speaking authors being significantly undercited compared to their English-speaking counterparts despite demonstrating higher levels of overall productivity. Implications for the future of the discipline are also discussed.

Résumé

Cette étude examine la présence de chercheurs francophones dans le domaine de la science politique au Canada en analysant les lectures des plans de cours de politique canadienne. Partant de l'analyse de Daoust et al. (2022), nous ajoutons un point de référence à leurs calculs et constituons une nouvelle base de données issue des sites web de tous les départements de science politique et de Google Scholar. Notre analyse, qui s'appuie sur trois présupposés relatifs à la représentation académique attendue des francophones—la composition linguistique du Canada, la structure des départements de science politique et la productivité des professeurs—révèle une disparité favorisant les universitaires anglophones jusqu'à quatre points de pourcentage. Nos résultats enrichissent la contribution de Daoust et al. (2022) en soulignant un biais semblable basé sur la langue dans les pratiques de citation générales parmi les

The authors would like to thank Adrian Facciponte and Sofia Ouslis for their work as research assistants on the dataset, as well as Christopher Alcantara for sharing his insights on this analysis.

[©] The Author(s), 2024. Published by Cambridge University Press on behalf of the Canadian Political Science Association (l'Association canadienne de science politique) and/et la Société québécoise de science politique. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (http://creativecommons.org/licenses/by/ 4.0/), which permits unrestricted re-use, distribution and reproduction, provided the original article is properly cited.

chercheurs canadiens, où les auteurs francophones sont nettement moins cités que leurs collègues anglophones, et ce, en dépit d'une productivité généralement plus élevée. Les conséquences potentielles pour l'avenir de la discipline sont également abordées.

Keywords: linguistic cleavages; representation; higher education; Canadian politics; two solitudes Mots-clés: clivages linguistiques; représentativité; éducation supérieure; politique canadienne; deux solitudes

Introduction

One of the greatest challenges facing Canadian political scientists is perhaps the question of producing and reproducing a diverse and inclusive scientific knowledge—that is, one that illustrates the multiple ways in which Canadian social and political realities are constructed and understood in a so-called multinational society (see Cairns, 2008; Cairns, 1974; Rocher, 2007). In the 1970s and 1980s, diversity in Canadian politics was mainly perceived through the prism of the two solitudes, denoting limited communication between English- and French-speaking scholars that resulted in isolated research endeavours, each following its respective narrative. More recently, Rocher highlighted the systematic neglect or omission of knowledge produced by francophone scholars in works published by anglophone scholars. He warned of the risk that Canadian political scientists might "produce a biased representation of social reality" that reinforces the dominant discursive universe (2007: 849).

As both the discipline and the producers of knowledge themselves have diversified, scholars have shifted from looking strictly at language to encompass gender, racial or ethnic diversity, as well as intersectional identities as hallmarks of a comprehensive Canadian political science (CPS) (Green, 2001; Ladner, 2017; Nath, 2011; Thompson, 2008; Vickers, 2015). In celebration of its 50th anniversary, the *Canadian Journal of Political Science*—committed to fostering political science research in Canada through bilingual and high-quality research—invited scholars to reflect upon the status of diversity in their field. Scholars acknowledged the notable growth in scholarship both produced by and focused on groups previously often ignored, including women, Indigenous peoples and racialized citizens (Hardt et al., 2019; Harris et al., 2020; Ladner, 2017; Everitt, 2021; Kim, 2017; Young et al. 2021). Yet despite significant improvements, they recognized that our field is still resistant to change and that this more "recent" research often has been siloed in subfields, which are perceived to be peripheral to the "core" of the discipline (Tolley, 2017; Mathews and Anderson, 2001; Nath et al. 2018).

As for the representation of English- and French-speaking scholars in the field, a majority of francophone scholars still predominantly publish their work in English (Godbout, 2017; Rocher and Stockemer, 2017), which rather limits the ability of these scholars to disseminate their research within their own student community, many of whom often do not speak English. But given the dominance of English as the global *lingua franca* and the asymmetrical bilingualism it produces (Laponce, 2006; Simeon and Cameron, 2009), the question of a real (or forced) choice arises (May, 2003). Additionally, the enduring two solitudes pattern (see Brie and Mathieu, 2024) seems to find partial anchoring in Canadian universities where francophone scholars remain systematically underrepresented in assigned

readings of Canadian politics courses and comprehensive exam lists (Daoust et al., 2022). This is especially worrying, as professors of Canadian politics are best positioned to understand the extent to which Canadian linguistic cleavages are associated with distinct understandings of the country's political reality. By building upon a recent analysis by Daoust and colleagues, this article quantifies the extent to which French-speaking scholars are systematically underrepresented in the assigned readings of Canadian politics courses considering i) their demographic proportion in Canada; ii) their representation in political science departments; iii) their scholarly output, measured by the proportion of publications. Indeed, the lack of any baseline in previous studies makes it challenging for the authors to quantitatively assess the significance of francophones' underrepresentation in the discipline.

Daoust et al.'s Study (2022)

Drawing from an original dataset based on 351 syllabi from 42 Canadian universities, Daoust et al. (2022) reveal that French-speaking scholars are systematically absent or underrepresented in the assigned readings of Canadian politics courses. Indeed, half of these syllabi feature less than 5 per cent of readings with at least one French-speaking author. When using a standard for inclusivity of 31 per centwhich matches the proportion of francophone authors in the publications of CJPS from 2000 to 2022-only 24 per cent of the courses taught during this period meet this threshold. Unsurprisingly, the proportion of readings with at least one francophone author in Canadian politics courses varies notably depending on the region and institutional language. In English-language institutions, 30 per cent of syllabi have less than 5 per cent francophone-authored readings, compared to 86 per cent in French-language institutions. Out of 351 syllabi across the country, 133 include no francophone authors at all. A subsequent analysis of 16 Canadian politics PhD qualifying exam lists shows a similar pattern of underrepresentation. But again, there is no established standard to gauge the extent of underrepresentation or over-representation of each linguistic group. For instance, one might question whether these findings are influenced by variations in scholarly productivity between French- and English-speaking scholars or their relative presence within political science departments.

The question asked by Daoust and colleagues (2022) underscores broader issues regarding how our discipline is taught, understood and disseminated (see also Marcoux, 2018 or McMahon et al. 2020). By not engaging with the works produced by their anglophone or francophone counterparts, Canadian political scientists inadvertently promote a skewed narrative of Canadian political reality. As previously mentioned by Rocher (2007), bridging the gap goes beyond the idea that English-speaking scholars cite French-speaking scholars more frequently and vice versa. It is about displaying a genuine interest in what the Other has to bring to our understanding of our own society. Otherwise, the danger is the poor spread of francophone political scientists' ideas to their anglophone peers (Rocher, 2007; Sonntag and Cardinal, 2015)—a concern described by Cairns (2008) as "whom can speak to whom."

Data and Methods

To replicate and expand on Daoust et al.'s (2022) study, we created two datasets. First, we gathered syllabi from 2022 Canadian politics courses from 49 universities

across the country (n = 57), either by downloading the file via their website or by contacting the political science department chair.¹ We focused on courses offering a comprehensive overview of Canadian politics, excluding those centred on sub-fields such as social welfare or Indigenous politics. For each syllabus, we documented the languages of the assigned readings, the authors' names and their mother tongues, as well as the names, mother tongues, departments, and affiliated universities of the instructors. Mother tongue identification was manually conducted using available information like names, language proficiency from resumes and bachelor's degree institutions. In ambiguous cases (~12), we confirmed details through our network. This resulted in data on 405 assigned readings from 58 courses.

Our second dataset encompasses faculty members' information (name, first language, gender, rank, years of study) from political science departments in 57 Canadian universities, totalling 1325 professors. We included publication and citation counts from Google Scholar (n = 619) to gauge scholarly work's scope. Deliberately opting for these counts as proxies for scholarly activity, we are aware of this method's limitations, notably the exclusion of the qualitative dimensions of academic contributions.² Since not all faculty members have a Google Scholar account, we reweighted the number of francophones and anglophones based on department compositions for the projections in Table 1.3 This dataset enables a quantitative assessment of French-speaking scholars' representation, considering demographic presence and academic activity. The demographic benchmark reflects the expectation that academic visibility might, at least in part, mirror societal linguistic makeup; the academic benchmark allows us to consider francophones' representation where academic discourse is generated; and the productivity benchmark offers an understanding of francophones' contribution to the academic discourse, gauging whether visibility in syllabi aligns with active engagement in the field. The use of various benchmarks, based on intuitive albeit common expectations (see Huang et al., 2020; Kwiek and Roszka, 2021), offers a more nuanced portrait of francophone scholars' visibility.

Results

In this section, we present the baseline data for various projections of francophone scholars' work in Canadian politics syllabi, which we compare with the actual proportion of francophone authors in these syllabi (17.43%). We calculate the current

Table 1. Disparity	in	Representation	of	Francophone	Scholarship	in	Syllabi	Based	on	Different
Assumptions										

Assumption	Projected % based on assumption	Gap (in % points) based on current representation
Syllabi should reflect the proportion of francophones in the Canadian population	21.4%	-3.97
Syllabi should reflect the proportion of	All professors: 16.89%	+0.54
francophone scholars in Canadian departments	Tenured only: 19.10%	-1.67
Syllabi should reflect the proportion of	All professors: 19.54%	-2.11
publications by francophone scholars in Canadian departments	Tenured only: 20.24%	-2.81

Downloaded from https://www.cambridge.org/core. IP address: 18.227.228.207, on 16 Mar 2025 at 05:15:49, subject to the Cambridge Core terms of use, available at https://www.cambridge.org/core/terms. https://doi.org/10.1017/S0008423924000234

proportion of francophone authors by dividing the total number of cited francophone authors by the total number of cited authors. This differs from Daoust et al.'s approach, which counts syllabi readings that include at least one francophone author, treating it as a binary variable. We detail the distribution of this variable across political science departments in Figure A1 of the Appendix. The localized concentration of francophones' scholarly work in courses within a few universities underscores the persistence of the two solitudes in Canadian academia, where scholars predominantly teach knowledge produced by their own linguistic group. This is problematic if we accept Rocher's expectation that scholars interested in Canada cannot ignore the voices of one of the two main linguistic groups for our discipline to be comprehensive and inclusive (2007: 838). Table 1 further illustrates the disparity in representation of francophone scholarship in syllabi under different assumptions. For instance, the first row in Table 1 indicates that if syllabi are expected to mirror the proportion of francophones in the Canadian population (21.4%), there is an underrepresentation of francophone scholarship in syllabi of 3.97 percentage points. A positive value signifies over-representation compared to the baseline, while a negative value indicates the opposite.

Based on different baseline projections (see Table 1), the gap in representation of francophone scholars in syllabi ranges from -3.97 to +0.54 percentage points. Our first projection compares the proportion of francophone citations in syllabi with the francophone share of Canada's population, 21.4 per cent according to the 2021 Census. This projection reveals the largest linguistic gap, a 3.97 percentage point discrepancy between the representation of francophone authors in syllabi and their demographic presence in Canada.

Our second projection is based on the percentage of francophone scholars in CPS departments. Figure 1 shows the composition of each department based on faculty members' mother tongue (both for tenure-track and non-tenure-track faculty). Unsurprisingly, most French-speaking universities have a majority of francophone faculty (80.5% in Quebec, 62.8% in the rest of Canada), while anglophones are predominant in English-speaking universities (86.1% in Quebec, 95.4% in the rest of Canada). Francophone professors constitute 16.84 per cent of the CPS community, a representation that slightly increases to 19.10 per cent among tenured faculty alone. This projection suggests a minor over-representation of francophones (+0.54) overall and a 1.67 percentage point under-representation among tenure-track faculty.

Our last projection builds on the productivity of scholars across linguistic groups, as evaluated by their number of publications. Figure 2, which presents the median number of publications for francophone and anglophone scholars, shows that at almost all career stages, francophone scholars have a higher median publication number than their anglophone counterparts. Overall, this would suggest an under-representation of francophone scholars between 2.11 percentage points (all faculty) and 2.81 percentage points (only tenure-track faculty) when based on productivity.

Discussion

Drawing from two original datasets based on 59 syllabi from 49 Canadian universities, this analysis quantitatively assesses the significance of francophones'

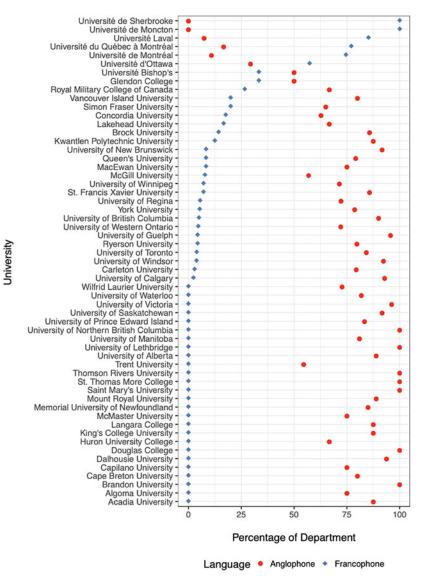


Figure 1. Composition of Political Science Departments by Mother Tongue in 2022. *Note:* This figure presents the percentage of faculty members with French or English as a mother tongue within CPS departments (16.89% on average across all departments, with an aggregated average of 13.7% when giving an equal weight to each department). Faculty members with a mother tongue other than French or English are considered in the denominator but not represented in the figure. Data = Political Science Department Websites.

representation in CPS. Using demographic weight, departmental composition and productivity as baselines, most projections suggest the existence of a systematic bias in representation, up to four percentage points. However, we observe a slight over-representation of francophone scholars in syllabi when compared to the number of francophone scholars in departments (+0.54 percentage points) without regard for

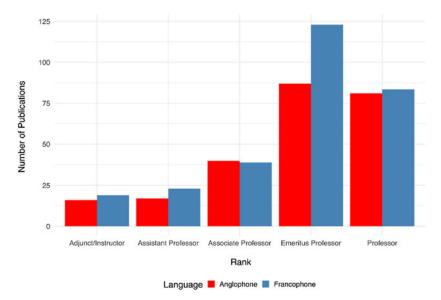


Figure 2. Political Scientists' Median Number of Listed Publications (by Mother Tongue).

Note: This figure presents the median number of publications for francophone and anglophone faculty members across Canada, which is respectively 19 and 16 for adjuncts/instructors, 23 and 17 for assistant professors, 39 and 40 for associate professors, 123 and 97 for emeritus professors and 83.5 and 81 for full professors. Overall, the average number of listed publications within our sample is 79.3 publications for French-speaking scholars and 70 for English-speaking scholars. Publications include all items listed on Google Scholar, some of which are not peer-reviewed. Data = Google Scholar and Political Science Department Websites.

academic rank, which might be due to the under-representation of francophones in the discipline nationwide. Our analysis, while applying a different metric from Daoust et al. (2022), uncovers a subtler but still significant trend of linguistic underrepresentation in Canadian political science syllabi. While Daoust et al. reported a stark absence of francophone scholars in core course materials, our study confirms and quantifies this gap while suggesting a significant, though less extreme, underrepresentation. Data from Google Scholars shows that citations of francophone scholars within departments account for only 13.24 per cent of all citations, significantly lower than their share of publications in the field. However, higher- and lower-quartile journals or presses were not distinguished, which could potentially account for this disparity. Another limitation pertains to the broad scope of our benchmark concerning representation across political science subfields, which could potentially over- or under-estimate francophone representation within the specific area of Canadian politics.

While less pronounced, these gaps evoke Rocher's (2007) concerns from previous decades and raise broader questions on the future of the discipline. Yet it is important to acknowledge recent progress in CPS scholarship—such as Canadianists becoming theory "makers" and increasingly engaging with comparative politics scholars outside Canada (White et al., 2008; Turgeon et al., 2014)—the limited exchange between francophone and anglophone scholars, coupled with the diminished visibility of francophone scholarship in knowledge dissemination, risks a misunderstanding of our primary subject of study. Indeed, how can one fully seize the complexity of Canadian federalism or Canada's "mega constitutional politics" if the perspectives of one of the core linguistic groups are excluded? Another concern relates to future research questions that will drive our students, many of whom will eventually contribute to the discipline. Although a lack of functional bilingualism within the English-speaking community might partly explain the phenomenon, this disparity invites a deeper examination of the comparative worth attributed to the contributions of francophone scholars relative to their anglophone counterparts. Additional analyses could explore how such disparities intersect with and potentially exacerbate other inequalities related to gender, race or class, considering that linguistic biases often align with other forms of injustice (Piller, 2016).

Competing interests. The authors declare none.

Notes

1 When no syllabus was available, we excluded the university from our analysis.

2 Our choice is motivated by the unique availability of Google Scholar data and its capacity to provide a broad-stroke picture of academic productivity according to the number of outputs.

3 Within the Google Scholar data, we collected publication and citation information for 111 French-speakers and 426 English-speakers. We projected the average of these subsamples onto the number of francophones and anglophones working in Canadian universities to avoid over-representing French-speaking Canadian scholars (these compose 16.89% of all departments and 17.48% of scholars whose data we collected on Google Scholar).

References

- Brie, Evelyne and Félix Mathieu. 2024 (forthcoming). "Ties Under Strain: Exploring the Social Divide between Canada's Two Solitudes," *Nations and Nationalism*.
- Cairns, Alan. C. 2008. "Conclusion: Are We on the Right Track?" In *The Comparative Turn in Canadian Political Science*, ed. Linda White, Robert C. Vipond & Richard Simeon. Vancouver: UBC Press.
- Cairns, Alan C. 1974. "Alternative Styles in the Study of Canadian politics." *Canadian Journal of Political Science/Revue canadienne de science politique* 7 (1): 101–28.
- Daoust, Jean-François., Alain-G. Gagnon and Thomas Galipeau. 2022. "Language Matters: The Study of Canadian Politics through an Exploration of Syllabi and Comprehensive Exams." *Canadian Journal* of Political Science 55 (4): 897–915.
- Everitt, Johanna. 2021. "Academic Absences, Disciplinary Siloes and Methodological Prejudices within the Political Science Discipline in Canada." *Canadian Journal of Political Science* **54** (4): 749–68.
- Godbout, Jean-François. 2017. "Les cinquante ans de la Revue canadienne de science politique: Le bilinguisme en déclin?" *Canadian Journal of Political Science* **50** (1): 3–11.
- Green, Joyce. 2001. "Canaries in the Mines of Citizenship: Indian Women in Canada." *Canadian Journal of Political Science* **34** (4): 715–38.
- Hardt, Heide, Hannah June Kim, Amy Erica Smith and Philippe Meister. 2019. "The Gender Readings Gap in Political Science Graduate Training." *Journal of Politics* **81** (4): 1528–32.
- Harris, Jenine K., Merriah A. Croston, Ellen T. Hutti and Amy A. Eyler. 2020. "Diversify the Syllabi: Underrepresentation of Female Authors in College Course Readings," *PLOS One* **15** (10): e0239012.
- Huang, J., A. J. Gates, R. Sinatra and A.L. Barabási. 2020. "Historical Comparison of Gender Inequality in Scientific Careers across Countries and Disciplines." *Proceedings of the National Academy of Sciences* 117 (9): 4609–16.
- Kim, Mijung. 2017. "Indigenous Knowledge in Canadian Science Curricula: Cases from Western Canada." Cultural Studies of Science Education 12 (3): 605–13.
- Kwiek, Marek and Wojciech Roszka. 2021. "Gender Disparities in International Research Collaboration: A Study of 25,000 University Professors." *Journal of Economic Surveys* **35** (5): 1344–80.

- Ladner, Kiera L. 2017. "Taking the Field: 50 years of Indigenous Politics in the CJPS." *Canadian Journal of Political Science* **50** (1): 163–79.
- Laponce, Jean. 2006. Loi de Babel et autres régularités des rapports entre langue et politique. Québec: Presses de l'Université Laval.
- Marcoux, Richard. 2018. "Deux solitudes ou One and a Half ? La langue des articles cités en bibliographie comme illustration des pratiques scientifiques en sciences humaines au Canada et au Québec." *Recherches sociographiques* 59 (3): 435–49.
- Mathews, A. Lanethea and Kristi Andersen. 2001. "A Gender Gap in Publishing? Women's Representation in Edited Political Science Books." *PS: Political Science & Politics* **34** (1): 143–7.
- May, Stephen. 2003. "Misconceiving Minority Language Rights: Implications for Liberal Political Theory." In *Language Rights and Political Theory*, ed. Will Kymlicka and Alan Patten. Oxford: Oxford University Press.
- McMahon, Nicole, Christopher Alcantara and Laura B. Stephenson. 2020. "The Qualifying Field Exam: What Is It Good For?" *PS: Political Science & Politics* **53** (1): 94–9.
- Nath, N. 2011. "Defining Narratives of Identity in Canadian Political Science: Accounting for the Absence of Race." *Canadian Journal of Political Science* **44** (1): 161–93.
- Nath, Nisha, Ethel Tungohan and Megan Gaucher. 2018. "The Future of Canadian Political Science: Boundary Transgressions, Gender and Anti-Oppression Frameworks." *Canadian Journal of Political Science* **51** (3): 1–24.
- Piller, Ingrid. 2016. Linguistic Diversity and Social Justice: An Introduction to Applied Sociolinguistics. Oxford: Oxford University Press.
- Rocher, François. 2007. "The End of the 'Two Solitudes'? The Presence (or Absence) of the Work of French-Speaking Scholars in Canadian Politics." Canadian Journal of Political Science 40 (4): 833–57.
- Rocher, François and Daniel Stockemer. 2017. "Langue de publication des politologues francophones du Canada." *Canadian Journal of Political Science* **50** (1): 97–120.
- Simeon, Richard and David Cameron. 2009. "Accommodation at the Pinnacle: The Special Role of Civil Society's Leaders." In *Language Matters: How Canadian Voluntary Associations Manage French and English*, eds. David Cameron and Richard Simeon. Vancouver: UBC Press.
- Sonntag, Selma K. and Linda Cardinal. 2015. "State traditions and language regimes: A historical institutionalism approach to language policy." Acta Universitatis Sapientiae, European and Regional Studies 8 (1): 5–21.
- Thompson, D. 2008. "Is Race Political?" Canadian Journal of Political Science 41(3): 525-47.
- Tolley, Erin. 2017. "Into the Mainstream or Still at the Margins? 50 Years of Gender Research in the Canadian Political Science Association." *Canadian Journal of Political Science* **50** (1): 143–61.
- Turgeon, Luc, Martin Papillon, Jennifer Wallner and Stephen White (eds.). 2014. Comparing Canada: Methods and Perspectives on Canadian Politics, Vancouver: UBC Press.
- Vickers, Jill. 2015. "Can We Change How Political Science Thinks? 'Gender Mainstreaming' in a Resistant Discipline: Presidential Address Delivered to the Canadian Political Science Association." Ottawa, June 2, 2015. Canadian Journal of Political Science 48 (4): 747–70.
- White, L., R. Simeon, R. Vipond and J. Wallner (eds.). 2008. *The Comparative Turn in Canadian Political Science*. Vancouver: UBC Press.
- Young, Zoe Pflaeger, Fran Amery, Stephen Holden Bates, Stephen McKay, Cherry Miller, Taylor Billings, Rebecca Hayton, Marianne Holt, Jasmine Khatri, Molly Marvin, Lola Ogunsanya, Alice Ramdehal and Rosie Sullivan. 2021. "Women in the Profession: An Update on the Gendered Composition of the Discipline and Political Science Departments in the UK," *Political Studies Review* 19 (1): 12–36.

530 Catherine Ouellet *et al.*

Appendix

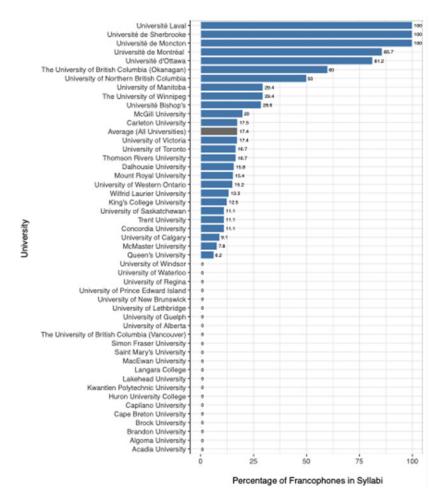


Figure A1. Percentage of Francophones in Syllabi across Political Science Departments. *Note:* This figure presents the percentage of francophone scholars listed in readings from Canadian politics courses across Canadian political science departments. Data = Canadian Political Science Courses Syllabi.

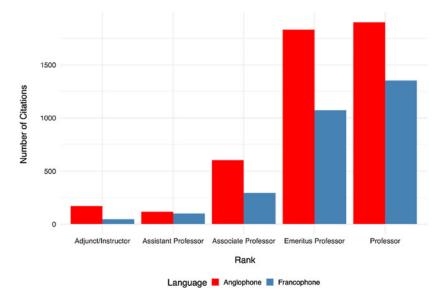


Figure A2. Political Scientists' Median Number of Citations (by Mother Tongue).

Note: This figure presents the median number of citations for francophones and anglophones faculty members across Canada, which is respectively 47 and 171 for adjuncts/instructors, 101 and 117 for assistant professors, 295 and 604 for associate professors, 1072.5 and 1832 for emeritus professors and 1353.0 and 1902.5 for professors. Overall, the average number of listed publications within our sample is 1833.9 citations for French-speaking scholars and 2590.6 for English-speaking scholars. Publications include all items listed on Google Scholar, some of which are not peer-reviewed. Data = Google Scholar and Political Science Department Websites.

Cite this article: Ouellet, Catherine, Evelyne Brie and Éric Montigny. 2024. "Replicating 'Language Matters': Taking Baselines into Account." *Canadian Journal of Political Science* 57 (3): 521–531. https://doi.org/10.1017/S0008423924000234