A Gladiatorial Arena: Incivility in the Canadian House of Commons

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Abstract

In parliamentary regimes, legislatures often set aside time for lawmakers to question government ministers. While these institutions can serve essential functions for democratic accountability, they also present an occasion for incivility to creep into political discourse. We wish to assess the incidence of uncivil behavior in these institutions and identify some correlated factors. We focus our analysis on the Canadian House of Commons. We measure the incidence and evolution of incivility in all Question Periods held between April 2006 and June 2021 with state-of-the-art, open-source machine learning models. We find significant evidence of uncivil behavior, especially insults and toxicity. We show through a multivariate regression analysis 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 broader political context, and the language in which interventions are delivered.

N MANY parliamentary regimes, the legislative branch sets aside regular periods during which its members can directly question members of the executive. Broadly, the purpose of this "Question Period" (QP) is to offer lawmakers, especially those from opposition parties, a platform to: (i) hold the government accountable, (ii) seek information on current events, and (iii) highlight differences in priorities and policy positions between the various parties. While QP often plays a critical role in upholding democratic accountability, it also presents an opportunity for incivility to creep into political discourse. This is generally fueled by the intense attention the media and public pay to these sessions. Certain scholars have even gone so 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).

The responsibility of upholding decorum during QP falls upon the presiding officer, who must ensure that the proceedings maintain a civil tone. This task can prove challenging, as evidenced by a recent incident in the Canadian House of Commons. On February 16, 2022, Melissa Lantsman, a Conservative Member of Parliament (MP) representing Thornhill and serving as the Official Opposition's Shadow Minister of Transport, strongly criticized the government's emergency declaration in response to the "Freedom Convoy" protests. In response, Prime Minister (PM) Justin Trudeau remarked:

"Mr. Speaker, Conservative Party members can stand with people who wave swastikas. They can stand with people who wave the Confederate flag. We will choose to stand with Canadians who deserve to be able to get to their jobs, to be able to get their lives back. These illegal protests need to stop, and they will."

Without delay, the Speaker of the House interrupted the exchange, remarking: "I just want to remind the honorable members, including the right honorable PM, to use words that are not inflammatory in the House; and that is for both sides."

Several studies have explored political incivility and the factors that contribute 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 inquiries using contemporary text analysis techniques to examine 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, specifically, constitutes a momentous issue. Incivility can damage the Parliament's reputation and undermine citizens' trust in their elected representatives. Also, unbridled rudeness can lead to political grid-lock and weaken accountability by diverting attention from substantive debates. In all cases, citizens express considerable discontent with the current state of QP, a feeling that can be ascribed, at least partially, to political 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 2018). Furthermore, only 24% of survey respondents believed that QP in its present state was an

I. We want to acknowledge the existence of 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. Hence, 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 largely offset each other (Van't Riet and Van Stekelenburg 2021).

effective way of holding the government accountable.

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

Data and Measurement

We gathered the transcripts of every QP conducted 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 other federal Cabinet ministers hold their seats. A significant event in Canadian political life is QP, which lasts 45 minutes each day the House is in session and garners close attention from the media and public. This segment represents a crucial opportunity for MPs to seek information on current issues and hold the government accountable for its actions. It is one of the rare instances in Parliament where the opposition, rather than the government, exerts control over the topics discussed.

QP typically begins with the Speaker granting the Leader of the Opposition the opportunity to ask questions, often directed at the PM. Subsequent questions are then posed 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, their participation is considerably less frequent 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 partake and provide the Speaker's Office with a list of names and a suggested order of recognition. 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 by members of Canada's three main national political parties: the right-wing Conservative Party (CPC), the center-leaning 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

^{2.} Admittedly, our analysis excludes interventions from members of the Bloc Québécois (BQ), 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				

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. Lastly, 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.

To reduce the dimensionality of text data and assess their underlying features, particularly the incidence of uncivil behavior, we employ the Perspective API (Rieder and Skop 2021). This tool was created 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 document, 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 found in Table 1.

The Perspective API's models were trained on millions of comments from diverse sources, encompassing 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 individual evaluations were subsequently processed 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 pre-trained models in the Perspective API offer several advantages compared to human annotation and ad-hoc supervised learning. Foremost among these is cost efficiency. We managed to assess the occurrence of toxic behavior across all documents in our data set with minimal expenses in slightly over a day. In 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

^{3.} The AUC is a widely used performance metric in Machine Learning. It approximates the likelihood of a model attributing a higher estimated probability to a random "positive" observation, that is, one that exhibits a certain level of uncivil behavior, than a random "negative" observation.

training data set and user base provide confidence in the reliability of the resulting measurements.

As previously hinted, the primary drawback of the Perspective API lies in the fact that it was designed for online discussions rather than discussions in deliberative assemblies. Accordingly, one may worry that the measures obtained from these models are unsuitable for our purpose.⁴ To address these concerns, we carried out an experiment to evaluate the accuracy of the Perspective API's toxicity measure in our corpus. This experiment's 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 in our dataset, we computed the estimated probability that it exhibits each of the five forms of uncivil behavior measured by the Perspective API. We subsequently averaged these probabilities across all interventions emanating from members of a particular party uttered within a given week. As a result, we have five series portraying the weekly evolution of the prevalence of each form of uncivil behavior in QP interventions by party. Figure 1 illustrates the rolling average of these series over the last four weeks with available data. Each vertical line in the figure represents a general election. The figure reveals that MPs routinely engage in political incivility, with a notable prominence of toxicity and insults, although other forms of uncivil behavior are also observed.

Statistical Methodology

Our analysis aims to identify factors correlated with the incidence and evolution of incivility in QP interventions. In this regard, we formulate three hypotheses:

- (i) We expect incivility to rise as the upcoming general election approaches;
- (ii) We expect members of the government to engage in less uncivil behavior than members of opposition parties; and
- (iii) We expect incivility to be higher and to increase more quickly as the upcoming general election approaches when there is a minority government.

In addition to testing these hypotheses, we wish to evaluate the correlation between the language employed for delivering interventions and any lingering partisan variations in the prevalence of incivility.

Before delving into the statistical methodology behind our analysis, let us explain the rationale behind our hypotheses. As a preamble, we note that all three phenomena we hypothesize are, to a meaningful extent, observable in Figure 1. Firstly, it is natural to expect political hostilities to be more intense as we approach elections. This arises from the fact that incivility and negativity can yield significant returns but also carry significant risks for those who engage in them. MPs are more inclined to engage in such behavior when the potential returns outweigh the risks. These returns manifest in several ways, including

^{4.} In the fields of Artificial Intelligence and Machine Learning, this problem is known as domain shift (Amodei et al. 2016).

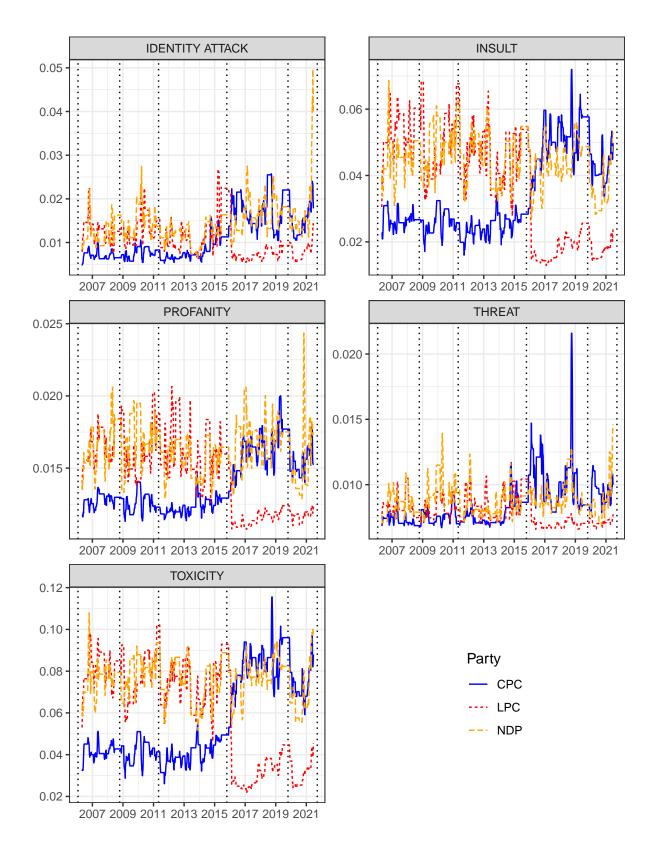


Figure 1: Weekly Evolution of the Emotional Attributes of QP Interventions by Party

increased media coverage, a higher contrast between themselves and their rivals, 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 or, at the very least, better reflected in parties' electoral outcomes when elections are close. This should lead to a systematic increase in incivility in political discourse as elections approach.

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 continuously with their colleagues for several years. Hence, if they engage in incivility, they are likely to bear a higher personal cost, which may manifest in enduring heightened emotional stress and strained social relationships, among other things. As elections draw nearer and the expected duration of their interactions declines, this cost diminishes, rendering 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 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, in the context of 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 situations where a majority government can push through its proposals. Even if opposition parties do not actively engage in obstruction, MPs anticipate working together for a shorter duration when a minority government is in power, as legislative terms with a minority government tend to be briefer than those with a majority government. Taken together, these factors lead to heightened levels of incivility, which also tend to rise more rapidly as the upcoming election draws nearer.

Having theoretically justified our hypotheses, we now return to our statistical methodology. Formally, we estimate the following regression model:

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

Here, the variable $y_{i\ell t}$ represents the estimated probability that an intervention emanating from a member of party i pronounced in language ℓ during period t is perceived to exhibit a given emotional attribute, α_i a party-specific intercept, T_t the number of periods remaining until the next general election, Government i_t a variable indicating whether party i held power in period t, Minority i a variable indicating the absence of an absolute majority for the government in the House of Commons, French i a variable indicator whether interventions were delivered in French, and i an error term. Following best practices in the time series analysis of compositional data, we opt to model the logarithm of odds rather than the raw

^{5.} In May 2007, the *Elections Act* was amended to implement 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 disposition 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)	(2)	(3)	(4)	(5)
	IDENTITY ATTACK	INSULT	PROFANITY	THREAT	TOXICITY
Time Until Next Election	-o.oo2***	-0.001***	-0.0003***	-0.0002	-0.001***
	(0.0003)	(0.0002)	(1000.0)	(1000.0)	(0.0002)
Time Until Next Election	-0.002***	-o.ooi**	-0.001***	-0.0004	-0.001***
\times Minority	(100.00)	(0.0005)	(0.0002)	(0.0003)	(0.0004)
Government	-o.613***	-o.878***	-o.28o***	-o.188***	-o.891***
	(0.033)	(0.025)	(0.011)	(0.015)	(0.022)
Minority	-o.oɪ6	0.007	0.015	-o.o14	-0.001
	(0.055)	(0.041)	(0.018)	(0.025)	(0.036)
Language: French	-o.277***	-0.215***	-o.110***	-o.114***	-o.268***
	(0.014)	(0.014)	(0.008)	(0.007)	(0.011)
Party: LPC	-o.151***	-o.164***	-o.o39***	-0.103***	-o.165***
	(0.033)	(0.025)	(0.011)	(0.015)	(0.022)
Party: NDP	-o.o8o**	-0.200***	-0.022*	-o.o69***	-o.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.II2	2.073	2.006	2.061	2.109

Note:

*p<o.i; **p<o.o5; ***p<o.o1

probability of interventions displaying a specific type of uncivil behavior (Barberá et al. 2019). Our statistical analysis employs weeks as the temporal unit.

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

Results

Table 2 contains the results of the estimation of our regression model for the five emotional attributes measured by the Perspective API. 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 for the most prevalent forms of uncivil behavior, that is, insults and toxicity, for which our model explains 45.8% and 56.9% of variations, respectively. We retain 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 is perceived to display one of the emotional attributes measured by the Perspective API increase each week until the next general election by 0.002 to 0.17%. The coefficients 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 quickly as the next general election approaches when a minority government is in place.

In the context of a minority government, the odds that an intervention is perceived to display one of the Perspective API's emotional attributes increase each week until the next general election by 0.004 to 0.19% more quickly relative to when a majority government is in power. Except for the coefficient for threats, these coefficients display statistical significance at the 95% confidence level.

Result 3. All else equal, the incidence of incivility in QP interventions is higher in interventions emanating from opposition members relative to those from members of the government.

The odds that an intervention emanating from a member of the party in power is perceived to exhibit one of the forms of uncivil behavior quantified by the Perspective API are between 28 and 89.1% lower than those of an intervention emanating from an opposition party. For all attributes, coefficients are statistically significant at the 99% confidence level.

Overall, the initial three findings strongly support the hypotheses we have put forth.

Result 4. All else equal, incivility's incidence is lower in QP interventions pronounced in French than those pronounced in English.

For interventions delivered in French instead of English, the odds that they exhibit uncivil behavior are II to 27.7% lower. These coefficients are statistically significant at the 99% confidence level. We lack a theoretical explanation for this finding. However, we suspect it is partly related to the fact that most MPs are not well-versed in Molière's language. Also, for those familiar with French, it typically is their second or third language. Perhaps communicating uncivilly in a language one is not at ease with can be difficult, leading those MPs to engage on average in 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 result reveals significant partisan heterogeneity in the rhetoric employed by MPs. This heterogeneity persists when we account for the institutional roles of parties and the broader political context. It occurs essentially along the divide between

the Conservative Party and the two progressive parties. The odds that a QP intervention by a member of the Liberal Party is perceived to exhibit one of the five forms of incivility measured by the Perspective API are 3.9 to 16.5% lower than those of an intervention by a member of the CPC. The coefficients 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 is perceived to be uncivil are 2.2 to 20% lower than those from a Conservative member. The coefficients are significant at the 95% confidence level except for profanities.

Conclusion

In this article, we have measured 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 factors correlated with variations in incidence over time and across members of different parties. Our work offers a novel, rigorous, and valuable portrait of political incivility in Canadian parliamentary institutions, filling a substantial gap in the literature. With the appropriate adjustments and nuances, we are confident this work can be transposed to institutional contexts with procedures like QP and multi-party systems.

The Online Appendix contains some robustness checks, including results of the estimation of regression models identical to the ones presented above but where interventions are taken as the unit of analysis and results of a replication of our study with interventions by members of BQ included in our corpus. These robustness checks generally support our substantive 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 contemporary text analysis (Baden et al. 2022). Furthermore, the impact on substantive conclusions of the language used to analyze text data remains poorly understood.

In conclusion, further work is needed to draw a comprehensive portrait of incivility in Canadian politics, particularly outside Parliament and during election campaigns. Perhaps 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 CPC and the subsequent election of Stephen Harper as PM. This transitional period may have ushered in structural changes in the nature and dynamics of incivility. To assess whether this is the case, we would need to extend our analysis for a significant period before April 2006. Furthermore, our understanding of the causal mechanisms contributing to incivility remains limited. In this regard, we advocate for exploring the potential of leveraging natural experiments to assess how specific events and variables affect the incidence of uncivil behavior in QP.

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