A Gladiatorial Arena: Incivility in the Canadian House of Commons

Short Title: Incivility in the Canadian House of Commons

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Abstract

In parliamentary systems, it is common for legislatures to offer a regular opportunity for their members to question government ministers. While these institutions fulfill an essential function for democratic accountability, they also represent an occasion for incivility to creep into political discourse. This article investigates the incidence of uncivil behavior in these institutions and identifies some of its covariates. Our focus is on the Canadian House of Commons. Using cutting-edge, open-source machine learning models, we measure the incidence and evolution of incivility in Question Periods from April 2006 to June 2021. We find significant evidence of uncivil behavior, especially insults and toxicity. Through a multivariate regression analysis, we show that variations in the incidence of uncivil behavior over time and across members of various parties are correlated with the time remaining until the next general election, the institutional roles of parties, the balance of power, and the language of interventions.

Keywords: Canadian Politics, House of Commons, Incivility, Perspective API, Question Period

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Replication files are available in the JOP Data Archive on Dataverse (https://dataverse.harvard.edu/dataverse/jop). The empirical analysis has been replicated successfully by the JOP replication analyst.

Supplementary material for this article can be found online.

In parliamentary systems, it is common for legislatures to set aside a regular occasion for their members to question government ministers. In general, this Question Period (QP) allows lawmakers, especially those from opposition parties, to seek information on policy issues and hold the government accountable for its decisions. While QP plays a vital role in upholding democratic accountability, it is also an opportunity for incivility to creep into political discourse. This is fueled by the intense attention the media and public pay to these sessions. Certain scholars have even gone as far as to compare the Prime Minister's Question Time in the British House of Commons to a "gladiatorial contest" (Waddle, Bull, and Böhnke 2019, p. 63).

This short article describes the current state and recent evolution of incivility in Canadian parliamentary institutions. Our focus is directed towards the behavior of members of Parliament (MPs) in QP. With cutting-edge, open-source machine learning models, we measure the incidence of uncivil behavior in all QPs from April 2006 to June 2021. Our findings reveal a substantial incidence of incivility in QP interventions. Through a multivariate regression analysis, we identify factors correlated with the incidence of uncivil behavior. We show that variations in political incivility over time and between MPs from different parties exhibit a significant correlation with the electoral timetable, the parties' institutional roles, the balance of power, and the language in which interventions are delivered. There is also lingering partisan heterogeneity, with members of the Conservative Party having a higher inclination for incivility.

Several studies have investigated political incivility and the factors contributing to it, primarily in online spaces but also in formal institutions such as deliberative assemblies (e.g., Dodd and Schraufnagel 2013; Waddle, Bull, and Böhnke 2019; Walter 2021). Yet, there is a shortage of scholarly research using computational text analysis techniques to study the incidence and evolution of incivility in Canadian parliamentary institutions. We are familiar with a single immediately relevant paper that studied one year's worth of data and employed manual labeling to measure incivility (Campbell 2013). Still, incivility in politics, generally, and in Canadian politics, more specifically, constitutes an important issue. Incivility can damage the Parliament's reputation and undermine citizens' trust in their elected representatives. Also, uninhibited rudeness can lead to political gridlock and weaken accountability by diverting attention from substantive debates.[1] In all cases, citizens express considerable discontent with the current state of QP, a feeling that can be ascribed, at least partially, to incivility. A survey from December 2017 found that 65% of participants agreed that QP is a "politically charged theater that should be improved" (CTV News and Nanos Research

1. There is a dispute in the literature on the effect of incivility on political engagement and participation. On the one hand, incivility might increase political engagement by drawing additional attention to political debates and offering citizens an "information-laden political spectacle" (Salmond 2014). On the other hand, citizens generally have an intense aversion to incivility. Therefore, a high prevalence of such behavior might lead people to lose interest in politics. The empirical evidence is mixed, suggesting that both occur in practice and probably offset each other (Van't Riet and Van Stekelenburg 2021).

2018). Furthermore, only 24% of survey respondents believed that QP was, in its current state, an effective way of holding the government accountable.

Data and Measurement

We collected the transcripts of every QP held in the Canadian House of Commons from the 39th to the 43rd legislature. This period spans from the election held on January 23, 2006, to the election held on September 20, 2021. Our dataset is derived from the official English transcripts published by the Clerk of the House of Commons, which include professionally translated versions of the interventions delivered in French.

The House of Commons is the lower chamber of the Parliament of Canada, where the Prime Minister and federal Cabinet ministers sit. A significant event in Canadian parliamentary and political life is QP, which takes place for 45 minutes each day the House is in session and garners close attention from the media and public. During this segment, MPs can seek information on current issues and hold the government accountable for its decisions. It is one of the rare moments in Parliament during which the opposition, rather than the government, controls the topics discussed.

QP begins with the Speaker granting the Leader of the Opposition the opportunity to ask questions, usually directed at the PM. Subsequent questions are asked in a predetermined rotation based on the parties' representation in the House. While backbench members of the governing party and independent MPs also have the chance to ask questions, they are recognized at a much lower frequency than members of officially recognized opposition parties. The party caucuses and their whips manage participation in QP. They determine which members from their respective parties will participate and provide the Speaker's Office with a list of names and a suggested recognition order. The government decides which minister will respond to a question, and any minister may answer a question directed at one of them.

Our analysis focuses on the interventions from members of Canada's three main national political parties: the right-wing Conservative Party (CPC), the centrist Liberal Party (LPC), and the left-wing New Democratic Party (NDP). These parties are the only ones to have maintained official party status throughout our entire period of interest.[2] The CPC held power from January 2006 until October 2015 and has since served as the official opposition. The LPC held the position of the official opposition from January 2006 to May 2011, transitioned to third-party status from May 2011 to October 2015, and has been in government since then. The NDP maintained third-party standing for most of our period of interest, except from May 2011 to October 2015, when it formed the official opposition.

2. Our analysis excludes interventions from Bloc Québécois (BQ) members, a regionalist party. From January 2006 to May 2011 and again from October 2019 onwards, BQ has held third-party status. However, since it did not maintain official party status throughout our period of interest, our data on the interventions from members of BQ is scarce, if not virtually inexistent, from May 2011 to October 2019. Therefore, we excluded this party from our analysis.

Table 1: Definition of the Emotional Attributes

Identity Attack	Negative or hateful comments targeting someone because of their identity
Insult	Insulting, inflammatory, or negative comment towards a person or a group of people
Profanity	Swear words, curse words, or other obscene or profane language
Threat	Intention to inflict pain, injury, or violence against an individual or group
Toxicity	Rude, disrespectful, or unreasonable comment that is likely to make people leave a discussion

To measure the underlying features of text data, specifically the incidence of uncivil behavior, we employ the Perspective API (Rieder and Skop 2021). This tool was developed by Jigsaw and Google's Counter-Abuse Technology Team to aid online platforms and publishers in their efforts to moderate online conversations. It has also been used in academic research, exemplified by its application to social media posts directed at British MPs (Agarwal et al. 2021). Hosted in the API are machine learning models designed to predict "the perceived impact a comment may have on a conversation." For each intervention, the API returns the estimated probability that it is perceived to exhibit some "emotional attributes," such as identity attack, insult, profanity, threat, and toxicity. These attributes represent different forms of incivility, and their definitions are presented in Table 1.

The Perspective API's models were trained on millions of comments from diverse sources, such as online platforms like Wikipedia and the New York Times website. Training documents were assessed by a panel of three to ten human raters to determine the incidence of the attributes defined above. These evaluations were aggregated by calculating the ratio of raters who identified a comment as manifesting each emotional attribute. The models were then trained to replicate this ratio. Depending on the attribute, the models exhibit an area under the receiver operating characteristic curve (AUC) ranging from 0.97 to 0.99.[3]

The Perspective API's pre-trained models present many advantages over human annotation and ad-hoc supervised learning. Foremost among these is cost efficiency. We could assess the incidence of incivility across all documents in our data set with minimal cost in slightly over a day. During the training process, the models were exposed to a more extensive corpus of documents than we could manually label for our analysis, encompassing various sources and contexts, including political discussions. While they may not provide domain-specific measures of incivility, the models' extensive training data set and user base provide confidence in the reliability of the resulting measurements.

The primary drawback of the Perspective API is that it was designed for online discussions rather than discussions in deliberative assemblies. Therefore, one may worry that the measures obtained from these models are unsuitable for

3. The AUC is a widely used performance metric in machine learning. It approximates the probability that a model attributes a higher estimated probability to a random "positive" observation, that is, one that exhibits at least a certain level of uncivil behavior, than a random "negative" observation.

our purpose.[4] To evaluate these concerns, we carried out an experiment to evaluate the accuracy of the Perspective API's toxicity measure in our corpus. Its methodology and results are contained in the Online Appendix. In short, our experiment reveals that the scores are generally consistent with the judgment of experts with specific knowledge of the context in which the interventions were generated.

For each document, we estimated the probability that it exhibits each of the five emotional attributes measured by the Perspective API. We subsequently averaged these probabilities across all interventions emanating from members of a particular party pronounced during a given week. As a result, we have five series describing the weekly evolution of the incidence of each form of uncivil behavior in QP interventions by party. Figure 1 illustrates their rolling average over the last four weeks with available data. Each vertical line represents the date a general election occurred. The figure reveals that MPs routinely engage in political incivility, with a notable incidence of toxicity and insults.

Statistical Methodology

Our analysis aims to identify features correlated with the incidence and evolution of incivility in QP interventions. We formulate three hypotheses:

(i) Incivility rises as the next general election approaches;

(ii) Members of the governing party engage in less uncivil behavior than members of opposition parties; and

(iii) The incidence of incivility is higher and increases more quickly as the next general election approaches when there is a minority government.

In addition, we wish to assess the correlation between the language in which interventions are delivered and any lingering partisan variations in the incidence of incivility.

Before delving into the statistical methodology, we explain the rationale behind our hypotheses. As a preamble, we note that all three phenomena we hypothesize are, to some extent, observable in Figure 1. First, it is reasonable to expect political hostilities to be more intense as we approach elections. This stems from the fact that incivility and negativity can yield significant returns but simultaneously carry considerable risks. MPs are more inclined to engage in such behavior when the potential returns outweigh the risks. These returns manifest in several ways, including increased media coverage, a higher contrast between themselves and their opponents, or increased support from their party's supporter base. Given that rationally inattentive voters pay more attention to politics as elections draw near, these returns are amplified and better reflected in parties' electoral outcomes when elections are close. This should lead to a systematic increase in incivility in political discourse as the following election approaches.

4. In machine learning, this problem is known as domain shift (Amodei et al. 2016).

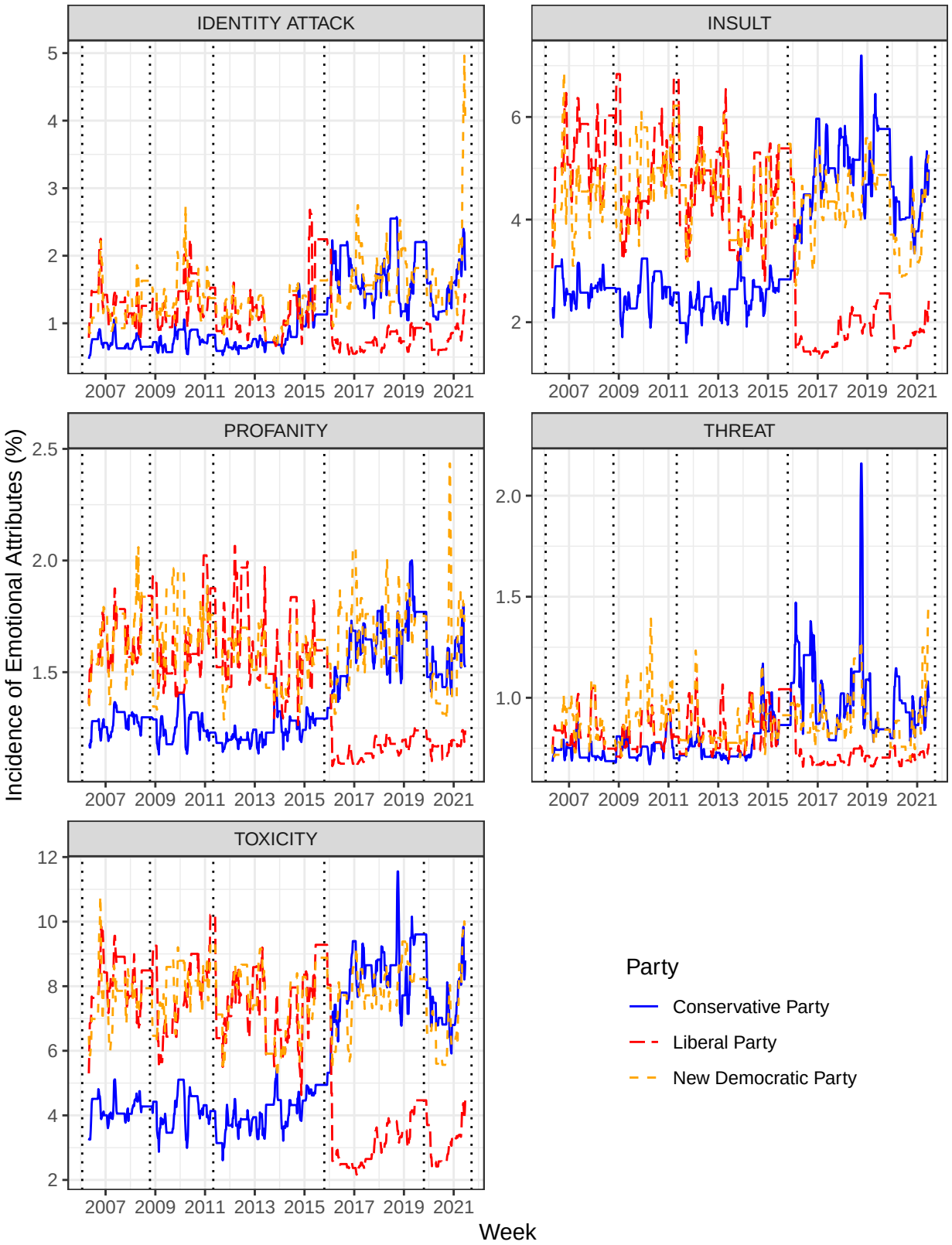

Figure 1: Weekly Evolution of the Incidence of Emotional Attributes in QP Interventions by Party

Another way to justify the correlation between incivility and elections is to note that, at the beginning of a legislature, MPs anticipate having to interact with their colleagues for several years. Accordingly, if they engage in incivility, they are likely to bear a higher personal cost, which will manifest in enduring emotional stress and strained social relationships, among other things. As elections draw near and the expected duration of their interactions declines, this cost diminishes, making MPs more inclined to engage in incivility. Building on this idea, we argue that the government has higher incentives to create a collaborative and harmonious environment as it hopes to achieve its legislative objectives. Not only is the opposition less invested in fostering collaboration, but it may even find it profitable to actively obstruct proceedings and generate political gridlock to impede the government's legislative agenda. Thus, we expect opposition members to display more incivility than their government counterparts.

Lastly, when there is a minority government, we anticipate a systematically higher level of political hostility. One of the driving factors behind this is that opposition parties have strong incentives to create political gridlock. Collectively, they can amend and potentially block the government's proposed policies and initiatives. This contrasts with a majority government that can push through its proposals. Even if opposition parties do not actively engage in obstruction, MPs anticipate working together for a shorter length when a minority government is in power, as legislative terms with a minority government tend to be briefer than those with a majority government.[5] Taken together, these factors should lead to heightened levels of incivility, which also tend to rise more rapidly as the upcoming election draws nearer.

We now turn to statistical methodology. Formally, we estimate the following regression model:

$$\log\left(\frac{y_{i\ell t}}{1-y_{i\ell t}}\right) = \alpha_i + \left(\beta + \gamma \times \text{Minority}_t\right) \times T_t + \zeta \times \text{Government}_{it} + \eta \times \text{Minority}_t + \theta \times \text{French}_\ell + \varepsilon_{i\ell t}.$$

In this equation, the variable $y_{i\ell t}$ represents the estimated probability that an intervention by members of party i in language ℓ during period t exhibits a given emotional attribute, α_i a party-specific intercept, T_t the number of periods left until the next general election, Government_{it} a variable indicating whether party i held power in period t, Minority_t a variable indicating the absence of an absolute majority for the government in the House of Commons, French_ℓ a variable indicator whether interventions were in French, and $\varepsilon_{i\ell t}$ an error term. Following best practices in the time series analysis of compositional data, we model the logarithm of odds rather than the raw probability of interventions

5. In May 2007, the *Elections Act* was amended to enact fixed-term elections. From then on, general elections happen on the third Monday of October in the fourth calendar year following the last election. Although this does not prohibit the Governor General from dissolving the Parliament before this deadline, it brings predictability as majority governments tend to abide by it. In contrast, minority governments are vulnerable to losing the confidence of the House at any moment. Even if they retain it, minority governments have stronger incentives to call early elections to secure a majority.

Table 2: Regression Results

	(1) IDENTITY ATTACK	(2) INSULT	(3) PROFANITY	(4) THREAT	(5) TOXICITY
Time Until Next Election	−0.002***	−0.001***	−0.0003***	−0.0002	−0.001***
	(0.0003)	(0.0002)	(0.0001)	(0.0001)	(0.0002)
Time Until Next Election × Minority	−0.002***	−0.001**	−0.001***	−0.0004	−0.001***
	(0.001)	(0.0005)	(0.0002)	(0.0003)	(0.0004)
Government	−0.613***	−0.878***	−0.280***	−0.188***	−0.891***
	(0.033)	(0.025)	(0.011)	(0.015)	(0.022)
Minority	−0.016	0.007	0.015	−0.014	−0.001
	(0.055)	(0.041)	(0.018)	(0.025)	(0.036)
Language: French	−0.277***	−0.215***	−0.110***	−0.114***	−0.268***
	(0.014)	(0.014)	(0.008)	(0.007)	(0.011)
Party: LPC	−0.151***	−0.164***	−0.039***	−0.103***	−0.165***
	(0.033)	(0.025)	(0.011)	(0.015)	(0.022)
Party: NDP	−0.080**	−0.200***	−0.022*	−0.069***	−0.147***
	(0.039)	(0.029)	(0.013)	(0.017)	(0.025)
Constant	−3.981***	−2.752***	−4.045***	−4.610***	−2.172***
	(0.048)	(0.036)	(0.016)	(0.021)	(0.031)
Observations	2,130	2,130	2,130	2,130	2,130
R^2	0.302	0.458	0.345	0.179	0.569
Adjusted R^2	0.300	0.456	0.344	0.177	0.568
Durbin–Watson Statistic	2.112	2.073	2.006	2.061	2.109

Note: *p<0.1; **p<0.05; ***p<0.01

exhibiting a specific type of uncivil behavior (Barberá et al. 2019). We use weeks as the temporal unit.

Our regression model describes a dynamic process. The absence of the lagged value of the dependent variable in our model makes it vulnerable to serial correlation, rendering the standard estimates inconsistent and invalidating the associated inference. To avoid this, we employ the Cochrane–Orcutt estimation procedure (Box-Steffensmeier et al. 2014, p. 77).

Results

Table 2 contains the estimates of our regression model for the Perspective API's five emotional attributes. We begin our discussion of these results by noting that our models explain a sizeable share of the variations in the average incidence of incivility over time and between parties, especially insults and toxicity, for which our model explains 45.8% and 56.9% of variations over time and across parties and languages, respectively. We emphasize five substantive results.

Result 1 *All else equal, the incidence of incivility in QP interventions increases as the following general election approaches.*

The odds that an intervention exhibits one of the Perspective API's emotional attributes increase each week until the next general election by 0.002 to 0.17%. The estimates for all attributes, except threats, are statistically significant at the 99% confidence level.

Result 2 *All else equal, the incidence of incivility in QP interventions increases more rapidly as the next general election approaches when a minority government is in office.*

In the context of a minority government, the odds that a QP intervention exhibits one of the emotional attributes increase 0.004 to 0.19% more rapidly each week until the next general election. Estimates are statistically significant at a 95% confidence level, except for threats.

Result 3 *All else equal, the incidence of incivility is higher in QP interventions by opposition members than in those made by government members.*

Interventions made by government members have 28 to 89.1% lower odds of exhibiting one of the emotional attributes than those made by opposition members. For all attributes, estimates are statistically significant at the 99% confidence level. These findings strongly support our hypotheses.

Result 4 *All else equal, the incidence of incivility is lower in QP interventions made in French than in those made in English.*

The odds that QP interventions exhibit one of the emotional attributes are 11 to 27.7% lower in French than in English. These estimates are statistically significant at the 99% confidence level. We lack a definitive explanation for this finding. We suspect that MPs' general lack of proficiency in French might play a role. For many who speak French, it is their second or third language. Because they are less comfortable speaking in French, they may tend to exhibit less incivility.

Result 5 *All else equal, the incidence of incivility is higher in QP interventions from members of the Conservative Party than members of other parties.*

This implies a significant partisan heterogeneity in the rhetoric employed by MPs, which persists when we account for the institutional roles of parties and the balance of power. It occurs along the divide between the Conservative Party and the two progressive parties. The odds that an intervention by a member of the Liberal Party exhibits one of the emotional attributes are 3.9 to 16.5% lower than those of interventions by members of the CPC. These estimates are statistically significant at the 99% confidence level for all attributes. Analogously, the odds that an intervention by

a member of the New Democratic Party exhibits one of the emotional attributes are 2.2 to 20% lower than those by Conservative members. These estimates are significant at the 95% confidence level, except for profanities.

Conclusion

In this article, we have estimated the incidence of incivility in the proceedings of the Canadian House of Commons, precisely in the daily QP, between April 2006 and June 2021 with state-of-the-art, open-source machine learning models. We subsequently identified through a multivariate regression analysis features correlated with variations in the incidence of incivility over time and across members of different parties. Our work offers a novel and rigorous portrait of incivility in Canadian parliamentary institutions, filling a gap in the literature. With the appropriate adjustments and nuances, this work can be transposed to regimes with institutions like QP and multi-party systems.

The Online Appendix contains robustness checks, including estimation results of regression models in which interventions are used as the unit of analysis and interventions by members of BQ are included in our corpus. These robustness checks support our findings. Also, we leverage the fact that we have professionally translated transcripts of all the interventions in our dataset to examine whether our results persist when using models designed for analyzing French documents. This exercise presents significant interest as languages other than English remain understudied in computational text analysis (Baden et al. 2022). Furthermore, the impact on substantive conclusions of the language used to analyze text data remains poorly understood.

Further work is needed to draw a comprehensive portrait of incivility in Canadian politics, particularly outside Parliament and during election campaigns. Surprisingly, our findings do not support the notion that Canadian political discourse has grown more uncivil over the past fifteen years. However, it is worth noting that the beginning of our period of interest coincides with the inception of the current Canadian party system, marked by the creation of the contemporary CPC and the subsequent election of Stephen Harper as PM. This transitional period may have ushered in structural changes in the nature and evolution of incivility. To assess whether this is the case, we would need to extend our analysis for a significant period before April 2006. Finally, our understanding of the causal mechanisms contributing to political incivility remains limited. We advocate for exploring the potential of using natural experiments to evaluate how specific events and variables influence the incidence of incivility in QP.

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