

1 **Quantifying Media Representation Dynamics Across 25 Years of News Reporting**  
2 **on Policing-related Deaths**

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10 We perform the largest computational analysis of Canadian newsmedia narratives surrounding police-involved deaths, spanning 4,000  
11 articles from 2000 to the present. We develop a novel computational model, PERSPECTIVEGAP, grounded in prior sociological literature  
12 on the criminal punishment bureaucracy. We find that bureaucrats affiliated with the criminal punishment system have historically  
13 been granted a much higher degree of media representation, compared to entities that are more likely to be critical of the punishment  
14 bureaucracy; for example community members, family attorneys, or civil liberties advocacy groups. Quantitatively, we discover that  
15 33% of the passages in the article article are granted to perspectives of punishment bureaucrats, as assessed by the PERSPECTIVEGAP  
16 model, compared to just 12% for other members of the public. Our analysis thus aligns with the findings from previous media analyses  
17 that the newsmaking process is highly reliant on punishment bureaucrats in reporting on news related to crime [7, 25]. Our analysis  
18 also demonstrates that this dynamic has become more balanced in recent years, with increased representation of civilian-based  
19 accounts from 2020-2023, reaching 30% in 2023 – 19% higher than their historical rate of coverage.<sup>1</sup>

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21 CCS Concepts: • Information systems → Digital libraries and archives;

22 Additional Key Words and Phrases: news articles, computational social science, epistemic authority

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29 **1 Introduction**

30 News media organizations play an important role in the process of public opinion formation [8, 11, 13, 17, 22, 33]. How  
31 exactly newsmedia institutions should go about serving the public interest has been widely debated. Lippmann [22]  
32 famously argued for a more *technocratic* form of press reporting, wherein institutional actors are elicited for their expert  
33 opinions, that are then relayed through the press. Conversely, Rosen [33] and Dewey and Rogers [11], among many  
34 others, critiqued at great lengths this format of newsmaking that treats the public as passive consumers of information.  
35 Instead, these scholars argued for a more *co-productive* process [27] that engages the public in conversation with  
36 institutional actors.

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38 <sup>1</sup>Project repository: <https://anonymous.4open.science/r/media-rep-volume-7B00>

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# THE GLOBE AND MAIL

## N.S. RCMP call off disciplinary hearing after fatal shooting

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... RCMP spokeswoman **Briggit Leger** said Thursday. (Para. 3)

“It was a gap in our process”, said **Ms. Leger...** (Para. 4)

“This is unbelievable” said **Brian Arbuthnot, director of operations for the Wagmatcook First Nation’s band council.** (Para. 7)

**Ms. Leger** said the RCMP still plans to follow up on recommendations from the Halifax police report... (Para. 23)

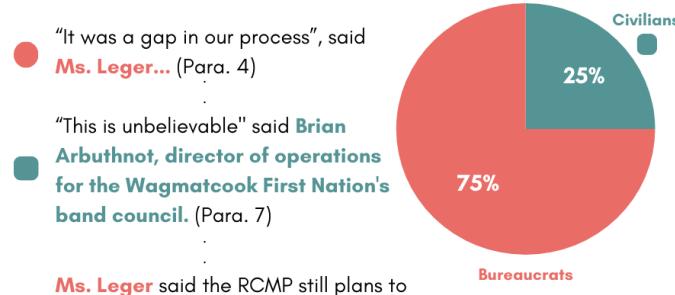
Fig. 1. We measure the volume of perspectives from punishment bureaucrats in reporting on police-involved deaths, in comparison to civilian-based perspectives.

In this work we look at how news organizations have fared in balancing between technocratic and more co-productive forms of news production. We consider a context where institutional actors are known to differ considerably from civilians [35]: deaths associated with policing, whether during police custody or a deadly force incident. Specifically, we ask: have news organizations taken a more technocratic view in articulating such incidents [22], appealing to the views of policing bureaucrats to interpret the events? Or have they included civilian testimony in their reporting? How these news media narratives are constructed is important, as most people do not have regular confrontational interactions with police, and thus news contributes a major way in which public opinion is formed surrounding such interactions [7, 18].

Answering these questions requires us to understand the various organizations that are involved in making up the institution of criminal punishment system, as bureaucrats from these organizations are often consulted in reporting on police-involved deaths. Prior work has largely focused on the media representation of police officers [1, 10, 42]. However, decades of punishment sociology research informs us that police officers are only one part of a much broader coalition of organizations that make up the criminal punishment bureaucracy, including oversight agencies, police unions, and elected officials, among others. Rather than the simplistic bifurcation of police and victims, we consider a broader superset of *bureaucrats* and *civilians* (Section 3), measuring the degree that their points of view are represented in news narratives (Figure 1).

We present a computational framework for accurately measuring this perspective weighting, grounded in contextualized punishment sociology research (Sections 2 and 3). We develop the PERSPECTIVEGAP model, a computational

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105 pipeline relying only on language models that can run on consumer-grade laptops, yet can accurately identify points of  
106 view (from bureaucrats and civilians) across long chains of passages. Despite training only on a modest amount of  
107 carefully annotated data, we find that our model performs as well as a prompt-tuned GPT-4o (Section 4).

108 We then apply PERSPECTIVEGAP at a larger scale to over 4,000 articles from Canadian news media. We find that news  
109 reporting on police-involved deaths over the last 25 years has been highly technocratic, with bureaucrat testimonies  
110 represented at about three times the rate of civilian-based accounts. From 2020-2023 however, we observed a dynamic  
111 increase in coverage of civilian-based accounts. We also observe significant variation across outlets in the rates of  
112 civilian-centric coverage.

## 115 2 Related Work

116 Our work is about measuring epistemic authority [15]: how often do bureaucrats involved in instituting state punishment  
117 get represented in reporting on police-involved deaths? More specifically, we aim to measure the volume of points of view  
118 from such bureaucrats reported in these news stories, relative to the volume of civilian perspectives. Naturally, actors  
119 whose perspectives are represented more often have greater epistemic authority in setting the bounds of reasonable  
120 discourse [18].

121 Prior computational works have largely been interested in questions of framing [13], rather than representational  
122 volume. Arora et al. [1] use the generic media frames corpus [3], to label images and text in a large news corpus. They  
123 find that news stories with an image that is evocative of crime also quote police officers frequently. Crowl et al. [10]  
124 study how readers across the United States perceive sentences in local news stories about policing, namely whether  
125 they understand the sentence to portray the police in a positive or negative light.

126 Ziems and Yang [42] look at a number of different frames on news reports of police-involved deaths in the United  
127 States, related to whether the victim in the case was for example reported as fleeing or having a record. They also  
128 measured the proportion of official sources and unofficial ones who are quoted in the news story. This is similar to our  
129 aim. However, they use a rudimentary definition of what constitutes official sources, only looking at police officers, and  
130 treating other entities, such as media relations officers (Figure 1) as unofficial sources. This approach simultaneously  
131 significantly underestimates the volume of perspectives that can be attributed to bureaucrats, and overestimates the  
132 perspectives attributable to unofficial (or civilian) sources. There is thus a tendency among prior computational works  
133 to focus only on a proper subset of institutional actors, specifically police officers; see also Field et al. [14], Rho et al.  
134 [32, *inter alia*] for other examples.

135 Sutton [35] comes closer to addressing the question of representational volume, using a definition of “official sources”  
136 that includes not only police officers but also media relations officers and police oversight agency officers. They then  
137 counted the number of articles that contain the point of view of an official source or an unofficial one, for a corpus  
138 with 1,364 Canadian news articles. However, their approach does not distinguish between an article that quotes a  
139 spokesperson once, in comparison to an article that quotes them several times. We aim to precisely measure variation  
140 at the level of individual articles (Figure 1).

## 141 3 Entities in Canadian News Articles

142 In order to measure the degree of technocratic reporting in newsreporting on deadly force incidents, we need to  
143 first characterize the relevant experts and institutions. We draw on Karakatsanis’s (2025) notion of the *punishment*  
144 *bureaucracy*, a concept denoting the coalition of public institutions that are directly related to the governance of criminal  
145 activity and accountability. The make up of this coalition will vary across geopolitical contexts. We focus on the make  
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157 up of the punishment bureaucracy and their representation in news stories on police-involved deaths in the Canadian  
 158 context, drawing on prior research in Canadian punishment sociology.  
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160 **3.1 Punishment Bureaucrats**

162 *Police departments.* Local departments are known historically to have had close relationships with newsreporters  
 163 [Chapter 4, 7]. It thus almost goes without saying that department officials will be present in large quantities in these  
 164 articles [35]. For example,

166 “*Vancouver police chief Jim Chu issued a statement expressing regret over Hubbard’s death, but defending  
 167 the officers’ actions.*” [4]

169 Indeed, it is widely known that departments typically have public relations officers who coordinate statements  
 170 and correspond directly with news reporters after deadly force incident [37]. In an analysis over 85 press releases  
 171 from police media units throughout Canadian jurisdictions, Walby and Alabi [37] find that these statements serve to  
 172 manage reputational risk, mostly rationalizing officers’ actions. The releases never comment on the race of the victims,  
 173 even though victims are disproportionately likely to come from a historically marginalized socioeconomic background  
 174 [24, 35, 41].

175 When the deadly force incident brings a considerable degree of scrutiny, or inquest proceedings reach an advanced  
 176 stage (charges being laid), police union officials representing officers also provide perspectives that are reported by  
 177 the newsmedia. Perspectives that typically seek to defend and uphold the epistemic legitimacy of the punishment  
 178 bureaucracy in serving the public interest [37]:

179 “*The union representing York Regional Police believes the Crown has gone too far in its prosecution of  
 180 Romano.*” [16]

181 Unions are also involved in hiring defense lawyers when officers are charged with criminal offences. These lawyers  
 182 perspectives are also reported in news articles.

183 *Oversight agencies.* All Canadian provinces have an “Independent critical investigation agency” [Table 1 in 37].  
 184 These agencies conduct investigations into deadly force incidents, aiming to determine whether deadly force was  
 185 legally permissible according to the criminal code, and are thus frequently mentioned in news reports [35]. These  
 186 bureaucracies were created to provide accountability mechanisms [29]. In practice however, these oversight boards have  
 187 been criticized for having a pro-police bias; in the the Special Investigations Unit (SIU), a “majority of the investigators  
 188 are White men, and over two-thirds of investigators have a police background” [21]. Analogous allegations of pro-police  
 189 bias have been made in other jurisdictions [24]. Nationwide, the CBC found in a study of 461 fatalities over an 18-year  
 190 time period that “only 2 resulted in a criminal conviction” [39].

191 Many news reports citing these oversight agencies contain perspectives that are sympathetic to the actions of the  
 192 officers in question:

193 “*The officers honestly believed they were looking at an actual gun in the Complainant’s possession. Though  
 194 mistaken, their misapprehension was a reasonable one.*” [26]

195 This is in line with Sutton’s findings that claims made by “official” sources reported in newsmedia are often supportive,  
 196 neutral, but rarely critical.

209 *Coroners.* Coroners are often involved in the oversight process, investigating cause of death, often decreed by statute  
210 [39]. While ostensibly clinical and innocuous, identifying causes of death is politically fraught. Consider the statement  
211 of a defence lawyer pertaining to the death of Abdirahman Abdi:

212 “*This is not a beating that caused the death of Mr. Abdi. Mr. Abdi died of a heart attack.*” [6]

213 In a study on over 400 coroners reports related to deadly force incidents across all Canadian provinces, Whitehead  
214 [39] found that reports regularly employ a number of rhetorical strategies that steer attention away from culpability  
215 of police vis-a-vis applying excessive force or from systematic overpolicing of stigmatized communities, and instead  
216 towards individualized pathologies that would inevitably result in use-of-force.

217 *Prosecutors.* Another noteworthy authority involved in the punishment bureaucracy are prosecutors, or *crown*  
218 *attorneys* in the Canadian context. Puddister and McNabb [30] investigate patterns in prosecutorial decisions of crown  
219 attorneys in cases where the aforementioned oversight agencies suggest that the officer under investigation be charged.  
220 They note, drawing on research situated in the US, that prosecutors are hesitant to charge officers. They go on to find in  
221 their study on 159 investigations over 15 years (2005-2020) that a third of charges are dropped by prosecutors. Moreover,  
222 when cases go to trial, the most common outcome is an acquittal.<sup>2</sup>

223 *Elected officials.* Across the political spectrum, elected officials are generally wont to publicly criticize police, in  
224 both the US [page 321, 18] and Canada [Chapter 2, 9]. While ostensibly nonpartisan, police unions in Canada have  
225 made overt political endorsements in both countries [Chapter 15, 18].<sup>3</sup> When certain deaths acquire substantial media  
226 attention, obliging elected officials to comment, their statements tend to be non-committal. Consider one such statement  
227 by Ottawa mayor in 2016 in relation to the death of Abdirahman Abdi, originally excerpted by Cole [pp. 45, 9]:

228 “*Many people have said... ‘he was murdered!’ or ‘The police killed him!’ We just don’t know. Unless you  
229 were a witness, it’s hard to speculate.*”

230 This again aligns with prior findings by Sutton [35] that state official statements are defensive, neutral, but rarely critical  
231 of the punishment bureaucracy.

### 232 **3.2 Civilian-based Accounts in Canadian Newsmedia**

233 The previous section could be understood as entities that are defensive of the punishment bureaucracy. Here, we  
234 describe entities that are far more likely to be critical of it, who are sometimes quoted in news reports. These critiques  
235 manifest in both direct and indirect ways. The most obviously direct way is to question and undermine excessive force  
236 applied by the police. But the other way is to recognize the “complex personhood” [38] of the victims.

237 *Community members.* As *White et al.* explains, this is primarily achieved by journalistic labor in identifying and  
238 interviewing family, friends, and community peers, highlighting their social embeddedness prior to their deaths. This is  
239 in contrast to Canadian police press releases, which do not contain such information [37].

240 Indeed, Sutton [35] finds that Canadian journalists often interview friends, family, and community peers, with  
241 such accounts manifesting in 44% of their sample.<sup>4</sup> Sutton [35, pp. 141-144] find that a majority of the accounts from

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<sup>2</sup>Though, Puddister and McNabb [30] a multitude of reasons why these trials often fail to secure a conviction far less than convictions for the general public.  
<sup>3</sup>Multiple police associations endorsed the Conservative Party of Ontario in 2025: <https://www.cbc.ca/news/canada/toronto/public-safety-courts-jails-bail-police-ontario-election-1.7464093>.  
<sup>4</sup>Though it should be noted that this is significantly less than the number of articles that contain an account from a police officer, not to mention all of the other punishment bureaucrats listed in the section above.

261 community members are in recognizing their complex personhood – hobbies, occupations, positive relationships. They  
 262 also note that there are instances wherein community members allude to the victim’s past substance abuse or criminal  
 263 record, though this frame is far less common.

264 *Family lawyers.* Sutton [35] measures mentions of lawyers to be in 33% of cases. However, they do not comment on  
 265 whether these are defence lawyers (defending the police) or family attorneys. Upon inspection of our dataset, introduced  
 266 in detail in Section 5.1, we find that a large fraction of these are in fact lawyers hired by the aggrieved family. Civil-rights  
 267 lawyers are often hired to represent families in civil litigation, and, more rarely in criminal trials [30]. As they are  
 268 representing the aggrieved family and community, they are predictably critical of the police:

269     *“Then there’s the question of racism. I mean, these members [are] seen laughing at him, and someone’s got  
 270 to look at that. There’s a real problem in the RCMP.”* [5]

271 *Advocacy groups.* Within that dataset, we also find a non-negligible number of advocacy organizations. To name a  
 272 few, these comprise First Nations organizations (e.g., *Southern Chiefs Organizations*), LGBTQ advocacy groups (e.g., The  
 273 519), and homelessness advocacy groups (e.g., *The Old Brewery Mission*):

274     *“It’s the third person suffering from mental health issues in the past three years who has been shot by police.”*  
 275     [19]

276 That there is a presence of these organizations makes sense, as they often work with the same historically marginalized  
 277 groups who are at significantly increased risks of violent interactions with the police [24].

278 *Eyewitnesses.* Eyewitness testimony is also not uncommon in these news reports, with Sutton [35] finding that  
 279 they manifest in around 12% of articles in their sample. Sutton notes that they are among the groups who often raise  
 280 questions about excessive use of force:

281     *“Witnesses have said he wasn’t armed, but had a cellphone in his hand.”* [20]

282 Though, it is not unprecedented for witnesses to legitimate police force; see Cole [9, pp. 48] for an example.

#### 283 4 PERSPECTIVE GAP Model

284 Here we describe our method to calculate the volume of points of view from punishment bureaucrats and civilians for  
 285 reporting on police-involved deaths. Concretely, for an article with  $N$  paragraphs  $P_1, \dots, P_N$ , we obtain labels  $y_1, \dots, y_n$ ,  
 286 where

$$300 \quad y_i \in \{\text{bureaucrat}, \text{civilian}, \text{context}\}$$

301 . The bureaucrat label reflects that the passage describes the point of view police official or some other entity or  
 302 organization in the punishment bureaucracy (bureaucrat; Section 3.1). The civilian label typically applies to  
 303 passages that articulate the points of view of entities described in Section 3.2 (community members, family lawyers,  
 304 advocacy organizations) who are much more likely to be critical of police agencies and sympathetic to the deceased.  
 305 The context label applies when the passage is not describing any entity’s point of view at all; but rather providing  
 306 contextual details about the incident, for example, when and where the incident took place.<sup>5</sup>

307 <sup>5</sup>Choosing between the bureaucrat or civilian label for a given paragraph  $P_i$  is largely conditional on the entity providing the perspective, in that if  
 308 a perspective is from one of the entities in Sec. 3.1, then we apply bureaucrat, and civilian if it is one of the entities in Sec. 3.2.

*Datasets.* This detailed parsing is infeasible to accomplish at scale, so we develop and apply the PERSPECTIVEGAP to accomplish this. We first collect a dataset with  $N = 100$  articles, where we annotate (§4.1) every paragraph in each article with the point of view it represents. For notational simplicity, we assume that each article has  $n$  paragraphs; then we have  $\mathcal{S} = \{(P_i, y_i)\}_{i=1}^{N \cdot n}$ . We use this dataset to develop the PERSPECTIVEGAP model (Section 4.1). Then, we measure the volume of perspectives from each group at a much larger scale, with a dataset containing  $M = 4000$  articles, using labels predicted by PERSPECTIVEGAP:  $\mathcal{U} = \{(P_i, \hat{y}_i)\}_{i=1}^{M \cdot n}$  (Section 5).

*Contrasting reference with point of view.* In this work, we distinguish between reference and perspective. For example, the following would be included as a perspective, as here, the **relevant entity** they are expressing: “*The involved officer did nothing wrong in the incident, the SIU concluded...*”. However, the following would not be included as a perspective from the SIU, as it is context on the standard operating procedure in deadly force incidents, rather than a point of view provided by the SIU: “*The SIU investigates all cases where police action results in death.*” See Wiebe [40] for discussion what constitutes a perspective or point of view.

#### 4.1 PERSPECTIVEGAP Development Dataset

We work with the [CBC Deadly Force](#) database, which documents encounters from 2000-2017. We use this database to search for additional reporting from different outlets on the same incident. In addition, we collected articles for incidents that transpired over the past 10 months (from September 2024 to June 2025) that we learned about through news alerts or social media. This resulted in  $N = 100$  articles, most from the CBC (29), followed by Global News (10), CTV (9), and a long tail reports from smaller local outlets (for example, *Ottawa Citizen*, *Burnaby now*).

*Annotation.* One co-author independently coded these articles, obtaining the articles paragraph-label  $(P_i, y_i)$  pairs. First, they identified any entity  $\epsilon$  mentioned in the article and assigned them as an **bureaucrat** or **civilian** label following the definitions in Sec. 3.1 and Sec. 3.2. They then identified all passages where the entity  $\epsilon$  expresses a perspective:  $P_{\epsilon(1)}, \dots, P_{\epsilon(k)}$ , for  $\epsilon(i) \in \{1, \dots, n\}$ . Any paragraphs where there is no entity expressing a perspective is assigned the **context** label. This procedure results in the PERSPECTIVEGAP development dataset denoted by  $\mathcal{S}$ , containing 2158 annotations over the 100 articles.

*Agreement.* Another coauthor then randomly selected 15 of these articles to code independently. We thus obtained  $y_i^1$  and  $y_i^2$  for these articles, for  $i \in [n]$ . Over the articles, we obtained 311 paired labels which yielded an agreement of  $\kappa = 79.4$ , indicating substantial agreement. This indicates that  $\mathcal{S}$  is a reliable dataset for training PERSPECTIVEGAP.

#### 4.2 Training PERSPECTIVEGAP

*Modeling approach.* While it is possible to simply finetune a language model on annotated passages  $(P_i, y_i) \in \mathcal{S}$ , it is difficult to attribute the point of view expressed in a passage without context from prior passages. Consider Figure 1, where the police spokesperson introduced with their full title, clearly indicating that the passage should be assigned the **bureaucrat** label. Later passages use only their last name, making it difficult to distinguish between **bureaucrat** and **civilian** without access to prior passages.

We instead train the language model to jointly label a collection of passages  $P_{\hat{\epsilon}(1)}, \dots, P_{\hat{\epsilon}(k)}$ , where  $\hat{\epsilon}$  represents a coreference cluster. For example, the coreference cluster for the article in Figure 1 would be **RCMP spokeswoman Brigdit Leger**, **Ms. Leger**, **Ms. Leger**, and we can obtain the passages containing these references.

	PERSPECTIVEGAP	GPT-4o	Random	<i>n</i>
bureaucrat	0.76	<b>0.82</b>	0.39	178
civilian	0.75	<b>0.79</b>	0.32	115
context	0.77	0.74	0.40	243
overall	0.76	<b>0.78</b>	0.38	536

Table 1. Classification results for passages across 25 articles on the test set portion of our manually annotated dataset  $\mathcal{S}$ . See Section 4 for more details.

*Aligning annotated entities and clusters.* To provide supervision to finetune the language model to work with coreference cluster passages, we need to align our manually annotated entities ( $\mathcal{E}$ ) with the coreference clusters ( $\hat{\mathcal{E}}$ ). We use simple string equality to match our annotated entities ( $\mathcal{E}$ ) against the coreference clusters produced by fastcoref ( $\hat{\mathcal{E}}$ ). We find that simple string equality captures 71% of relevant paragraphs  $P_{\epsilon(1)}, \dots, P_{\epsilon(k)}$  for all entities  $\epsilon \in \mathcal{E}$ . However, some alignments are missed through exact string matching, for example when the annotated entity is  $\epsilon = \text{"BEI"}$ , but the coreference cluster only contains instances of the full name of the agency (“Bureau des enquêtes indépendantes”).

Without repairing these missed alignments, the language model would be prone to labeling relevant passages as mere context, resulting in a high rate of false negatives. We manually repaired these missed alignments, thereby improving recall of the passages with annotated entities in our training set to a more reasonable 91%. We now have input-output examples of the form

$$((P_{\hat{\epsilon}(i)}, y_{\hat{\epsilon}(i)}), \dots, (P_{\hat{\epsilon}(k)}, y_{\hat{\epsilon}(i)}))$$

one for each  $\hat{\epsilon} \in \hat{\mathcal{E}}$ , that we use to finetune the language model. The application of a coreference resolution model followed by predictions on top of the coreference clusters constitutes the PERSPECTIVEGAP model.

*Implementation details.* We first split the  $N = 100$  articles in  $\mathcal{S}$  into a split of 50/25/25 articles, or 1055/600/503 annotated paragraphs, for training, validation (hyperparameter tuning), and testing. For replicability and efficiency, we aim to develop a model that can be run with moderate computing resources; we opted for f1an-t5, a model with a modest (by current standards) 800M parameters. We used a single NVIDIA RTX A6000 GPU to finetune the model. We use fastcoref [28] off-the-shelf for coreference resolution.

### 4.3 Assessing the Reliability of PERSPECTIVEGAP

*Evaluation.* For an article with  $N$  paragraphs  $P_1, \dots, P_N$ , we assess the capacity of the model to predict the point of view reflected in the passage  $\hat{y}_1, \dots, \hat{y}_N$ , comparing against our manual annotations  $y_1, \dots, y_N$ , where  $y_i \in \{\text{bureaucrat}, \text{civilian}, \text{context}\}$ . We report the F1-score for each possible label.

*Baselines.* To contextualize the performance of PERSPECTIVEGAP, we compare the model with two baselines. We assess GPT-4o’s capacity to perform this task. We used the training set for prompt-tuning; see the full prompt in our repository. We also compare against a random classification baseline, where one of the labels is picked uniformly at random.

*Performance.* We report the F1-score for each label in Table 1. We find that both PERSPECTIVEGAP and GPT-4o perform reliably well across all categories. We didn’t find a significant difference between the two; a bootstrap test with

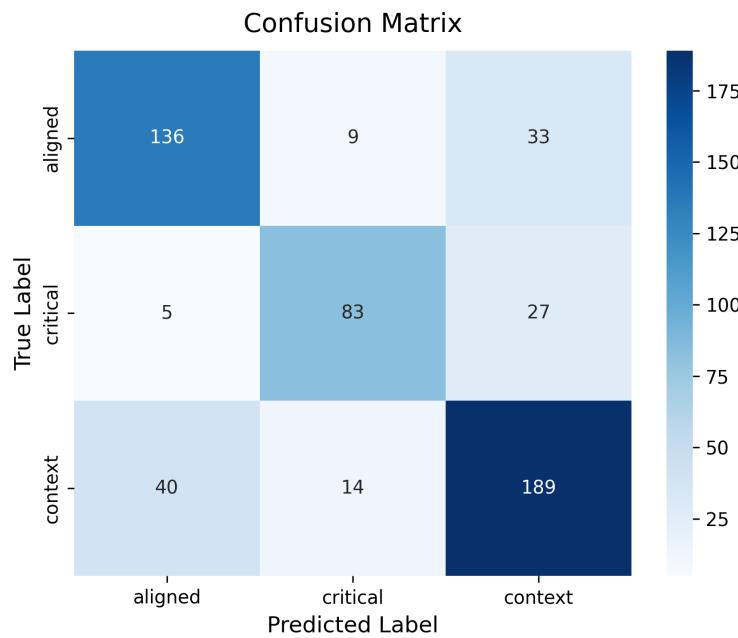


Fig. 2. Confusion matrix between the labels.

$B = 1000$  samples, comparing the number of times PERSPECTIVEGAP scored a higher macro-averaged  $F_1$  than GPT-4o yielded  $p = 0.15$  [12]. We thus apply PERSPECTIVEGAP for the remainder of our analyses.

*Errors.* We display the confusion matrix in Figure 2. We find that the model generally confuses between context and bureaucrat, or context and civilian, but rarely civilian and bureaucrat, which would be a more severe error. From Figure 2, we find that the model does well in capturing the distributional statistics of the labels:

Label	Annotated	Predicted
bureaucrat	33%	33%
civilian	21%	20%
context	45%	46%

At the level of individual articles in the test set, too, we find that PERSPECTIVEGAP performs well at capturing the distribution of perspectives that are bureaucrat as opposed to civilian (Figure 3).

## 5 PERSPECTIVEGAP at Scale

Having demonstrated the effectiveness of the efficient PERSPECTIVEGAP, we go onto perform an analysis on a larger-scale corpus, containing  $|\mathcal{U}| = 4000$  articles. We describe the construction of that dataset next (Section 5.1), followed by analyses on investigating the degree to which punishment bureaucrats are deferred to in interpreting deadly force incidents with PERSPECTIVEGAP (Section 5).

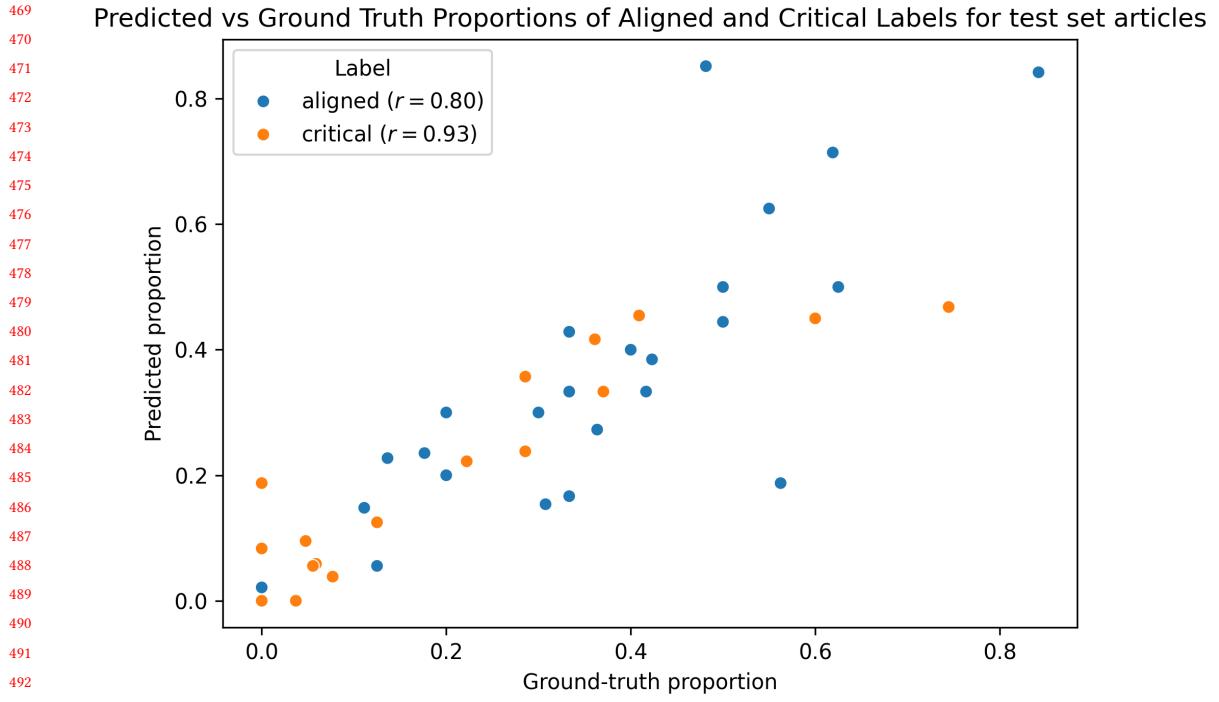


Fig. 3. Comparison of predicted vs. ground-truth reference proportion of passages that are labeled as bureaucrat or civilian across 25 articles in the test set.

### 5.1 Large-scale data collection

We sourced victim records from three datasets: CBC’s Deadly Force, Tracking Injustice [36], and the Wikipedia page “List of killings by law enforcement officers in Canada.”<sup>6</sup>. We collected articles and victim records were collected only for incidents occurring in 2000 or later. Only cases with identified victim names were included, leaving us with 811 victim records. We then compiled a list of Canadian news outlets was compiled from the [ProQuest Canadian Newsstream](#) title list, restricting the set to publications with internet-accessible content.

For each victim record, we programatically executed queries on search engines using metadata fields including full name, first/last name, age, gender, incident date, province, police service, then checking search results against the aforementioned set of links. We also applied named-entity recognition and regex matching to match articles with victim records. We obtained 4,000 articles across 235 outlets; we show the distribution across outlets and years in Figure 4. To complete the dataset  $\mathcal{U}$ , we apply PERSPECTIVEGAP, obtaining a label in {bureaucrat, civilian, context} for every paragraph in every article.

### 5.2 Analysis

News reporting on deadly force incidents has been highly technocratic historically. Over the last 25 years, punishment bureaucrats have had much greater epistemic authority in narrating deadly force incidents compared to civilian-based

<sup>6</sup>[https://en.wikipedia.org/wiki/List\\_of\\_killings\\_by\\_law\\_enforcement\\_officers\\_in\\_Canada](https://en.wikipedia.org/wiki/List_of_killings_by_law_enforcement_officers_in_Canada)

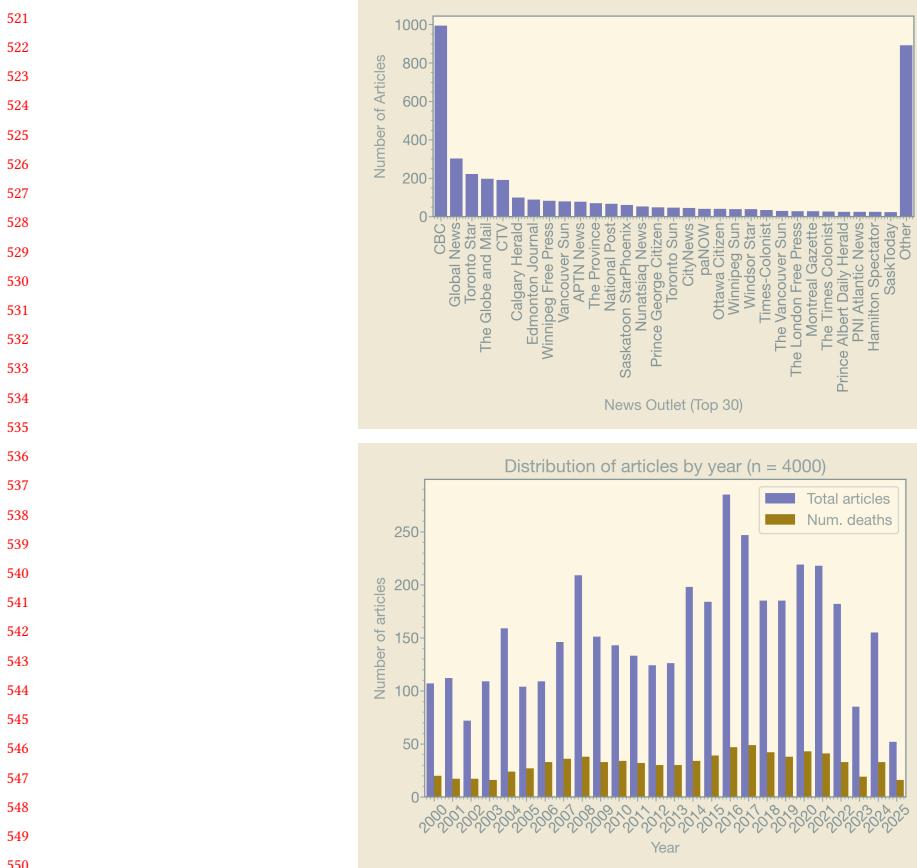
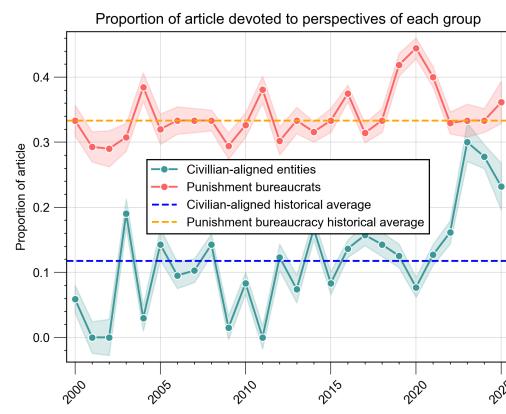
Fig. 4. Outlet and year distributions for the large-scale PERSPECTIVE GAP-annotated dataset  $\mathcal{U}$ .

Fig. 5. Median proportion of articles devoted to perspectives bureaucrats vs. proportion of perspectives for civilian advocates.

573 accounts. Quantitatively, we find that the median article over the entire time period has 33.3% of its passages reflecting  
 574 perspectives of punishment bureaucrats. Comparatively, only 11.8% of articles are devoted to civilian-based accounts.  
 575 In their exposition of media representation of crime, Chan and Chunn [7] wrote that “police...arguably remain the first  
 576 authorities to speak about, and therefore frame, the issues in most mainstream media accounts of crime.” Our analysis  
 577 shows that their explanation holds true even in police-involved deaths, where it is the police themselves who face  
 578 scrutiny for potential extrajudicial use of force.  
 579

580  
 581 *Since 2020 reporting has become more co-productive.* Our results suggest that epistemic authority in news reporting  
 582 is contingent on political debates and public pressure, with civilian-based accounts having a sharp increase in coverage  
 583 of their perspectives from 2020, peaking at 30% in 2023. It is hard to ignore that this increased representational volume  
 584 of civilian-based accounts coincides with increased nationwide scrutiny of systematic police misconduct. In 2020, for  
 585 example, 51% of Canadians expressed support for reducing police funding [2]. We also observed the construction of not  
 586 one but two national databases for tracking deadly force incidents [23, 36]. Our analysis suggests that news reporting  
 587 patterns changed, such that increased journalistic labor was invested in soliciting civilian-based accounts.  
 588

589 Overall, our result demonstrates novel evidence that this time period resulted in quantifiable gains to the epistemic  
 590 authority afforded to civilian advocates. We thus observe a greater plurality of interpretations of these incidents, thus  
 591 aligning with a more co-productive form of public opinion formation as espoused by political philosophers [11, 27]  
 592 and media theorists [33]. Whether this increased attention to civilian-based accounts persists beyond this time period  
 593 remains to be seen; we observe civilian accounts trending downwards towards the historical average again for 2024 and  
 594 2025.  
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596  
 597 *Across-outlet variation.* For brevity, we look at the top-5 outlets in terms of number of articles: CBC, Toronto Star, The  
 598 Globe and Mail, Global News, and CTV News. We observe limited variation in terms of coverage devoted to punishment  
 599 bureaucrats, with CBC having the highest rate (35%), and CTV the lowest (31%). By comparison, coverage devoted to  
 600 civilian advocates varies substantially, with the Toronto Star at the highest, well above the national median at 23.2%.  
 601 This is followed by the CBC (16%) and the Globe and Mail (15%). CTV and Global News fall well below the national  
 602 average, with the median article having 2.5% and 0% of its passages devoted to perspectives of civilian advocates,  
 603 respectively.  
 604

605  
 606 We find that outlets consistently include points of view from punishment bureaucrats; there is little cross-outlet  
 607 variation on this point. This is aligned with the fact that punishment bureaucrats have established relationships with  
 608 reporters [25], making it easier to ascertain and report on their perspectives. Moreover, bureaucrats have an interest in  
 609 conveying their perspectives to the media as a public relations risk-mitigation strategy [37].  
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611  
 612 Where we find far larger variation is whether outlets include civilian-based accounts. We find that the Toronto  
 613 Star has a greater degree of coverage devoted to civilian-based accounts. This is aligned with the history of the Star’s  
 614 reporting interests in scrutinizing and challenging points of view from punishment bureaucrats; for example, they  
 615 conducted the largest known investigation of racial bias in police investigations in 2002 [29, 31].  
 616

617  
 618 Meanwhile, CTV and Global News are generally understood to serve a different role in Canadian newsmedia, with  
 619 more episodic, breaking-news style content. This can be evinced by the fact that their articles tend to be shorter (median  
 620 length: 13 and 14 paragraphs, respectively), well below the national median of 16 paragraphs. Meanwhile, the other  
 621 three outlets are above the national median. Producing shorter content at a faster pace necessarily lends itself to relying  
 622 on press releases that are prepackaged by the public relations officers in the punishment bureaucracy [18, 25], rather  
 623 than performing the journalistic labor required to get civilian-based accounts [38].  
 624

## 6 Conclusion

Drawing on decades of punishment sociology research in Canada, we develop a novel computational framework for measuring perspective weighting in Canadian newsreporting on deadly force incidents, as well as a model that performs well at perspective detection. Applying the model on a large dataset of articles about deadly force incidents from 2020-2025, we find that punishment bureaucrats perspectives are overwhelmingly deferred to in Canadian newsmedia, at a rate of 3 times on average that of civilian-based accounts. Nevertheless, We find that the proportion of coverage devoted to civilian-based accounts greatly increased after 2020, suggesting that global and domestic protests around police brutality raised the epistemic authority of civilians in interpreting deadly force incidents. We anticipate that PERSPECTIVEGAP can be used to keep track of the dynamics of epistemic authority over the years, as the rate of deadly force incidents is not expected to decline for the foreseeable future [34].

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