DOES DEMOCRACY DIE IN DARKNESS? AN EXAMINATION OF THE RELATIONSHIP BETWEEN LOCAL NEWSPAPER HEALTH AND MUNICIPAL POLITICS

by

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ABSTRACT

Voter turnout, a key marker of democratic health, varies significantly between Canadian municipalities (Breux, Couture & Koop, 2017; Nakhaie, 2006). Few studies have examined municipal turnout in Canada, but those that have (e.g., Breux et al., 2017; Cutler & Matthews, 2005) overlook the role of local media. This quantitative, cross-sectional study fills a gap in the literature by determining the impact of local newspaper health on turnout in a unique dataset of 233 populous Canadian municipalities. This study focuses on print newspapers over other local media, as they are at high risk of closure (Lindgren, Corbet & Hodson, 2017) despite being primary producers of "watchdog" or accountability journalism (Nielsen, 2015). In an OLS multivariate linear regression, this study finds a significant positive correlation between turnout and (1) the total number of newspapers per municipal population and (2) the publication frequency of the largest newspaper in a municipality.

LIST OF ABBREVIATIONS USED

CBC – Canadian Broadcasting Corporation

JOA – joint operation agreement

MMV – margin of mayoral victory

NMC – number of mayoral candidates

OLS – ordinary least squares

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Chapter One: Introduction

Key markers of democratic health, including voter turnout (Breux, Couture & Koop, 2017; Nakhaie, 2006) and measures of electoral competitiveness (Kushner, Siegel & Stanwick, 1997; Anderson, McGregor & Pruysers, 2020), vary, often considerably, between Canadian municipalities. In a sample of the 379 most recent municipal elections in Canada as of 2016, voter turnout ranged from a low of 16.24 percent in Cold Lake, Alberta to a high of 59.7 percent in Mississippi Hills, Ontario, for a difference of 43.46 percent. Similarly, the margin of victory by which mayors were elected ranged from 0.01 to 93.86 percent, excluding the numerous cases in which mayors were appointed by acclamation. These examples illustrate a puzzle largely overlooked in the academic literature: why is local democracy thriving in some Canadian municipalities and struggling in others?

Significant turnout variation between municipalities is both important and understudied. Declining voter turnout among liberal democracies is a prominent concern in the political science literature (e.g., Cancela and Geys, 2016), but nowhere is this concern more justified than in local elections. Higher turnout in national elections is near "universal," and the variance between federal and municipal turnout in Canada exceeds most other countries (Kushner, Seigel & Stanwick, 1997, p. 541). The result is a "democratic deficit" (Currah, 2009, p. 8) with lower citizen participation and political accountability in local government. The consequences of this deficit are magnified by the fact that municipal governments implement more policies and employ more elected officials than other orders of government (Hajnal & Lewis, 2003). Indeed, most elections, elected officials, and candidates are found locally—well over 99 percent of elections and

95 percent of politicians in Canada are at the municipal level (Sancton, 2015). In addition, the relatively low barriers to participation that are characteristic of local politics allow groups which would otherwise be excluded from mainstream politics to learn valuable and transferable democratic skills. As a result, low participation may disproportionately impact marginalized groups (Hajnal & Lewis, 2003), resulting in the exacerbation of existing inequalities (e.g., Martinez & Gill, 2006, p. 344).

Despite its clear importance, local politics receives scant academic attention, prompting such labels as the "academic ghetto" (Sancton, 1983, p. 310) and "black hole" of Canadian political science (Eidelman & Taylor, 2016, p. 306). Even within the "poorly understood" (Eidelman & Taylor, 2016, p. 305) subfield of Canadian urban politics, researchers have largely overlooked the problem of turnout in local elections. The range of studies on this topic is limited to cross-sectional analyses of Ontario (Kushner, Siegel & Stanwick, 1997) and Quebec (Couture, Breux & Bherer, 2014) and case studies of large municipalities, such as Vancouver (Cutler & Matthews, 2005) and Toronto (Stanwick, 2000; Anderson, McGregor, Moore & Stephenson, 2017; McGregor, 2018; Caruana, McGregor, Moore & Stephenson, 2018). A recent article by Breaux, Couture and Koop (2017) is the first and only pan-Canadian study on local voter turnout. In contrast, several American studies address local turnout (e.g., Caron, 2007), and the already significant literature on national turnout is expanding rapidly, with 102 studies published on the topic between 2002 and 2015 (Cancela & Geys, 2016).

Breaux, Couture and Koop (2017) generated an original dataset of Canada's 100 largest municipalities over three electoral cycles to determine which factors influenced local electoral participation between 2004 and 2014. I will touch only briefly on the

article here, as I address it in greater depth in the literature review. Breaux et al. (2017) find that nine variables across three "theoretical approaches" (p. 700)—institutional, political, and socio-spatial—exert a significant influence on turnout in Canadian local elections. Missing, however, from this analysis is a consideration of the local media ecosystem. This oversight may ultimately prove important, as the few studies that do examine municipal turnout in Canada leave a large portion of the variance unexplained. Breux et al. (2017), for example, reported a final adjusted r-squared of 0.57, as the model failed to account for 43% of the variance in turnout. Results like this prompted Kubler and Goodman (2019) to argue "that future research on local political behaviour should better acknowledge the influence of the media environment" (p. 1).

Despite numerous studies (e.g., Baekgaard, Jensen & Motensen, 2014; Kubler & Goodman, 2019; Schulhofer-Wohl & Garrido, 2013; Shaker, 2014 that establish the importance of local journalism in countries around the world, the topic remains understudied in Canada. The *Local News Research Project* at Ryerson University is a notable exception, and its work highlights the dire state of local journalism in Canada. With the recent Local Journalism Initiative, the Government of Canada has demonstrated the willingness to intervene in support of local journalism. It should not be taken for granted, however, that the benefits of local journalism observed in the United States or Europe will hold true in Canada's unique media system.

Recent cross-sectional (e.g., Filla and Johnson, 2010) and longitudinal (e.g., Shaker, 2014) studies identify numerous characteristics of media ecosystems that benefit local democracy, ranging from the simple presence of a print newspaper (Schulhofer-Wohl & Garrido, 2013) to the level of congruence between a newspaper's audience and

the electoral district it covers (Kubler & Goodman, 2019; Althaus and Trautman, 2008). Despite financial challenges posed by the "digital duopoly" of Facebook and Google (PEN America, 2019, p. 27), print newspapers remain a "keystone media" (Nielsen, 2015, p. 51) responsible for producing most—up to 95 percent—of original reporting in the regions they cover (Pew Center, 2010). There is ample reason to expect, then, that the health of local print media will be positively related to measures of democratic participation—a finding demonstrated in liberal democracies as distinct as the United States (e.g., Mondak, 1995) and Denmark (Baekgaard, Jensen & Motensen, 2014) but never in Canada.

That local print journalism may explain a portion of the variance in democratic participation further underscores the importance of this study. A recent proliferation of grey and academic literature details the financial precarity of privately-owned news organizations, especially those which remain heavily dependent on their print products as a revenue stream (Public Policy Forum, 2017). Such news organizations have lost advertising to digital giants—first to classified sites like Craigslist and Kijiji, and later to news aggregators like Facebook and Google (Nielsen, 2015). Relatively few publications to date have successfully replaced advertising revenue with paid memberships, and these (e.g., the New York Times) rely on a national or global presence to build the necessary readership. Far more have succumbed to "clickbait" journalism (e.g., Buzzfeed) or languished behind ineffectual paywalls, ultimately laying off journalists and cutting funding for investigative and civic function projects (PEN America, 2019). These trends are nearly ubiquitous across countries and media organizations, but nowhere are their effects more profound or damaging than at the local level.

Since Franklin's (2006) claim that local newspapers are "increasingly a business success but a journalistic failure" (p. 4), the business of news has suffered tremendous setbacks, further exacerbating journalistic deficits. The aim here, per Franklin, is not to glorify local newspapers, whose coverage rarely meets the industry's lofty ideals, but to acknowledge that to some degree journalism's civic function is essential to democracy, and if print newspapers can no longer fill that role, then something else must (Knight Commission, 2009). Despite print's decline, no sustainable alternative has yet asserted itself. This study excludes digital publications to focus on *print* newspapers for three reasons. First, recent losses in the industry necessitate a fuller understanding of the quantifiable—not aspirational—civic function of print newspapers. We must illuminate the contours of the void left by print to better shape its digital replacement. Second, online native projects have thus far proved either short-lived or marginal (Anderson, Coleman & Thumin, 2015), and it is increasingly evident that print losses are outpacing digital gains. And third, data is more readily available for legacy print publications than recent start-ups.

Print newspapers are most vulnerable in countries, such as Canada and the United States, which broadly fit Hallin and Mancini's (2004) "Liberal Model," characterized by the dominance of market mechanisms and commercial media. In a comparative study of Toulouse, France and Seattle, Washington, Powers et al. (2015) found that government aid for media organizations in France helped to "insulate" (p. 32) local newspapers from the mass layoffs and circulation declines prevalent in the United States. Canada has favoured the American approach to date. According to a June 2020 report form the Local News Research Project, 283 print newspapers in Canada have ceased operations since

2008 (Lindgren, 2020). Although national newspapers, such as the Globe and Mail and National Post, have faced significant challenges as well, local journalism is in more immediate jeopardy, yet receives less public and academic attention.

Local print newspapers may no longer be considered mainstream media, but they nonetheless exert an outsize impact on the broader media environment. Newspapers produce most fact-based reporting on local politics (Nielsen, 2015; Pew Center, 2010) and are often the best or only source of "essential information"—including civic information—in communities where critical information needs would otherwise go unmet (Friedland, Napoli, Weil & Wilson III, 2012, p. v). Broadly, a stronger press has been shown to increase congressional accountability (Snyder & Stromberg, 2010) and reduce corruption (Brunetti & Weder, 2003).

The value of studying local journalism and democratic participation is evident even beyond the context of newspaper closures, low and variable municipal turnout, and limited academic engagement. Like institutional characteristics, many elements of the media ecosystem can be altered with relative ease, providing a lever for change that comparatively immutable demographic characteristics cannot provide. As a result, the Public Policy Forum's (2017) study on Canadian local journalism, *The Shattered Mirror*, provided an extensive list of recommendations for government action. Although its recommendations were seemingly thorough, they addressed a conceptualization of journalism's "civic-function" largely derived from an aspirational view of the industry and lacking a sound empirical basis. As Nielsen (2015) argues, it is necessary to recognize that it is in the interest of news organizations to present themselves as credible

sources of information, thus "stag[ing] their own symbolic role" (p. 95). This study provides the empirical basis for future policy analyses.

Some key definitions will be indispensable throughout this study. The primary explanatory factor is the health of **local newspapers**, which are defined by two characteristics: "(1) the editorial anchoring is *local*, and (2) the authoritative, edited *news media* product is genuinely important, meaningful, and relevant to those situated in a specific geographic area within a nation" (Engan, 2015, p. 141). As **media ecosystems**, or the range of "self-identified news outlets" (Powers, Zambrano & Baisnee, 2015, p. 37) operating in an administrative area, face financial challenges that threaten their composition and survival, many Canadian communities are at risk of becoming **news deserts**, or places "where the community does not have access to affordable, quality local news" (PEN America, 2019). News of this nature is also termed **civic function journalism**, or "the coverage of elected officials and public institutions, from legislatures, judicial or quasi-judicial bodies and city halls to school boards and supporting public services; issues and debates related to these officials and bodies; and the ability of communities to know themselves for civic purposes" (Public Policy Forum, 2017, p. 95).

With these definitions in mind, this study asks: what is the relationship between local newspaper health and political participation in Canadian municipalities? The answer to this question will proceed in the following six chapters. The second chapter is a literature review, situating this study within existing scholarship and proposing a series of falsifiable null hypotheses. The third chapter then grounds the work theoretically, first briefly overviewing foundational theories—such as the "informational model"

(Matsusaka, 1995) based on rational choice theory—before providing empirical justification for each variable included in the statistical models. In this chapter, greater attention will be paid to explanatory variables which operationalize the health of local print newspapers, as these variables are exploratory and, in some cases, unique to this study. Here, each independent variable will be operationalized and connected logically to the primary dependent variable.

The fourth chapter discusses the methodology and methods before presenting the empirical results. My approach differs from previous studies for one of two reasons. First, the methodology is designed to improve, where possible, on the limitations of existing studies, either by developing novel methods or combining previously disparate approaches. Second, I was sometimes unable to replicate potentially instructive methods (e.g., the congruence measure in Kubler & Goodman, 2019) due to limitations of scope or data. This chapter also includes a discussion of where the data was located, how it was synthesized into a single unique dataset, and what techniques I ultimately used to manipulate it and generate results. I then report the empirical results, both textually and graphically in bivariate and multivariate form. Here, correlations are reported and the null hypotheses either confirmed or denied. I discuss and interpret these results in the fifth chapter. If there is an effect, how strong? How does it compare to established predictors of turnout like income and age? I expect a relatively small effect size compared to well-established predictors of political participation, as media variables tend to yield small, though significant, results (e.g., Baekgaard et al., 2014).

The sixth and concluding chapter discusses limitations and avenues for future research before overviewing the broad range of solutions identified in the academic and

grey literature, with an emphasis on proposals specific to Canada. I identify where these proposals address the empirical civic function of local journalism demonstrated in this study, and where the proposals stray towards idealism. How closely do emerging digital ventures fit the void left by print closures? I conclude with a summary of the study's findings and consider the implications for local newspaper ecosystems across Canada.

Chapter Two: Literature Review

What accounts for the substantial turnout disparity between Canadian municipalities? A small but emerging comparative literature identifies local newspapers as a salient variable in predicting voter turnout in local elections (e.g., Kubler & Goodman, 2019; Beakgaard et al., 2014). To date, no quantitative large-*N* studies, that I know of, have examined this topic in Canada. If local newspapers are found to play a significant role in municipal turnout, there is cause for concern, as Ryerson's Local News Research Project has documented 171 local news outlet closures since 2008 (Lindgren, Corbett & Hodson, 2017). This literature review first surveys the expansive voter turnout literature, before discussing studies on political information, knowledge, and participation, and concluding with a brief overview of competitiveness in local elections.

International, Canadian, and Local Determinants of Voter Turnout

Voter turnout is declining in established democracies around the world (Solijonov, 2016; Gray & Caul, 2000; Franklin, 2004). Many strong normative arguments have been made for studying this trend, such as Martinez and Gill's (2006) assertion that "low and biased electoral turnout might be seen as upsetting [the balance of liberal democracy] by ceding control…to those who already benefit from the inequalities inherent in…"pluralist" institutions" (p. 344). Consequently, this trend has been termed an "example of a major theoretical puzzle," (Aldrich, 1993, p. 246) and has prompted overwhelming scholarly attention.

Cancela and Geys' (2016) meta-analysis of 185 studies of aggregate-level international data provides a comprehensive review of the discipline and compares

relevant variables across national and subnational contexts. The researchers grouped 14 variables into three categories: socioeconomic, political, and institutional, "often regarded as the most powerful determinants of voter turnout" (Cancela & Geys, 2016, p. 267). Variables with significant explanatory power across all reviewed studies included population size and stability, past turnout, proportion of minorities, closeness of elections, campaign expenditures, compulsory voting, and concurrent elections. In comparing national and subnational elections, the researchers found that variables which increase the likelihood of voters knowing the candidates (i.e., population concentration, stability, and homogeneity) are more salient in subnational elections, whereas political variables (i.e., those relating to the campaign) are more salient in national elections. The researchers do, however, acknowledge that subnational data is lacking and that studies tend to generalize national findings to fit local contexts, an approach that masks nuances distinguishing local politics from other orders of government (Cancela & Geys, 2016). Stockemer (2017) published an alternative meta-analysis that largely supports the findings of Cancela and Geys (2016) but differs in finding fewer relevant variables and endorsing a "more restricted core turnout model" (p. 711), comprised of compulsory voting, decisive elections, and population size.

Beyond the core turnout model, several individual-level variables have been identified, including age (e.g., Gallego, 2009), generation (Blais, Gidengil, Nevitte & Nadeau, 2004; Anderson 2008), education (e.g., Gallego, 2009), income (Pattie & Johnston, 1998), political knowledge (e.g., Howe, 2006), and select Big Five personality traits (e.g., Gerber et al., 2011) through the mediating role of political efficacy (Vecchione & Caprara, 2009). In Canada, recency of immigration has also been linked

with voter turnout in federal elections (Nakhaie, 2008). Nakhaie (2008) argues that the time required to develop informal associations, social networks, and trusting friendships explains lower turnout among recent immigrants. Black and Leithner (1988) found that readership of print ethnic media may accelerate this process and encourage earlier social assimilation and political participation. Nakhaie (2006) also found distinctions between federal and municipal voter turnout patterns in Canada, noting distinct and stronger effects of income and community rootedness in municipal elections, thus supporting Cancela and Geys (2016).

In a case study of the 2002 Vancouver municipal election, Cutler and Matthews (2005) argue that a lack of relevant political information explains why municipal voter behaviour differs from federal and provincial voter behaviour, stating that in municipal elections "information is harder to come by, voters are less motivated to gather it, the party system [if there is one] does not organize it as effectively, voters are even less clear on the government's competencies, and the electoral system is more complex" (p. 377). Cutler and Matthews (2005) are perhaps optimistic, then, in claiming that "municipal electoral choices are not mere guesswork," and are justified in questioning if "municipal elections [are] worth the trouble if the limitations of voters and political institutions means that mayors and councillors are insulated from accountability in areas of genuine municipal competence?" (p. 377). Considering the abundant evidence supporting this argument, it is a glaring oversight that so few voter turnout studies consider the centrality of political information.

A recent study by Breux, Couture & Koop (2017) examined the factors influencing municipal voter turnout in Canada between 2004 and 2014. The researchers

found the strongest effects for population variation and density, number of mayoral candidates and margin of mayoral victory, and number of councillors per population (p. 713). Institutional and socio-spatial (expressed elsewhere as socioeconomic) variables were found to be particularly important, a result that corroborates other studies (e.g., Cancela & Geys, 2016; Stockemer, 2017). One finding, however, that contradicted previous research, was a *positive* relationship between population and turnout—a result explained by Breux et al. (2017) as a consequence of poor local media coverage in small population centres which lack the infrastructure needed to provide comprehensive information on local races. This conclusion further highlights the need to consider variables that capture the health of local news media, as these variables have thus far been overlooked in the Canadian literature.

Information, Political Knowledge, and Political Participation

Matsusaka (1995) articulated the most precise information theory of voter turnout. Drawing on public choice literature, his parsimonious model "comes from two observations. First, most citizens are predisposed to vote…[and] second, some citizens abstain because they are unable to evaluate the candidates" (p. 93). Despite its simplicity, Matsusaka (1995) maintains that the information model explains effects as disparate as campaign expenditures, education, and population stability. Fedderson and Pesendorfer (1996) offer a closely related but less compelling theory in which uninformed voters are incentivized to "delegate their vote to better-informed citizens via abstention" (p. 409).

Milner's (2002) concept of civic literacy is likewise a fundamentally public choice theory, though his rational voter is less atomized (Nakhaie, 2006), and he attempts to consider social context more fully. Milner's (2002) aggregate-level analysis finds

strong evidence for a relationship between newspaper readership—a key component of civic literacy—and local voter turnout in advanced industrial democracies. Pattie and Johnston (2003), however, find no relationship between civic literacy and turnout in UK general elections between 1992 and 1997. Milner (2004) objects to Pattie and Johnston's (2003) use of individual-level data, as, he argues, it does not allow for an appropriate test of his theory. Pattie and Johnston (2004), however, refuse to withdraw their conclusion that "civic literacy is not a panacea for falling turnout" (p. 598).

Theoretical disagreements notwithstanding, empirical studies routinely identify relationships between information, political knowledge, and political participation. A newspaper content analysis conducted in Richmond, Virginia and Washington, D.C. found that residents of Richmond, who were exposed to more news about state politics than residents of Washington, were significantly more knowledgeable about state matters, indicating that not only motivation but also opportunity influences political learning (Carpini, Keeter & Kennamer, 1994). Lassen (2005) found similar results in his study of a Copenhagen referendum on decentralization. Exploiting the fact that just four of 15 voting districts carried out a pilot project informing voters on the issue of decentralization, Lassen (2005) demonstrated that better informed districts showed a greater propensity to vote. Larcinesse (2007) criticized Lassen's (2005) methodology, yet, in his study of the 1997 British general election, he confirmed Lassen's results and echoed the conclusion that "political knowledge has a sizeable influence on the probability of voting" (p. 387). Larcinesse (2007) also acknowledged that "mass media play an important role in influencing political participation" (p. 387). This effect may not hold for all age groups, however, as studies have found that more politically informed

adolescents are no more likely to vote than their relatively uninformed peers (Anderson & Goodyear-Grant, 2008).

Local News Media and Political Participation

Gentzkow (2006) demonstrated that not all media is equally effective in encouraging voter turnout. His analysis reveals a relationship between the presence of television (which was introduced unevenly across the United States) and a decline in both newspaper readership and voter turnout in off-year congressional elections. Other studies, however, have found that television, in specific contexts, can have a positive effect on turnout. Oberholzer-Gee and Waldfogel (2009) found that, in non-presidential election years, the presence of a Spanish-speaking news program increases Hispanic voter turnout in that television market. Similarly, Althaus and Trautman (2008) found a relationship between television market size and local turnout, indicating that larger markets are more likely to privilege information on statewide or national elections compared to smaller markets which adopt a more local focus. Mondak (1995) tested the theory that print media is superior to television in "facilitating information acquisition about U.S. elections" (p 513), finding evidence for severely diminished knowledge of local politics in Pittsburgh following an eight-month newspaper strike in 1992 (Mondak, 1995).

Of studies that examine the relationship between local news media and political participation, five are particularly relevant to this study due either to their theoretical or methodological similarity. First, Kubler and Goodman (2019) measured the relationship between municipal voter turnout and a compound measure of newspaper audience and the congruence of newspaper market with electoral boundaries. Congruence is included alongside audience for the same reason that Althaus and Trautman (2008), discussed

previously, use television market size as a proxy for the prominence of local issues in news coverage. Audience alone, argues Kubler and Goodman (2019), is not a sufficient indicator of the health of the local news environment, as it gives no indication of the quality or the relevance of information to municipal voters. Ultimately, the results firmly indicate that newspaper congruence positively influences voter turnout in Swiss municipalities, even after introducing pertinent controls. In contrast to Kubler and Goodman (2019), Baekgaard, Jensen, and Motensen's (2014) study on municipal voter turnout in Denmark favoured a standard survey measure for newspaper readership. The researchers found that although local newspaper coverage is positively associated with voter turnout, its effect is limited compared to the other well-established sociodemographic and political variables included in the model. Baekgaard et al. (2014) chose to interpret this favourably, however, arguing that "it is actually surprising that rather stable predispositions for political participation can be altered at all" (p. 528).

Three American studies exploited the differential presence or absence of a local newspaper, either temporally or spatially. Shaker (2014) took a temporal approach, using 2008 and 2009 Current Population Survey data to measure change in civic engagement in Denver and Seattle where the local newspapers, *Rocky Mountain News* and *Seattle Post-Intelligencer*, closed in the intervening year. Although far from definitive, these data better support the causal direction that loss of the newspaper negatively impacted civic engagement rather than the reverse (Shaker, 2014, p. 144). Filla and Johnson (2010) similarly operationalize local newspaper health as either presence or absence of the paper but use spatial data instead. They find that respondents living in communities outside Los Angeles that are serviced by a daily newspaper are significantly more likely to vote

routinely than those living in communities without a daily newspaper. Of note, Filla and Johnson (2010) failed to find a similar relationship between propensity to vote and *weekly* newspapers. Considering the relative prevalence of weekly or biweekly newspapers in Canada compared to dailies, this result certainly warrants further study.

Finally, Schulhofer-Wohl and Garrido (2013) provide the most compelling evidence in the literature. Their study of the *Cincinnati Post* closure in 2007 benefited from the expiration of a joint operation agreement (JOA) between the *Post* and the dominant Cincinnati paper, the *Enquirer*. Because the JOA's expiration date was determined 30 years in advance, it is unlikely that the *Post*'s closure was the result of declining levels of civic engagement, political events, or broader economic struggles. Schulhofer-Wohl and Garrido (2013) found that after the *Post*'s closure "fewer people voted in elections for city council, city commission and school board; fewer candidates sought those seats; the remaining candidates spent less money on their campaigns; and, for councils and commissions, incumbents' chances of retaining office improved" (p. 61). The JOA means that these findings can be attributed to the newspaper's closure with a fair degree of confidence, although alternative events that may have occurred simultaneously cannot be completely dismissed. Another unique contribution of Schulhofer-Wohl and Garrido's (2013) study is the introduction of incumbency advantage alongside voter turnout and other measures of civic engagement.

Competitiveness and Incumbency in Local Politics

Newspaper health may also be related to competitiveness in local elections. Despite sound rationale for its inclusion, other large-*N* analyses of local media fail to incorporate competitiveness measures as dependent variables. Trounstine (2011)

reiterates the empirical reality that "incumbents are highly likely to win re-election at all levels of government" (p. 255) before acknowledging the relative dearth of scholarship on the issue in the local context. Despite its relatively limited size, the literature consistently affirms the importance of incumbency in local politics (e.g., Krebs, 1998; de Benedictis-Kessner, 2018; Lucas, 2019). Trounstine (2011) theorizes that the unique information environment of local elections is a likely contributor. In a low information, non-partisan environment (as is the case in most Canadian municipalities), incumbency advantage is intensified, she argues, as voters are more likely to rely on name recognition and prior office-holding experience as a basis on which to cast their vote. Trounstine (2012), however, further complicates the issue, finding that the presence of an incumbent candidate discourages competition. As a result, healthy local newspapers should reduce mayoral incumbency advantage and raise competitiveness.

Hypotheses

Based on the above literature, this study advances the following four hypotheses.

HI: Canadian municipalities with more local print newspapers controlled for population will have higher voter turnout in municipal elections.

H2: Canadian municipalities in which the largest print newspaper has higher circulation controlled for population will have higher voter turnout in municipal elections.

H3: Canadian municipalities in which the largest print newspaper is published more often each week will have higher voter turnout in municipal elections.

H4: Canadian municipalities in which the largest print newspaper is a broadsheet rather than a tabloid paper will have higher voter turnout in municipal elections.

In sum, each explanatory newspaper variable included in this study is expected to exert a positive influence on turnout in municipal elections. It is expected that overall newspaper health will be positively correlated with municipal political participation.

Chapter Three: Theory and Method

While the health of local democracy clearly differs between Canadian municipalities, the forces driving this variation are much less clear. The central claim of this study, that local print newspaper health may explain a portion of the variance in participation in municipal elections, must be demonstrated empirically. First, however, the variables included in the analysis and the anticipated connections between them must be grounded theoretically. This chapter provides the necessary theoretical support for later statistical analyses.

As previously stated, the outcome of interest is political participation operationalized as turnout. It is common practice to operationalize political participation as voter turnout (e.g., Putnam, 2001; Kubler & Goodman, 2019; Filla and Johnson, 2010), as this measure has high validity and is considered "the symbolic essence of the democratic government and responsible citizen" (Nakhaie, 2006, p. 363). Turnout, however, only captures a portion of a much broader scope of activities that may be considered political participation, such as speaking in a forum (McLeod, et al., 1999) or writing to an elected representative (Putnam, 2001). I follow previous literature in limiting the scope of political participation to include only turnout (e.g., Baekgaard et al., 2014).[1]

In brief, the logic of this study flows as follows: greater exposure to relevant information increases political knowledge (Carpini, Keeter & Kennamer, 1994; McLeod,

[1] I choose to focus on turnout for four reasons: (1) high validity, (2) widespread availability, (3) centrality to the democratic process, and (4) common use across the literature, allowing for comparison between the Canadian case and existing literature.

Daily, Eveland, Beyer & Yang, 1996), which in turns increases political participation (Howe, 2006; Larcinesse, 2007; McLeod, Scheufele & Moy, 1999). Not all forms of media increase knowledge to the same degree (Shah, McLeod & Yoon, 2001). Print newspapers, the focus of this study, have been found to increase turnout in local elections across various circumstances (e.g., Kubler & Goodman, 2019; Schulhofer-Wolh & Garrido, 2013; Shaker, 2014; Filla & Johnson, 2010), whereas results are mixed for other media, such as television (e.g., Newton, 1999). This variation is likely due to the differences in content encouraged by different media forms. Healthy local print newspapers, which will be defined and operationalized shortly, should therefore be related to healthy local democracy. The following sections expand on this basic premise.

Explanatory Newspaper Variables

To understand the importance of local newspapers to local democracy, it is necessary to first establish what function an *optimal* local newspaper should perform. This function must necessarily be limited to its role of enhancing civic knowledge, although the literature is divided on the extent to which local newspapers filled this role even in prosperous decades (Bentley, 2001). Nielsen (2015) identifies three roles readers and journalists expect of local newspapers: (1) accountability and information, (2) civic and political engagement, and (3) community integration (Nielsen, 2015). I limit Nielsen's definition to suggest that the primary purpose of local newspapers is to inform readers about the communities they live in and the local institutions that govern them. The measures used in this study must therefore capture the extent to which Canadian newspapers are fulfilling the first two of Nielsen's (2015) three roles while excluding measures for community integration. Before discussing the data sources and methods in

depth, I must outline the theoretical justification for the research question and selected variables.

Matsusaka's (1995) Information Model is the major theory on which this study is based. Downs' (1957) *Economic Theory of Democracy* underpins Matsusaka's work and by extension this study. The relevant portions of Downs' seminal text can be summarized in the following four points. First, a person decides whether to vote or abstain depending on the perceived benefit she will derive if a given party forms government. Second, the difference in the perceived benefit of one party forming government over another is termed the *party differential*. The larger the perceived party differential, the greater the likelihood a person will turn out to vote. Third, the rational voter, like the rational consumer, is assumed to operate in a world with maximum information availability. In local elections, as in markets, maximum information is never available. The likelihood that a person turns out to vote, therefore, is also dictated by the time and resource investment required to determine which party represents her best interests and by what margin. And finally, the competitiveness of the race influences the likelihood that any given vote will be the deciding vote and therefore increases or decreases the perceived utility of voting.

Based on Downs' rational voter, Matsusaka (1995) developed the Information Model which contends that some citizens abstain because they do not feel sufficiently informed to cast a ballot for the correct candidate. The *correct* candidate, according to Matsusaka, is the one which best represents the voters' self-interest, however individually defined. According to Matsusaka (1995), the central "insight of the [information] model is that even if people believe it is their duty to vote, rational citizens abstain if they feel

unable to evaluate the choices. Holding constant the basic inclination to vote, then, variations in turnout can be explained by variations in how informed citizens are" (p. 93). Feddersen and Pesendorfer (1996) articulate a similar theory, arguing that in many cases abstention can be conceptualized as a less-informed citizen delegating their vote to a better-informed citizen (p. 76).

The reasoning employed in this study incorporates the logic of both Matsusaka's (1995) Information Model and Snyder and Stromberg's (2010) study on media coverage and localized policy outcomes. Snyder and Stromberg (2010, p. 357) contend that greater congruence between a newspaper's distribution and the electoral district it covers increases the amount of relevant political news available to voters, resulting in better informed voters, more accountable politicians, and more beneficial policies for the communities in question. I pivot from Snyder and Stromberg (2010) to contend that healthier local print newspapers result in more informed voters who, per the Information Model (Matsusaka, 1995), are more likely to participate in local democracy by voting and running for office.

As local newspapers fold across Canada—and other industrialized democracies—voters in local elections are tasked with choosing between candidates with whom they are unfamiliar to fill positions they do not understand. This informational gap is made worse by the non-partisan nature of local elections in Canada which removes partisan shortcuts from voters' decision-making calculus. Studies have identified a lack of partisan heuristics and the resultant information deficit (e.g., Cutler & Mathews, 2012; Breux, Couture & Koop, 2017) as one explanation for why turnout in Canadian municipal elections is lower than in provincial and federal elections, where parties assume some

responsibility for public education.

To determine how local newspapers may negate this effect, I turn to a discussion of the civic function newspapers ought to serve in Canadian communities. In its report on local journalism, *The Shattered Mirror*, the Public Policy forum defines "civic function" journalism as "the coverage of local elected officials and public institutions, from legislatures, judicial or quasi-judicial bodies and city halls to school boards and supporting public services; issues and debates related to these officials and bodies; and the ability of communities to know themselves for civic purposes" (p. 95). A newspaper of optimal health in the context of this study provides the maximum amount of civic function content relevant to local elections to the maximum number of eligible voters. This content should provide information on the platforms and personal characteristics of incumbents and challengers, as well as on major events, trends, and issues in the municipality that may warrant political attention or influence election outcomes. Content of this nature is a specific subset of "hard" news, as it is commonly dubbed in the literature (e.g., Andrew, 2013; Shah, McLeod & Yoon, 2001), in contrast to "soft" news, the primary purpose of which is entertainment. The optimal newspaper, in other words, allows every eligible voter to obtain the maximum amount of relevant information at an equivalent minimum cost.

No newspaper in Canada or elsewhere meets this standard. Each newspaper in Canada, then, provides some civic benefit that is a fraction of the optimal benefit I have described. The question I am concerned with here is how to determine the size of that fraction. The measure should contain three dimensions: 1) *penetration,* or how many people read the newspaper, which can be influenced by factors like pricing and

distribution infrastructure (ideally equivalent to the population of the municipality); 2) *relevance* of information, or the range of topics the newspaper covers (ideally specific to news impacting local politics); and 3) *quantity* of relevant information, or how much relevant news is produced by the newspaper (ideally the amount needed to fully inform each reader at some equivalent minimum cost).

Few studies published to date measure newspaper health along all three dimensions, and those that do are either case studies or small-*N* comparative studies with limited external validity (e.g., Shaker, 2014). To guard against these common pitfalls, I have included the following four variables to capture the health of local print newspapers: 1) total newspapers (combined daily and community) per municipal population, 2) largest newspaper print circulation per municipal population, 3) largest newspaper publication frequency (from 1-7 times per week), and 4) largest newspaper publication format (broadsheet or tabloid).[2] As discussed elsewhere, the primary reason I focus on print publications is that amid declining readership local newspapers remain the primary provider of civic function journalism and print revenues remain their primary source of funding (Nielsen, 2015, p. 52). The specific operationalization of these and other variables included in this study is listed in Table 1.

[2] In early iterations of the final multivariate analysis, I included a dummy variable for newspaper presence or absence in a community, per Shaker (2014). This variable exhibited high collinearity with the variable for publication frequency of the largest newspaper. I chose to retain the publication frequency variable and remove the newspaper dummy, as the frequency variable had greater variation. I still used the newspaper dummy, however, in some descriptive statistics and crosstabs in Chapter Four.

Table 1
Variable Operationalization and Data Source

Variable	Operationalization	Data Source
Dependent		
Voter Turnout	*(valid votes/eligible voters) [except for QB, where municipalities report turnout as valid votes/registered voters]*	*Centralized data in ON, QC, BC, AB, and PEI*
Independent *Explanatory*		
Total Newspapers/Population	*(total newspapers/population) *10,000*	*Newspaper statistics: News Media Canada circulation data*
Largest Newspaper Print Circulation per Population	*weekly print circulation of largest newspaper/population*	
Days per Week Largest Newspaper Published	*total days per week (1-7) largest newspaper is published*	
Largest Newspaper Format (Broadsheet/ Tabloid)	*1 = broadsheet, 0 = tabloid*	
Controls		
Five-Year Population Growth (2011-2016)	*[(population$_t$ – population$_{t-1}$) / population$_{t-1}$] *100*	*(Lucas, 2019): Canadian Municipal Barometer Background Data Series*
Population	*ln (population)*	
Population Density	*ln (population / km^2)*	
Number of Mayoral Candidates	*ln (number of mayoral candidates)*	
Margin of Mayoral Victory	*% valid votes for winner - % valid votes for second place finisher*	
Councilors/Population	*(number of councilors / population) *10,000*	
Age (18-34)	*(age 18-34 / population)*	
Age (65+)	*(age 65+ / population)*	
House Ownership	*(number house owners / population)*	
Median Income	*median after-tax income*	

Population refers to 2016 municipal population derived from CMB

The measures used in this study do not capture all three dimensions of newspaper health. The measure for circulation of the largest newspaper in the municipality directly captures penetration. Quantity, on the other hand, is not directly measured, but I do include variables measuring the total number of print newspapers and the publication frequency of the largest newspaper. A common indicator for newspaper penetration or "density" (Powers, Zambrano & Baisnee, 2015, p. 38) is the total number of newspapers

in circulation per 1,000 inhabitants (e.g., Starr, 2004; Powers et al., 2015). This study, however, includes 233 cases compared to the two cases included in Powers et al. (2015). Thus, three of four newspaper variables included in this study are limited to the *largest* print newspaper in each municipality. American studies have demonstrated that the effect on presidential and congressional participation that can be attributed to newspapers is "driven mainly by the first newspaper in the market, and the effect of a second or third paper is significantly smaller" (Gentzkow, Shapiro Sinkinson, 2011, p. 2980). In short, the *largest newspaper matters most*. Nonetheless, I include a variable capturing the total number of newspapers in a municipality, as the importance of newspaper competition has gone unexplored in Canada.

Cumulatively, these three variables provide an indirect measure of the quantity of news coverage. A major limitation to this approach is that quantity is linked inextricably to relevance—that is, quantity of content is meaningless for our purposes if the content is not relevant to local politics—and the number of newspapers does not guarantee the relevance of the content published. Simply put, the quantity of *newspapers* does not matter so much as the quantity of relevant *articles* or fragments of information. Nor is it self-evident that the quantity of relevant information within newspapers does not vary significantly between municipalities. Introducing, as I have, a simple either/or variable for whether the largest newspaper is broadsheet or tabloid addresses relevance, albeit to a limited extent. Studies have documented differences in content published in broadsheet compared to tabloid newspapers (e.g., de Vreese & Boomgaarden, 2006), finding that broadsheet papers significantly enhance political participation while tabloid papers do not (Newton, 1999). I capture the three dimensions of healthy local newspapers with several

indirect measures that should nonetheless represent civic function with adequate validity.

Broadsheet dummy notwithstanding, the most significant limitation of this study is that it lacks a direct measure of newspaper relevance to municipal voters. Other studies have addressed this oversight in a variety of ways. Kubler and Goodman (2019) emulate previous television studies (e.g., Althaus and Trautman, 2008) by operationalizing the relevance of newspaper content as the territorial fit between newspaper markets and the municipalities they service. The researchers combine congruence with a traditional penetration variable measured directly as circulation. Kubler and Goodman (2019) justify the use of territorial fit with the assumption that market congruence is an effective proxy for the relevance of media content due to the expected incentives for covering local news in a high congruence market. They note that current trends in the newspaper industry, such as ownership consolidation and commercialization, force media markets and political districts out of alignment by broadening and diluting media coverage (Kubler & Goodman, 2019).

In many cases, newspapers prioritize the theatre of national and international politics despite the comparatively limited impact this news has on the lives of most citizens. Based on Hallin and Mancini's (2004) typology, Kubler and Goodman (2019) fit Switzerland's media system within the broadly defined Democratic Corporatist Model, indicating high levels of explicit partisanship, state intervention, political parallelism, and journalistic professionalism. Canada better fits Hallin and Mancini's (2004) Liberal Model, which is dominated by established commercial media and attains an almost ideal type expression in the United States. Canada is therefore at greater risk of newspaper market delocalization than is Switzerland, despite concerns for the future of local Swiss

media expressed by Kubler and Goodman (2019).

An alternative strategy employed in the literature to capture the relevance dimension is surveys and interviews. Using self-reported survey data, Baekgaard, Jensen and Motensen (2014) generated three indices about the nature of local journalism in Danish municipalities: information, sensation, and impact. The information index used by these researchers is equivalent to my relevance dimension. In line with expectations, the study finds that the quantity of neutral, relevant information provided by local media has a positive impact on voter turnout. The study does not find a similar effect for the other indices, suggesting that merely the presence of relevant information drives turnout. No measurable impact can be attributed to the tone or spin with which news is reported nor to the impact of the news as perceived by readers.

While Baekgaard, et al.'s (2014) methodology improved on previous studies in several respects, surveys suffer from limitations of their own, such as reliance on subjective responses. Slater (2014) also criticizes self-reported measures of exposure because, unlike content analyses, this approach does not eliminate uncertainty about the true nature of the content. The limitations of its methodology may help explain why the study found no relationship between turnout and indices of sensation and impact, despite theoretical justification for their inclusion. For example, responses to statements like "local newspapers are often opposed to the decisions made by the city council" (Baekgaard et al., 2014, p. 523) may be as descriptive of respondents' attitudes toward city council as toward local media. In addition, surveys are time-consuming and costly. For these reasons, I chose to sacrifice relevance to ensure sound measurements for penetration and quantity. It may nevertheless be the case that some newspapers attain

higher circulation because they provide better and more relevant content. To the extent this is true, circulation may partially capture effects otherwise attributable to relevance. Considering the pace of technological change and the rapid collapse of the advertisement-based funding model, I hesitate to attribute the failure or success of a local newspaper to its quality alone, but it is likely an oversight to assume that newspaper quality does not explain a portion of the effect.

I do not dispute Kubler and Goodman's (2019) claim that audience size alone is an insufficient metric, however, the additional variables included in this analysis should provide a more complete picture of newspaper health than penetration alone. To directly capture relevance would require either a congruence measure, for which necessary data is not available in Canada, or a content analysis that is outside the scope of this study. Given the large number of cases under examination (N=233), a content analysis of this scope is an unmanageable undertaking. Future studies may consider using text mining techniques to explore this topic at large scale and comparatively limited cost. Without exploring the utility of text mining, however, an alternative approach could be to conduct a longitudinal study on a single case that measures changes in local newspaper content and political participation over time. Across the literature, limited though it is, more studies employ a longitudinal case study approach of this nature (e.g., Shaker, 2014; Filla & Johnson, 2010; Schulhofer-Wohl & Garrido, 2013) than employ a large-N cross sectional design (e.g., Kubler & Goodman, 2019). Although these longitudinal studies typically measure the impact of either the presence or absence of a local newspaper rather than the extent or quality of content available to news consumers, I contend that, given the notable lack of academic attention to this topic in Canada, a cross-sectional design

that establishes aggregate trends may yield more compelling findings and stronger justification for future research.

If the data demonstrate significant relationships between explanatory and dependent variables at the national level, the value of teasing out causation through an in-depth study of a single representative case is enhanced. Considering the validity of the data used in this study, a result of no correlation would indicate either that relevant information has little impact on local political participation or that some emerging information source—social media, for example—has compensated for the loss of information from local newspapers. To date, however, studies have found that local newspapers remain the "most important" source of local public affairs information (Nielsen, 2015, p. 9).

Controls

If this study establishes a correlation between the explanatory and outcome variables, the potential for a spurious relationship will be minimized by including appropriate controls in the model. In addition, theoretically informed controls will act as a baseline against which newspaper effects can be compared (see Baekgaard, Jensen, Mortensen & Serritzlew, 2014). As noted in the literature review, voter turnout has received enormous scholarly attention, and two recent meta-analyses have attempted to distill from this literature a "core model" (Stockemer, 2017, p. 712) of voter turnout, though there is some disagreement on the primary explanatory variables. Stockemer's (2017) study is the most recent, though he advocates a more conservative core model than previous studies have done. Stockemer restricts his model to only three variables which have shown repeatedly to influence turnout at the national level: compulsory

voting, decisive elections, and population size. Cancela and Geys' (2016) meta-analysis is arguably the current standard in the literature, and the researchers endorse a broader range of variables, stating that "population size and stability, electoral closeness, campaign expenditures, and institutional procedures governing the course of elections more often than not have a statistically significant association to voter turnout in the predicted direction," before concluding that "such variables thus continue to appear 'indispensable to any future analysis of turnout'" (Cancela and Geys, 2016, p. 271).

A "core model" of voter turnout is an informative though inexhaustive point of departure for this study. Most studies on voter turnout focus on national elections, although Cancela and Geys (2016) include subnational data. Nevertheless, subnational elections differ widely from one nation to the next, and established determinants of turnout may not hold true when filtered through the unique lens of local politics. As mentioned previously, the Canadian local context is poorly understood. A study of this nature therefore necessitates a broad sampling of literature to identify controls well beyond a contested core model. I have identified 10 control variables divided into three broad categories: sociospatial, political/institutional, and sociodemographic. In addition, I will introduce a series of dummy variables to control for provincial effects. It is important to note that the "sociodemographic" category refers only to population averages of individual characteristics. These variables, as all others in the analysis, are measured at the aggregate level and, following the approach of Hajnal and Lewis (2003), I "do not attempt to infer any causal relationship about individual behaviour" (p. 654).

Sociospatial.

Population is a common control variable in turnout studies (e.g., Shaker, 2014;

Kubler & Goodman, 2019; Oliver, 2000; Hajnal & Lewis, 2003). This study follows many others (Caron, 2007; Baekgaard, Jensen, Mortensen & Serritzlew, 2014; Couture, Breux & Bherer, 2014) in choosing to log transform the population variable, per the advice of Blais and Bobrzynska (1998). Population is a significant variable in "three out of four" studies of national voter turnout (Stockemer, 2017, p. 708), yet has even greater explanatory power in subnational elections (Cancela & Geys, 2016). Studies usually find a negative relationship between population and turnout (Cancela & Geys, 2016)—indicating that people living in small population centres are more likely to vote—and this finding has been replicated in municipal elections in the United States (Oliver, 2000), as well as Canadian provinces such as Ontario (Kushner, Siegel & Stanwick, 1997) and Quebec (Couture, Breux & Bherer, 2014). Common explanations for this finding include the relative ease of political participation (Verba & Nie, 1972) and the increased probability of casting the deciding ballot (Cancela & Geys, 2016). Breux, Couture and Koop (2017) find the opposite relationship, however, in their pan-national study of Canadian municipalities. They attribute this reversal to the nature of media coverage in small compared to large municipalities, concluding that "elections in large cities are more likely to attract media attention," whereas "smaller population centres may lack the media infrastructure to see widespread coverage of local races" (Breux, Couture & Koop, 2017, p. 716). As a result, I expect to observe a positive relationship between population and turnout in my dataset.

A related variable, population growth, or the change in population over a period of time, is likewise often identified as a salient predictor of turnout in national (Geys, 2006; Hoffman-Martinot, 1994) and subnational (Breux, Couture & Koop, 2017)

elections. Cancela and Geys (2016) find that population "stability," or limited population growth, has greater explanatory power in subnational than national elections, suggesting a significant negative effect that increases in local contests. Studies focusing on municipal turnout tend to support this finding (Breux et al., 2017), although many use slightly different measures to capture the same concept, including "length of residence" (Oliver, 2000, p. 366; Filla and Johnson, 2010, p. 684) and "population moves" (Baekgaard, Jensen, Mortensen & Serritzlew, 2014, p. 526).

The final sociospatial variable included here is population density. Echoing previous population variables, Cancela and Geys (2016) stress the explanatory power of population "concentration" (p. 268) in subnational elections. Other local turnout studies support this finding by controlling for density (e.g., Baekgaard et al., 2014). Breux et al. (2017) find a significant negative relationship between density and turnout in municipalities across Canada—people living in dense population centres are less likely to vote—but Couture et al. (2014) fail to find a similar effect when limiting the analysis to Quebec. I expect to observe a negative relationship between turnout and both population growth and density.

Political/Institutional.

The two political variables included in this study are both predictive of turnout and indicative of democratic health. In the Canadian context, both Breux et al. (2017) and Couture et al. (2014) find a negative relationship between turnout and margin of mayoral victory (MMV) in municipal elections—indicating that a wider gap between winner and runner-up results in lower turnout—though only Breux et al. (2017) finds a significant positive relationship between turnout and number of mayoral candidates (NMC). In an

analysis of Ontario municipalities, Kushner et al. (1997) focus on candidates for council rather than mayor but nonetheless find a positive impact on turnout, though only for small- and medium-sized municipalities.

There are similarly conflicting results in other contexts. Cancela and Geys (2016) find only "partial evidence" (p. 270) in their meta-analysis for the predictive power of "election closeness," whereas Caron (2007) finds that "each five percentage point increase in the margin of victory decreas[es] turnout by one percentage point" (p. 41) in American municipalities. Results such as these prompted Stockemer (2017) to classify the empirical evidence for electoral closeness as "lukewarm at best" (p. 710). Nonetheless, evidence to date is sufficiently compelling to warrant the inclusion of both competitiveness variables as controls.

In contrast, the institutional variable included here, number of councilors per population, is not widely cited or supported in the literature. In fact, I would likely not include this variable except that Breux et al. (2017) found it to be a highly important in their analysis. They conclude that each additional "councillor per 10,000 inhabitants increased voter turnout by 2.42 percentage points" (Breux et al., 2017, p. 714). Given the similarities in research question and design between this study and Breux et al. (2017), I deemed it important to include councillors per population as a control with the same expected direction of effects.

Sociodemographic.

Age is considered "among the most powerful" (Gallego, 2008, p. 24) predictors of turnout. I include two aggregate level age variables in this analysis modelled after

Baekgaard et al.'s (2014) "proportion young" and "proportion old" (p. 526) variables. The two age variables included in this analysis measure the percentage of the total municipal population that fall into one of two age groups: those aged 18-34, and those older than 65. Although studies of individual determinants of turnout typically introduce a single continuous age variable (e.g., Filla & Johnson, 2010; Pattie and Johnston, 2003; Oliver, 2000; Newton, 1999; Nakhaie, 2006), it is common for aggregate analyses such as this one to control for both the percentage of young and old eligible voters (e.g., Hajnal & Lewis, 2003; Couture et al., 2014; Baekaard et al., 2014).

Kubler and Goodman (2019) control only for the percentage of old voters in their study of Danish media, and this approach likely reflects the close relationship between age and print newspaper readership (Shah, McLeod & Yoon, 2001). It is for two reasons, then, that old age must be controlled in this study. First, older Canadians are more likely to vote both within and across generations (Blais, Gidengil, Nevitte & Nadeau, 2004)—at least in federal elections—and may therefore explain a portion of the variance in local turnout. And second, older people are more likely to read print newspapers (Shah, McLeod & Yoon, 2001) and may therefore explain a portion of the relationship between newspaper circulation and turnout.

I choose to control for both the percentage of old and young voters, however, as youth turnout is particularly low (Gallego, 2008). Due to an increasingly fragmented media environment wherein print newspapers lack their former widespread readership (Wattenburg, 2006), young generations are better able to "skip political knowledge" (Gallego, 2008, p. 27) and, as a result, exhibit low "civic literacy" relative to their older peers (Milner, 2002). Therefore, the decline of civic function journalism may be related

to low turnout among youth.

Individual level socioeconomic (SES) status variables are also commonly used in turnout studies, but close correlations between various measures of status present challenges for statistical modelling. Studies employ a range of methods to circumvent these challenges. Hajnal and Lewis (2003), for example, use factor analysis to collapse four highly-related variables—including percentage owner-occupancy of housing and median household income—into one summary measure. Other turnout studies include the aggregate percentage of house owners as a distinct independent variable with a positive influence on turnout (e.g., Caron, 2007). McGregor and Spicer (2016) apply Fischel's "homevoter hypothesis" to Canada, finding a positive and statistically significant relationship between homeownership and the probability of voting in Canadian municipal elections. This relationship is attributed to the desire for homeowners to participate in municipal politics in order to "protect and enhance the value of their homes" (McGregor & Spicer, 2016, p. 123), prompting Dipasquale and Glaeser (1999) to proclaim homeowners "better citizens" (p. 354).

Median income, as well, is often included as a control in turnout studies (e.g., Kubler & Goodman, 2019; Shaker 2014; Oliver, 2000, Newton, 1999), although a nominal class variable (Pattie & Johnston, 2003) or a series of dummy variables representing income brackets (Nahkaie, 2006) can also be used. I follow both Couture et al. (2014) and Filla and Johnson (2010) by including both house ownership and median income as distinct controls with an expected positive effect on turnout.

Finally, I will introduce a series of dummy variables to control for provincial effects. Nakhaie (2006) divides Canada into four regions—Ontario, Quebec, West, and

B.C.—and this analysis will take a similar approach, instead using the four largest provinces of which the dataset is comprised—Ontario, Quebec, B.C., and Alberta. Ontario will serve as the reference category, as it is the most populous province. All independent variables and their expected directions of effect are summarized in Table 2.

Table 2
Expected Direction of Effects

Independent Variables	Voter turnout	# Mayoral	Mayoral Margin
Explanatory			
Total Newspapers per Municipal Population	+	+	+
Largest Newspaper Print Circulation per Population	+	+	+
Days per Week Largest Newspaper Published	+	+	+
Largest Newspaper Format (Broadsheet/Tabloid)	+	+	+
Controls			
Five-Year Population Growth (2011-2016)	-	-	-
Population	+	+	+
Population Density	-	-	-
Number of Mayoral Candidates	+	+	+
Margin of Mayoral Victory	-	-	-
Councilors per Population	+	+	+
Percent Aged 18-34	-	-	-
Percent Aged 65+	+	+	+
Percent House Owner	+	+	+
Median Income	+	+	+
Province			

Chapter Four: Data and Results

To study the relationship between local media health and municipal turnout, I draw on an original dataset that includes more than 200 cases (municipalities) from the four largest provinces in Canada: Ontario, Quebec, Alberta, and British Columbia. These four provinces combine for a population of over 30 million, or 86.3 percent of the total Canadian population, and contain over 3,000 municipalities, or 58.6 percent of the 5,162 municipalities in Canada (Statistics Canada, 2016). In addition, these provinces include nine of the 10 largest municipalities in the country, notably Toronto, Montreal, Calgary, and Vancouver. Perhaps most important, however, is that each of these provinces publishes its municipal elections results in centralized databases. Because Canadian municipalities are not always responsible for reporting election information to their respective provinces, most provinces do not compile information on municipal elections. In these provinces, the data can only be found by visiting individual municipal websites or by directly contacting municipal clerks (see Breux et al., 2017, p. 720). Breux et al. (2017) limited their analysis to the 100 largest municipalities in Canada, citing "difficult to access" (p. 709) electoral data as the primary reason. This study includes more than 100 cases but, for similar reasons to Breux et al. (2017), limits those cases to provinces with readily accessible municipal data. Coupled with the large population of this subsample, focusing on the four largest provinces can be justified both practically and theoretically.

To build my dataset, I began by deriving political variables, including mayoral turnout and competitiveness, from provincial databases. I chose to focus on *mayoral* turnout as mayoral candidates are elected separately from councillors in all Canadian

municipalities "on the basis of universal suffrage" (Breux et al., 2017, p. 704). As there is greater variation in the institutional characteristics of council elections, such as the ward vs. at-large debate (e.g., Koop & Kraemer, 2016), focusing on mayoral turnout eliminates at least one source of variation between municipalities. The databases, especially Alberta's, were missing data for several municipalities. In cases where the mayor was appointed by acclamation, turnout was coded 9999 to represent missing information. Conversely, turnout in Lacombe, Alberta was recorded at 100 percent. As perfect turnout is most likely the result of a typographical error, I chose to code Lacombe's turnout as missing.

I calculated turnout and competitiveness measures for the most recent round of municipal elections nearest the 2016 census, from which many of my sociodemographic variables were derived. All Canadian municipalities follow a standard four-year election cycle. Several provinces, however, have only recently conformed to the standard (Breux et al., 2017), resulting in staggered municipal elections across provinces. As a result, I used 2018 election data for Ontario and British Columbia, and 2017 election data for Quebec and Alberta.

Following McDonald and Popkin (2001), I calculated turnout wherever possible with the number of eligible rather than registered voters. In turnout studies the numerator is uniformly the number of votes cast, but researchers around the world use an array of denominators to calculate turnout (Lijphart, 1997). Many American studies base their turnout calculation on census data which records voter *age* population (VAP) not voting *eligible* population (VEP) (McDonald & Pipkin, 2001). A major drawback to using the VAP is that it fluctuates between including larger or smaller numbers of non-citizens

each year, artificially inflating or deflating turnout (Caron, 2007). Using the number of registered voters as the denominator is another common approach, but it is likewise flawed as "it both excludes those eligible, but not registered, and includes those who are registered, but no longer eligible" (Caron, 2007, p. 35). For these reasons, Caron (2007) and McDonald and Popkin (2001) endorse the use of VEP as the denominator. Fortunately, municipalities in Ontario, Alberta, and British Columbia each report turnout data as the number of votes cast divided by the number of eligible voters. Quebec, in contrast, uses the number of registered voters as the denominator. The use of registered instead of eligible voters may alter Quebec's data in relation to the other provinces. It will therefore demand careful interpretation if a significant positive effect for the Quebec dummy is found in the final multivariate model. Ultimately, however, this discrepancy is relatively minor and should not drastically affect the results of this study.

I derived two additional political variables from the provincial databases: NMC and MMV. The first, NMC, is a simple ordinal variable ranging between two and 35 candidates, expressed logarithmically. The second, MMV, is a continuous variable expressed as the percent difference in vote share between the winner and runner-up in mayoral elections. The introduction of newspaper variables, which will be discussed shortly, and listwise deletion of missing cases produced a final dataset of 233 cases. Table 3 shows the distribution of cases by province.

Table 3
Number of Cases by Province

Province	(N) Municipalities
Quebec	62
Ontario	107
Alberta	23
British Columbia	41
Total	233

I derived all four explanatory newspaper variables from the 2015 spreadsheets for daily and community newspaper circulation published on News Media Canada's website. News Media Canada, the self-styled "voice of the print and digital media industry in Canada" ("About Us", n.d.), is an advocacy and market research group primarily representing legacy Canadian media outlets. The CMB sources its data from the Alliance for Audited Media, Canadian Circulation Audit Board, Canadian Media Circulation Audit, and publisher claims/statements. As News Media Canada counts all major Canadian newspaper publishers as members, I expect these sources to provide valid data. Each newspaper variable, except print circulation, is published directly in the News Media Canada dataset, and I merely copied the relevant information. Circulation, however, was reported separately by News Media Canada as total circulation and digital circulation. I therefore determined the specific value for weekly print circulation by subtracting digital from total circulation.

Ambiguities in the newspaper data forced me to make several challenging methodological decisions. Before discussing these, however, I must make a brief note on the News Media Canada data. News Media Canada specifies a municipal "market" for each newspaper. For the purposes of this study, the market identified in the data represents the *full* audience. That is, I assume that the complete print circulation of the newspaper is contained within the target municipal market. In some cases, e.g., the

Toronto Star, this assumption is clearly untrue. In most others, e.g., the Granby Express, it is highly unlikely that a significant portion of the newspaper's readership lives outside the target municipality. There are far more newspapers that resemble the Granby Express than the Toronto Star. In fact, outside the largest municipalities and provincial capitals, the circulation of the largest newspaper is unlikely to hold broad appeal beyond the municipality listed on its masthead. 79.4 percent of the 233 municipalities included in the final model of this study have a population of less than 100,000. The print circulation variable is imprecise but should nonetheless provide a reasonably accurate representation of readership concentration.

Just four municipalities with a daily newspaper were not large enough to be included in my study: Caraquet (NB), Fort Frances (ON), Kimberley and Trail (B.C.). Conversely, several municipalities shared a—typically community—newspaper. In these cases, News Media Canada lists multiple markets for a single newspaper. I addressed this situation, which occurred in 14 of the 233 cases, by attributing the newspaper's full circulation to each of the municipalities listed as its market.[3] My reasons for this are twofold. First, using the News Media Canada data, it is impossible to determine what percentage of the circulation goes to which municipality. Dividing the circulation evenly, for example, would amount to mere guesswork. And second, as these cases are typically regional newspapers with limited readership, the cumulative effect of overestimating circulation in a small subset of cases is likely to be minimal.

[3] It is likely that more than 14 newspapers service multiple markets, yet this reality is not reflected in the News Media Canada dataset. Outside the 14 multi-market cases included, it is impossible to know the precise circulation distribution outside the target market except by individually contacting each newspaper and requesting circulation statistics. Limitations of the circulation variable are discussed in greater depth in Chapter Six.

My circulation variable, along with two of my other three newspaper variables, pertains to the largest print newspaper in the municipality. In cases where the controlled (free) circulation of the largest community newspaper (defined by News Media Canada as newspapers that are published 3 or fewer times per week) exceeded the paid circulation of the largest daily newspaper (published at least 4 times per week), I chose to privilege paid daily circulation over controlled circulation based on the assumption that paid newspapers publish more relevant civic content. In other words, if the largest newspaper was a controlled community paper, I recorded data for the largest paid daily instead—if there was one. Similarly, if a municipality was serviced by both a regional newspaper and one specific to a given municipality, I privileged the municipal paper, even if the regional newspaper was larger. I did this because, due to the potential for much of its readership to live in neighbouring municipalities, a regional newspaper is less likely to produce relevant civic content.

A further complication occurred when News Media Canada data recorded a single community newspaper—same name and ownership—as multiple cases if the newspaper was published twice or more per week. This occurrence was common with Metroland Media Group papers in Ontario. I recorded these cases as a single newspaper by adding its print circulation for each day it was published to determine a weekly total. If, however, the weekend edition was published under a different name with a distinct circulation pattern (e.g., paid instead of controlled), I included the weekend edition as a separate newspaper.

Although the civic value of newspaper content is inferred in this study through proxy measures, I did exclude some newspapers after a cursory examination of content. I

excluded all ‘Snapd’ newspapers, as these monthly publications are explicitly “non-political” (“About Us—Snapd”, n.d.) and image oriented. I determined that these newspapers did not provide adequate civic value to merit inclusion in this study. I also excluded Canadian Forces Base (CFB) newspapers, as these cater to a specific population and are not widely read by the public. I included others, such as “News Advertiser” titles, although publications of this nature highlight the gulf in civic content between paid dailies and many community papers.

I derived each of my controls, excepting competitiveness variables and provincial dummies, from the publicly available Canadian Municipal Barometer (CMB) Background Data Series. This data provides a range of information on the 447 largest municipalities in Canada. The dataset includes 123 variables per case, ranging from municipal institutions to commuting patterns. To coincide with my existing data, I included just the four largest provinces from the CMB data, representing 380 of the original 447 cases. Following listwise deletion, 233 cases remained in the final dataset. Table 4 contains descriptive statistics for the final dataset used in the multivariate analysis. Refer to Appendix A for a summary table detailing the descriptive statistics of the original dataset prior to listwise deletion.

Table 4
Descriptive Statistics Final Dataset

Variables	N	Min	Max	Mean	S.E.	S.D.
Voter Turnout	233	.2015	.5906	.4004	.0052	.0791
Total Newspapers per 10k Population	233	.02	2.92	.5887	.0343	.524
Largest Newspaper Print Circulation per Population	233	.0006	11.79	1.1063	.0846	1.2909
Days per Week Largest Newspaper Published	233	1	7	2.38	.131	1.995
Largest Newspaper Format (Broadsheet/Tabloid)	233	0	1	.23	.028	.423
Five-Year Population Growth (2011-2016)	233	-5.3	42.3	5.3288	.4464	6.8146
Log Population	233	9.1985	14.8204	10.612	.075	1.1447
Log Population Density	233	-.92	8.61	5.7142	.1069	1.6322
Log Number of Mayoral Candidates	233	.69	3.56	1.1884	.032	.4886
Margin of Mayoral Victory	233	.0001	.9386	.3026	.0151	.2305
Councilors per 10k Population	233	.004	3.04	.8048	.0537	.8197
Age (18-34)	233	.13	.45	.2486	.0034	.0517
Age (65+)	233	.04	.48	.2369	.0045	.0687
House Ownership	233	.3673	.9341	.7223	.007	.1073
Median Income	233	39,424	148,236	64,766.85	1,017.299	15,528.394
Valid N	233					

From the final dataset (*N*=233), in which every mayoral election was contested by at least two candidates, mean turnout was 40.04 percent. This value is, predictably, substantially lower than the almost 70 percent turnout in the 2015 Canadian federal election. Such a result is not surprising given the "second-order" nature of municipal politics in Canada (Reif & Schmitt, 1980; McGregor & Lucas, 2019). The range across municipalities was 38.91 percent, from a minimum of 20.15 percent turnout in Grande Prairie, Alberta to a maximum of 59.06 percent in Niagara-on-the-Lake, Ontario. Less than half of the eligible population turned out to vote in almost 90 percent of municipal elections. Grouping municipal turnout by decile results in 90 cases (38.6%) falling

between 30 percent and 39.99 percent and 91 cases (39.1%) falling between 40 percent and 49.99 percent. In just 28 cases (12.0%) turnout fell between 20 percent and 29.99 percent and in just 24 cases (10.3%) between 50 percent and 59.99 percent. These four deciles contain the full range of municipal turnout. *Figure 1* depicts this distribution graphically.

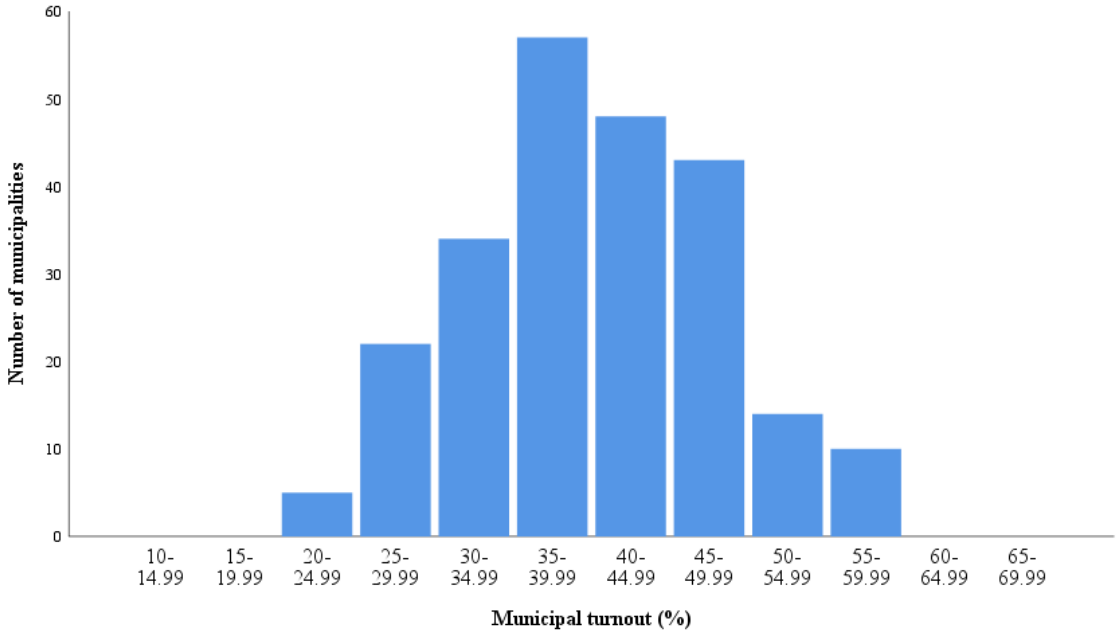

Figure 1: Bar graph of municipal turnout distribution (N=233)

The two other political variables I derived from the provincial databases are equally indicative of ailing democratic health. In 233 contested mayoral elections, the NMC ranged from a minimum of two, which occurred 76 times and was also the mode, to a maximum of 35, which occurred once in Toronto, Ontario. Across Canadian municipalities, almost 80 percent of elections were contested by four or fewer candidates, while less than 4 percent of cases were contested by 10 or more. The 2018 Toronto mayoral election, in which 35 candidates registered to run, is therefore an extreme outlier.

The other competitiveness variable, MMV, was highly variable between cases. This value ranged from a minimum of 0.0001 percent in a tightly contested election in Brockville, Ontario, to a maximum of 93.86 percent in an electoral drubbing in Victoriaville, Quebec. The median value of 24 percent indicates that most cases are closer to Brockville than Victoriaville, but a mean of over 30 percent nonetheless represents a significant margin of victory for elected mayors. This is consistent with previous studies on incumbent advantage, especially municipally (de Benedictis-Kessner, 2018; Lucas, 2019; Trounstine, 2011; Warshaw, 2019).

These descriptive statistics do not, however, adequately communicate the state of democratic health in Canadian municipalities. Because these values pertain only to mayoral elections contested between two or more candidates, they fail to account for the large percentage of prospective elections which were never held due to lack of competition. Restoring acclamation cases yields a truer depiction of municipal democratic health. The mayor was appointed by acclamation in 62 of 377 cases for which I have data and faced just a single challenger in another 127. The combined result is that mayoral elections are contested by *two or fewer* candidates *over 50 percent* of the time. This is particularly important as the NMC and MMV are negatively correlated at the 0.01 level, meaning that as the number of candidates for mayor increases, the gap between the winner and runner-up narrows. This finding holds at the 0.05 level when excluding cases with a single candidate. It makes intuitive sense that splitting the total vote among more candidates would yield smaller and closer vote shares, but significant Pearson correlations between these variables illustrates that competitiveness factors compound one another.

I ran several additional bivariate analyses and Pearson correlations to explore the relationships between key variables. First, I conducted a simple bivariate correlation between turnout and a newspaper presence/absence dummy. Across 344 cases, 253 (74%) municipalities had at least one newspaper, and 91 (26%) municipalities had no newspaper at all. The bivariate analysis yielded a small negative correlation but, with a p value of 0.865, was not significant at standard levels. *Figure 2* and *Figure 3* illustrate this relationship graphically, as a simple boxplot and bar graph, respectively.

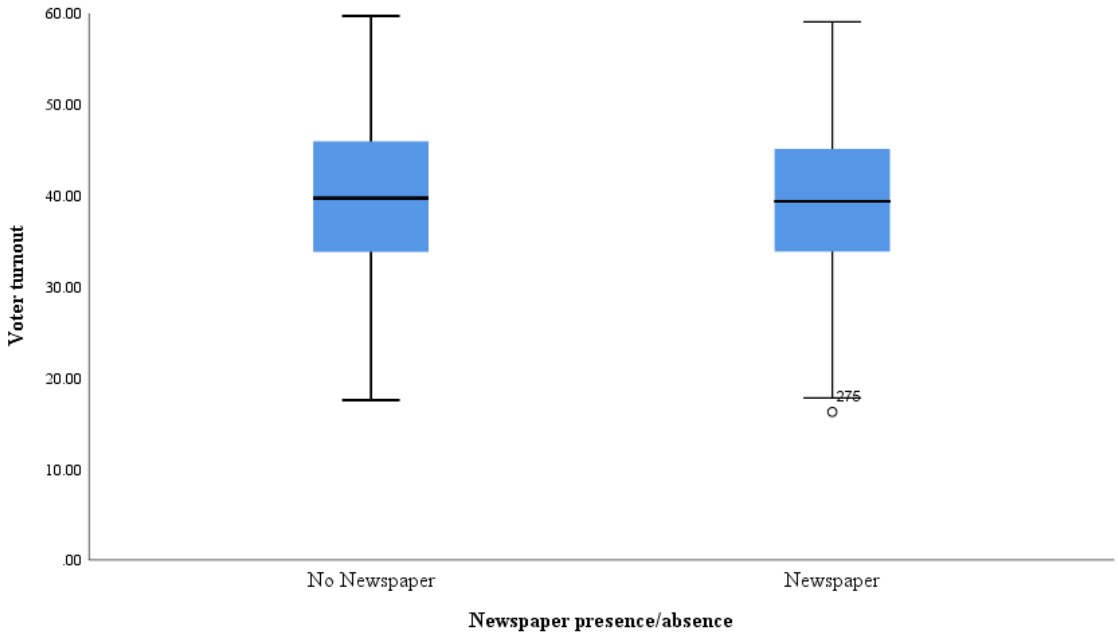

Figure 2: Boxplot of turnout in Canadian municipalities by presence/absence of a newspaper (N=344)

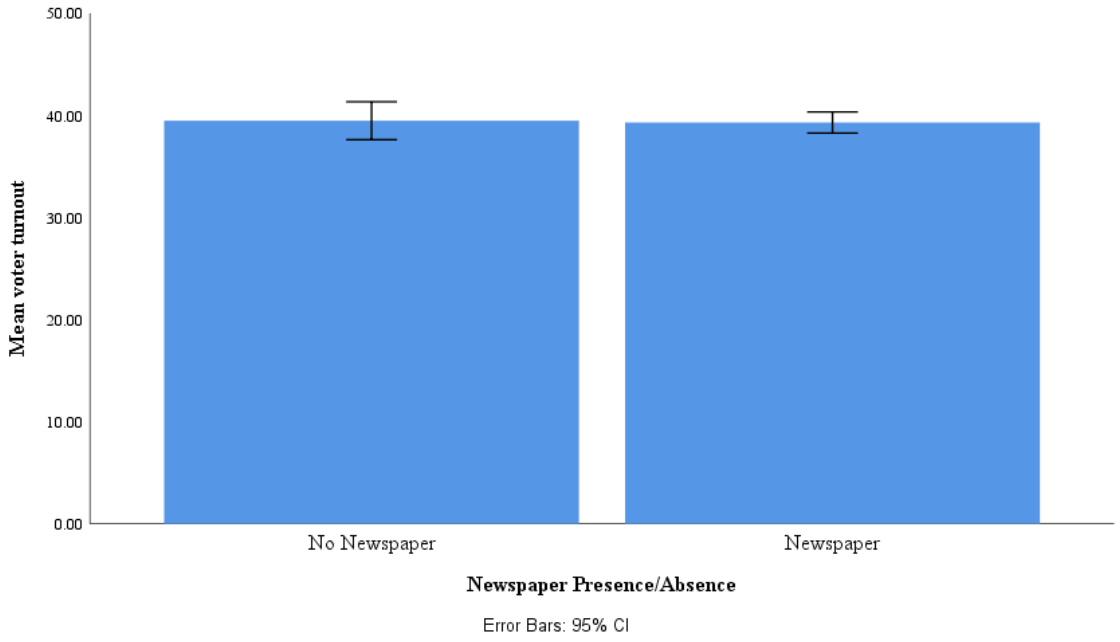

Figure 3: Bar graph of mean turnout in Canadian municipalities by presence/absence of a newspaper (N=344)

While this result is not immediately promising for the hypotheses proposed in this study, it must be interpreted carefully. There is a significant correlation at the 0.01 level between 2016 municipal population and the newspaper dummy, indicating that larger municipalities are more likely to have a print newspaper. This result may be unsurprising, but it is nonetheless of broader significance beyond the context of this study. My full dataset contains newspaper statistics on 379 of Canada's largest municipalities. If I were to extend this sample to include a larger percentage of the more than 5,000 municipalities in Canada, communities *without* a newspaper would represent the majority. News Media Canada found there was a total of 1,083 community newspapers and 103 daily newspapers published in Canada in 2015 (New Media Canada, 2015). Considering that numerous municipalities have multiple print newspapers, these numbers clearly indicate

that more municipalities lack a newspaper than have one, a reality this study would not at first indicate.

That turnout and the newspaper dummy are not related at the bivariate level also suggests it may be necessary to measure newspaper health with greater specificity than mere presence/absence. Variations in local newspaper health between municipalities *with* a newspaper may better predict turnout than a crude newspaper dummy. There is, therefore, theoretical merit in running specific analyses on only those cases with a full complement of newspaper information—i.e., those cases where the newspaper dummy is positive.

Other newspaper variables are similarly unrelated to turnout in bivariate analyses. *Figures 4* through *6* display these results as simple bar charts. These figures make clear the limited variation in mean turnout across conditions. Mean turnout was *not* significantly higher in municipalities where the largest newspaper is broadsheet (N=54) instead of tabloid (N=179). Similarly, in municipalities where the largest newspaper is classified as daily rather than community—52 of 233 cases—mean turnout is less than one percent higher and not significant at conventional levels. Mean turnout does, however, range from 34.4 percent in municipalities where the largest newspaper publishes three times per week to 45.39 percent in municipalities where the largest newspaper publishes seven times per week.

Turnout variation across publication frequency is represented graphically in *Figure 6*. This graph displays an almost u-shaped relationship between publication frequency and turnout, although a Pearson correlation yielded a p value of 0.717, which is far from significant. The lack of a significant relationship despite promising graphical

representation may be partly attributed to sample size. In my sample, 130 newspapers are published once per week, and mean turnout of 41.49 percent in these cases exceeds the mean of the complete sample by just 1.45 percent. At the extremes of the turnout distribution, however, 16 newspapers publish three times a week and just six publish every day. As a result, while these cases may differ substantially from one another, they lack explanatory power in the model. A final note on *Figure 6*: because just one newspaper included in this study is published four times per week, error bars are omitted from this frequency, as a single case prohibits observation of dispersion.

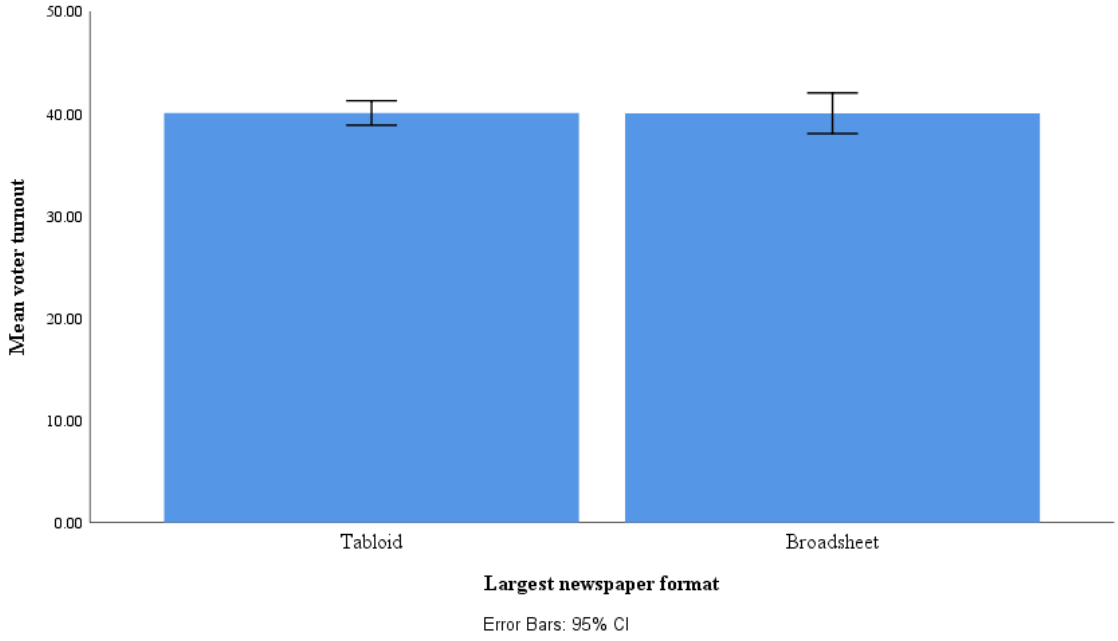

Figure 4: Bar graph of mean turnout in Canadian municipalities by largest newspaper format (N=233)

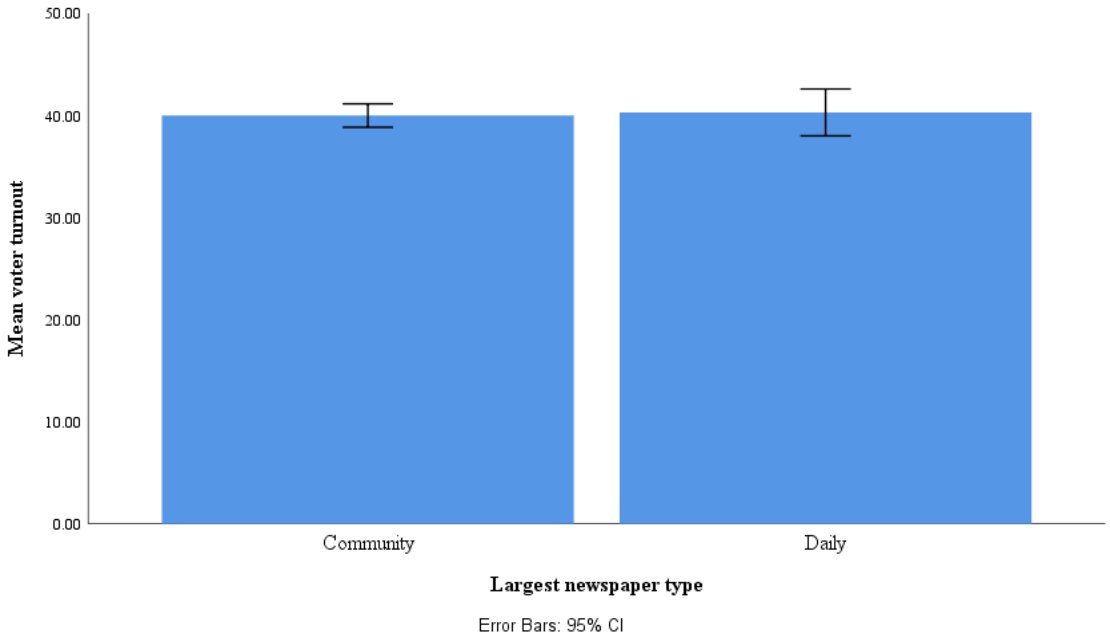

Figure 5: Bar graph of mean turnout in Canadian municipalities by largest newspaper type (N=233)

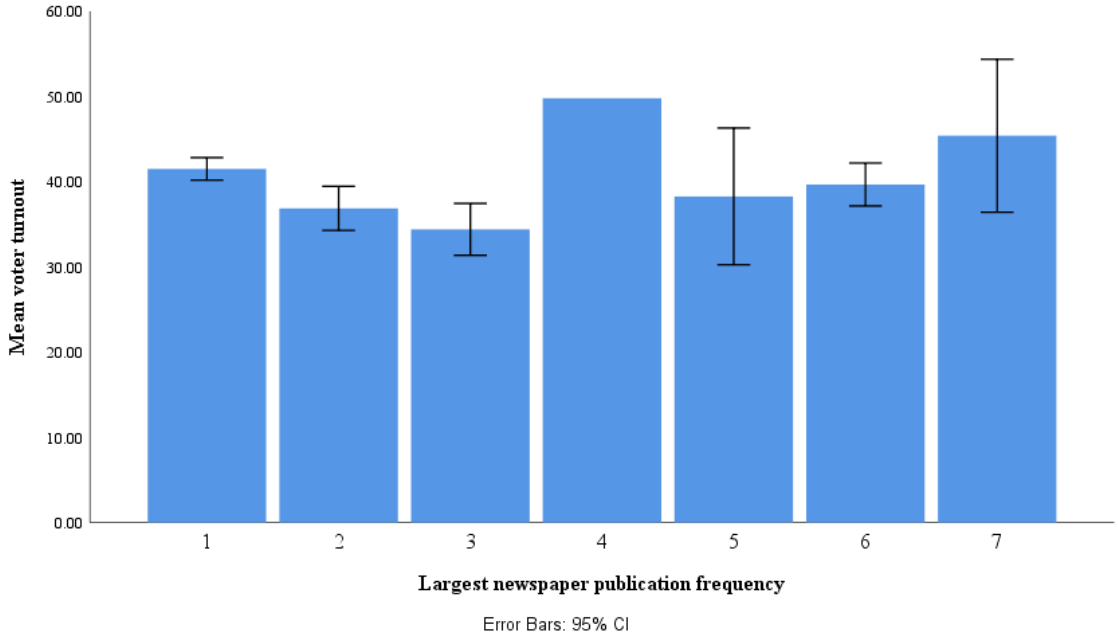

Figure 6: Bar graph of mean turnout in Canadian municipalities by largest newspaper publication frequency (N=233)

Regardless of these equivocal bivariate results, the data warranted a multivariate analysis of the 233 cases with full information. I split the analysis into three models. Model One includes only the controls that have been consistently shown in the literature to influence turnout, especially those that have been shown to do so at the municipal order of government. Model Two includes only the four newspaper variables, which I discussed at length in Chapter Three and are the unique contribution of this study. Finally, Model Three includes all variables and provincial dummies in a single forced entry ordinary least squares (OLS) multivariate linear regression. The results are recorded in Table 5. Refer to Appendix B for the Pearson Correlation matrix.

Table 5
OLS Regression Municipal Voter Turnout

	Model 1		Model 2		Model 3	
	B	S.E	B	S.E	B	S.E
Control						
Δ Population	0.000	0.001			0.000	0.001
Population	-0.011	0.007			**-0.019****	0.008
Population Density	-0.003	0.003			-0.001	0.003
Number of Mayoral Candidates	**0.047*****	0.012			**0.044*****	0.012
Margin of Mayoral Victory	**-0.039****	0.019			**-0.051*****	0.018
Councilors per Population	**0.013***	0.008			0.010	0.008
Age (18-34)	**-0.406***	0.219			**-0.492****	0.210
Age (65+)	0.176	0.156			0.111	0.150
House Ownership	-0.032	0.077			0.052	0.077
Median Income	3.753E-7	0.000			4.739E-7	0.000
British Columbia	**-0.034*****	0.012			-0.018	0.012
Alberta	**-0.037***	0.019			**-0.044****	0.018
Quebec	**0.042*****	0.012			**0.068*****	0.013
Explanatory						
Total Newspapers per Population			**0.043*****	0.010	**0.021***	0.011
Largest Newspaper Print Circulation per Population			0.000	0.004	**-0.010*****	0.003
Days per Week Largest Newspaper Published			-0.001	0.004	**0.011*****	0.004
Largest Newspaper Format (Broadsheet/Tabloid)			0.013	0.018	0.014	0.015
Intercept	**0.538*****	0.138	**0.374*****	0.012	**0.545*****	0.140
R-square	0.453		0.079		0.515	
Adjusted R-square	0.420		0.063		0.477	
N	233		233		233	

'Ontario' is the reference category for province. Significant at p ≤ 0.10*, 0.05**, 0.01***

Model One.

The control variables accounted for 42 percent of the variance in turnout between municipalities. Seven variables exerted a significant effect on turnout in the expected direction. Interestingly, unlike Breux et al. (2017), none of the sociospatial variables were

significant. In contrast, all three political/institutional variables were significant. Number of mayoral candidates was significant in the positive direction at the 0.01 level; margin of mayoral victory was significant in the negative direction at the 0.05 level; and number of councillors per population was significant in the positive direction at the 0.1 level. These findings suggest that turnout is higher in municipalities with more mayoral candidates and larger councils relative to the population they represent. Alternatively, turnout drops as the margin of victory for the winning mayoral candidate increases.

Of the sociodemographic variables, just percentage young (18-34) had a significant effect on municipal turnout, but it was only significant at the 0.1 level. As anticipated, this effect was in the negative direction, indicating that a higher percentage of young voters depresses turnout, a finding that aligns with Blais et al. (2004), among others. In addition, all three provincial dummies were significant, suggesting that some factor specific to Alberta and British Columbia *reduces* turnout, while some factor specific to Quebec *increases* turnout. As stated previously, it may be the case that using registered rather than eligible voters to calculate turnout artificially inflates Quebec's results. Provincial political culture may also play a role. It is important to note, however, that these dummies are relative to Ontario as the provincial reference category.

Model Two.

The four newspaper variables accounted for 6.3 percent of the variance in turnout between municipalities when entered in the analysis without any controls. In this model, however, only the total number of newspapers per population was significant, but it was highly significant at the 0.01 level. The publication frequency of the largest newspaper yielded a negative beta value, which not only contradicts expectations, but is surprising

considering the results of the bivariate analyses. It is important to note, however, that this relationship was not significant. Nevertheless, this model suggests that H1 is confirmed while H2-H4 are not.

Model Three.

This model is a single block forced-entry multivariate regression that explains 47.7 percent of the variance (almost 6 percent more than Model One) and includes all explanatory and control variables. It yields several interesting results. First, in contrast to the second model, three of the four newspaper variables were significant—though not always in the expected direction. Total newspapers per population remains significant but only at the 0.1 level. This, of course, suggests that the more newspapers there are in a municipality, the greater turnout will be in local elections. The publication frequency and weekly circulation of the largest print newspaper are now both significant at the 0.01 level as well. Municipalities that have newspapers published more frequently enjoy higher levels of civic engagement. However, the results indicate that weekly circulation and turnout are *negatively* related, a finding which contradicts H2 and makes little sense theoretically. I will expand on this finding in Chapter Five. Publication frequency, on the other hand, is *positively* related to higher turnout. All other things being equal, an increase in publication frequency of the largest newspaper by one day per week increases turnout by 1.1 percent, tentatively confirming H3.

There were also differences among the controls compared to Model One. The population variable is significant at the 0.05 level, a result which aligns with previous findings in Ontario (Kushner et al., 1997) but contradicts recent pan-Canadian findings (Breux et al., 2017). The competitiveness variables are unchanged, but councillors per

population is no longer significant. Similarly, the provincial dummies for Alberta and Quebec remain significantly different than the reference category, Ontario, but the dummy for British Columbia is no longer significant. Among sociodemographic variables, percentage young (18-34) remains the lone significant predictor of turnout. I will discuss and interpret these results in relation to the existing literature in the following chapter.

While there are some caveats, the results in Model 3 generally support the hypotheses put forward in Chapter Two. Municipal turnout is related to the health and vibrancy of the local media environment: municipalities with more newspapers, and newspapers published more frequently, enjoy higher levels of turnout. This, of course, raises an interesting question: what else is newspaper health related to when considering local democratic health? While a full examination is outside the scope of this thesis, the following analysis explores two additional measures of municipal democratic health—NMC and MMV. The purpose of the following analysis, then, is twofold: (1) broaden the scope of what constitutes a 'healthy' democracy, thus far narrowly defined as high turnout relative to other municipalities, and (2) provide a cursory review of the impact of newspapers on two measures of municipal electoral competitiveness.

Incumbency advantage strongly influences local elections (de Benedictis-Kessner, 2018; Lucas, 2019; Warshaw, 2019; Anderson et al., 2020). Trounstine (2011), for example, found that incumbents are 39 percent more likely to run and 32 percent more likely to win in local elections than non-incumbents. Compounding this effect, incumbents are more likely to run for re-election in low participation environments (Trounstine, 2012), which suggests that a low NMC can exaggerate the incumbency

advantage. Add that the mere presence of an incumbent reduces the number of candidacies by 1.71 (Breux et al., 2019, p. 174), and it becomes evident that NMC and incumbency are entwined in a vicious circle. Incumbency is therefore at the core of the relationship between newspapers and electoral competitiveness.

Incumbency advantage is typically thought to result from more sophisticated campaigns, more funding, and greater name recognition among incumbents than challengers (Trounstine, 2011; Kushner et al., 1997; Moore, McGregor & Stephenson, 2017). Each of these factors may be exacerbated if local media fails to adequately cover candidates. Studies demonstrate that competition in mayoral races is significantly lower in municipalities where the local newspaper has experienced declines in newsroom staffing (Rubado & Jennings, 2019). Healthier local newspapers should reduce voters' reliance on name recognition and other informational shortcuts. As such, media health should raise competitiveness. More candidates should be willing to enter the race, and the additional exposure for each candidate should result in more competitive outcomes. I test this reasoning by examining the impact of four newspaper variables on NMC and MMV.

Figure 7 and *Figure 8* show the distribution of these competitiveness variables across Canadian municipalities. In cases where the mayor was appointed by acclamation, I set NMC to one and MMV to 100 percent. *Figure 7* clearly skews positively, indicating limited competition in mayoral elections. Similarly, *Figure 8* shows that the 100 percent category (representing acclamation) is the third-most frequent category for mayoral elections in Canadian municipalities. This category trails only the first and second deciles, which represent cases between zero and 19.99 percent margin of victory.

Excepting acclamation, however, *Figure 8* also skews positively, meaning that elections are more often won by a narrow than a wide margin.

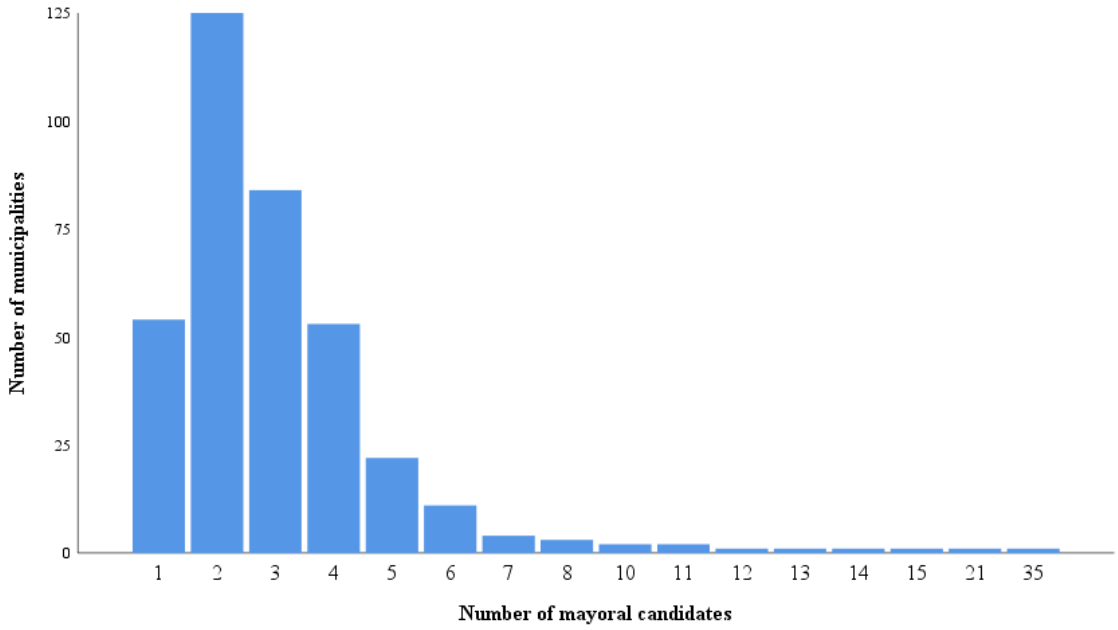

Figure 7: Bar graph of number of candidates contesting mayoral elections in Canadian municipalities (N=366)

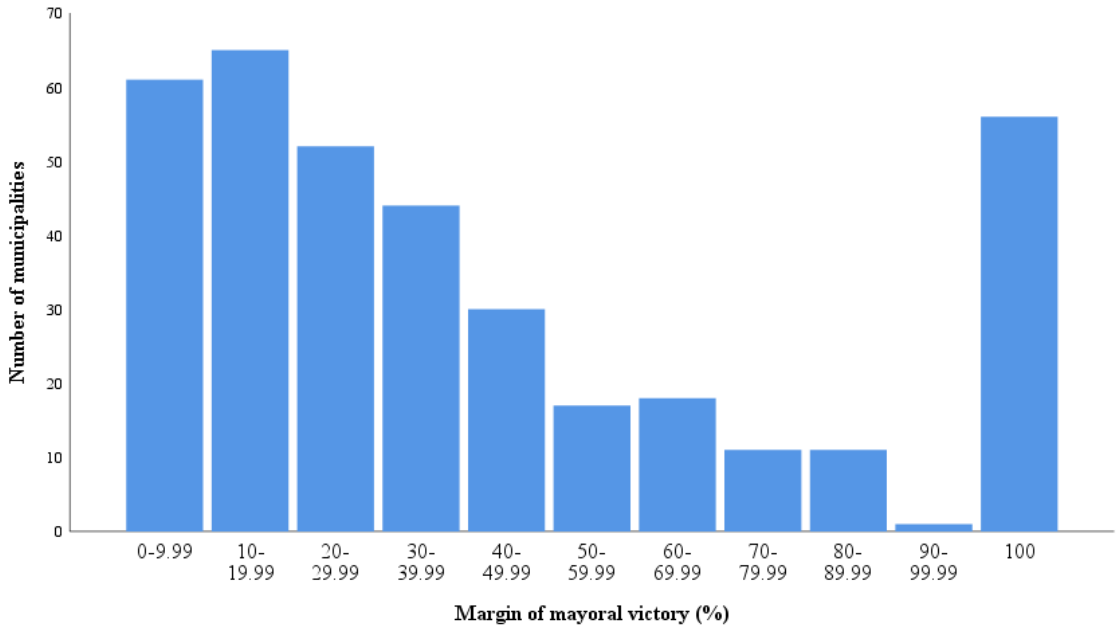

Figure 8: Bar graph of margin of victory for winning candidates in Canadian municipal elections (N=366)

Unlike turnout, the NMC in a municipality (expressed logarithmically) was significantly related to multiple newspaper variables in bivariate analyses. These results are particularly promising considering three newspaper variables were significantly related to turnout in the eventual multivariate analysis despite equivocal bivariate results. Mean log NMC is 1.05 in municipalities with a newspaper and just 0.69 in municipalities without a newspaper. With a Pearson correlation of 0.280 and a p value of 0.000, this relationship is significant at the 0.01 level. *Figure 9* and *Figure 10* illustrate the relationship between NMC and the newspaper dummy as a simple box plot and bar graph, respectively.

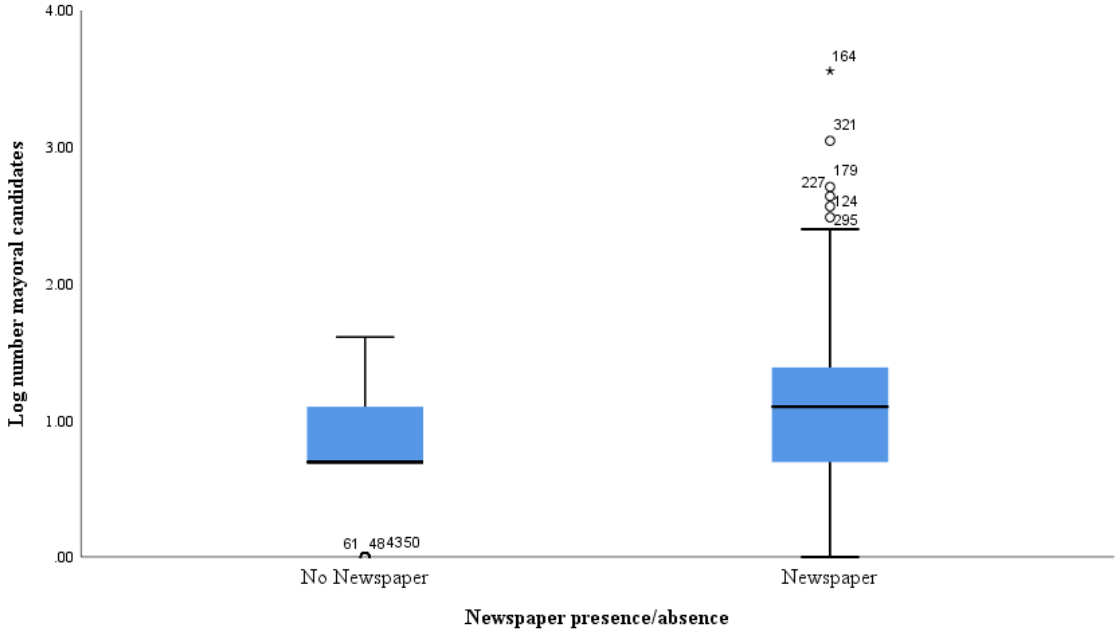

Figure 9: Boxplot of log number of mayoral candidates by newspaper presence/absence (N=366)

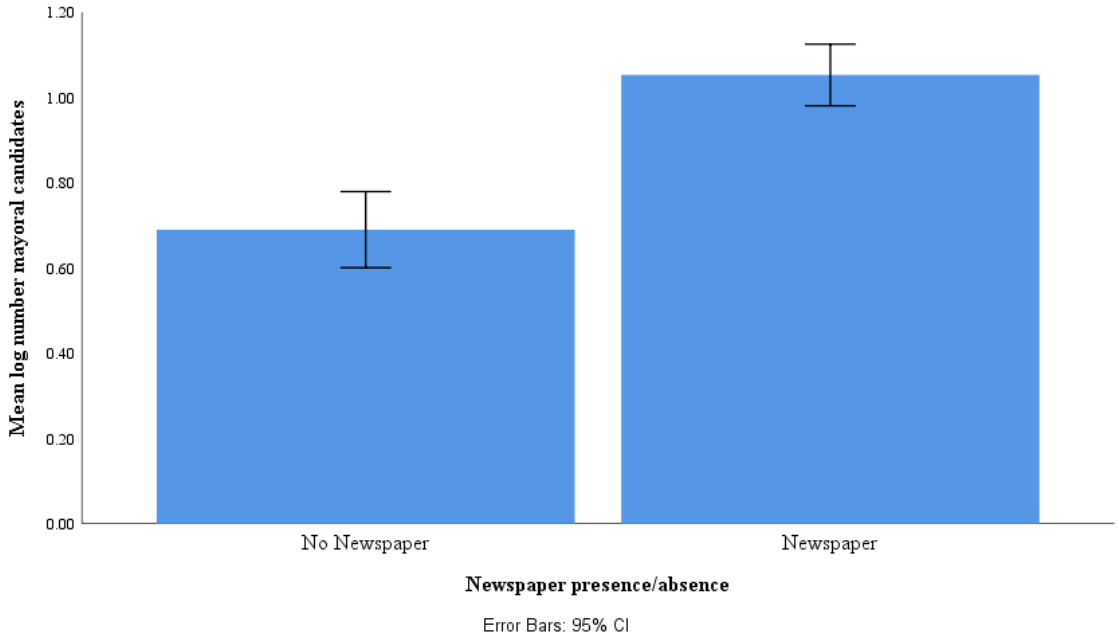

Figure 10: Bar graph of mean log number of mayoral candidates by newspaper presence/absence (N=366)

In the turnout analysis, I excluded acclamation cases outright rather than assigning them a value of zero percent. I did so because a non-zero percentage of citizens *would* have voted in those elections had they taken place. Assigning acclamation cases a turnout value of zero percent is therefore no better than arbitrary speculation. Turnout measures participation in democratic elections. If no election takes place, turnout is no longer a relevant dimension of democratic health. Even a lag turnout variable would better represent municipal voting intention than a turnout value of zero.

I did, however, deem it necessary to include acclamation when examining competitiveness measures. Unlike turnout, acclamation is a valid expression of low competitiveness. There is reason to expect that municipalities which field one mayoral candidate will differ significantly on certain key variables from municipalities which field two or more candidates. I expect print newspaper health to be one such variable.

Cursory bivariate analyses tentatively confirm this expectation.

The difference between the mean NMC (expressed logarithmically) in municipalities where the largest newspaper is broadsheet compared to tabloid is significant at the $p \leq 0.01$ level, with a Pearson correlation of 0.316. Similarly, the difference between mean NMC in municipalities where the largest newspaper is a 'daily' (published 4 or more times per week) compared to 'community' (published 3 or fewer times per week) is significant at the 0.01 level, with a Pearson correlation of 0.330. It is unsurprising that these relationships are similar, as daily newspapers are more likely to be published in broadsheet format and community newspapers in tabloid. In short, the bivariate results suggest that people are more likely to run for mayor if their community has a daily broadsheet newspaper. *Figure 11* and *Figure 12* display these results in simple bar graphs. I do not consider publication frequency here.

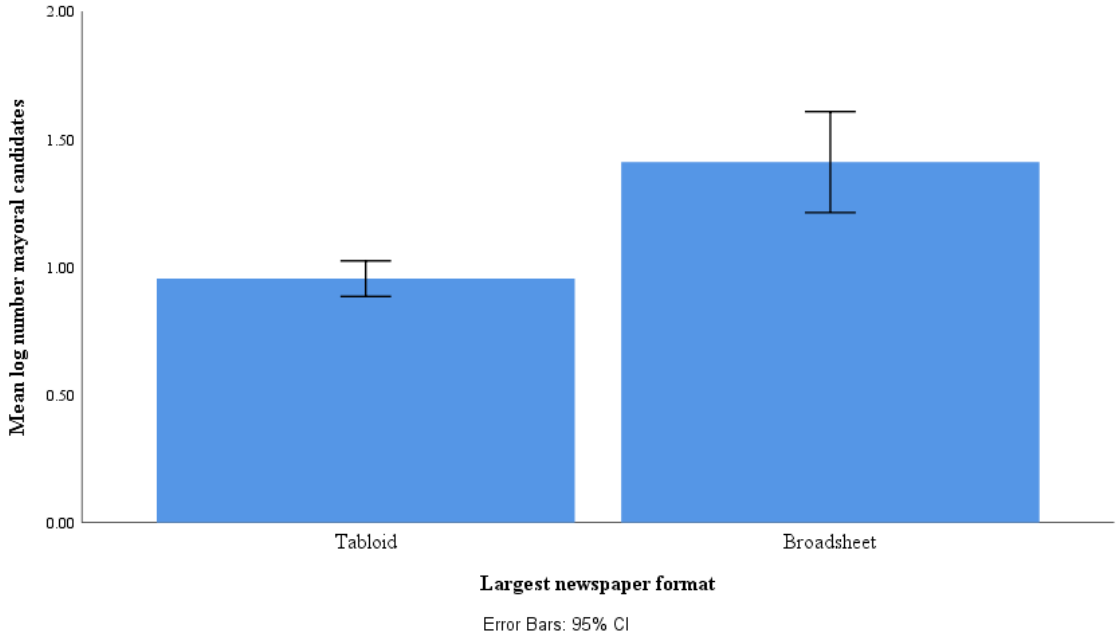

Figure 11: Bar graph of mean log number of mayoral candidates by largest newspaper format (N=366)

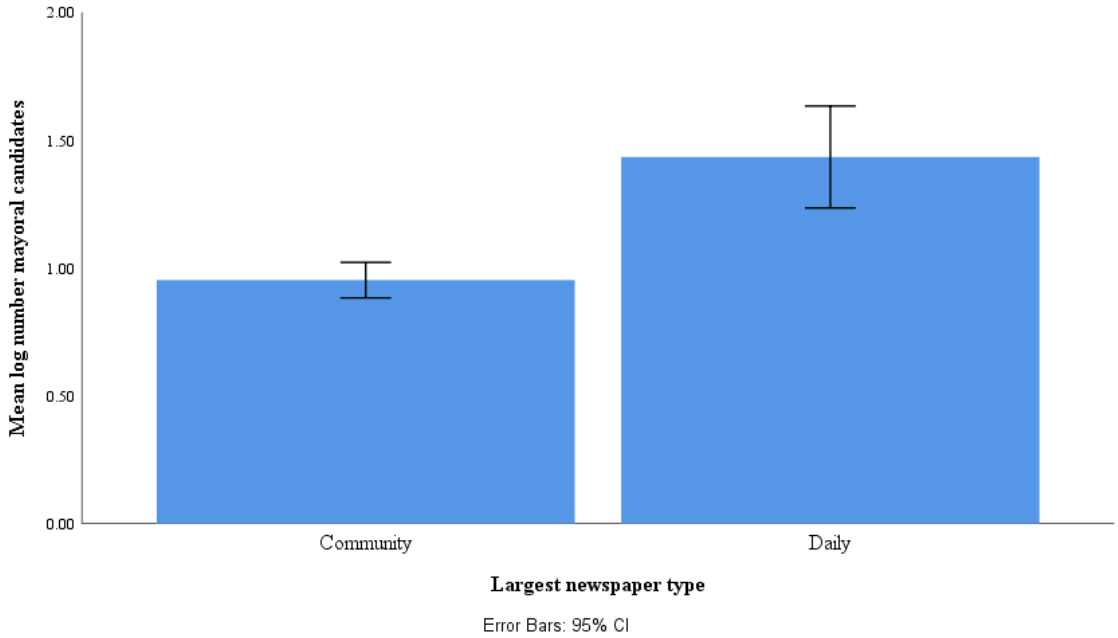

Figure 12: Bar graph of mean log number of mayoral candidates by largest newspaper type (N=366)

The bivariate results for MMV adhered to expectations. Mean MMV was 45.09 percent in municipalities with a newspaper (N=263) and 38.21 percent in municipalities without a newspaper (N=103). This discrepancy, represented graphically as a simple box plot and bar graph in *Figure 13* and *Figure 14* respectively, yielded a Pearson correlation of -0.096 and a p value of 0.067. The relationship between these variables is therefore significant—but only at the 0.1 level. As stated previously, a negative relationship between MMV and the newspaper dummy aligns with theoretical expectations. This cursory evidence suggests that mayoral elections are more closely contested in municipalities that have a newspaper than those that do not. This finding will be discussed in greater depth in Chapter Five.

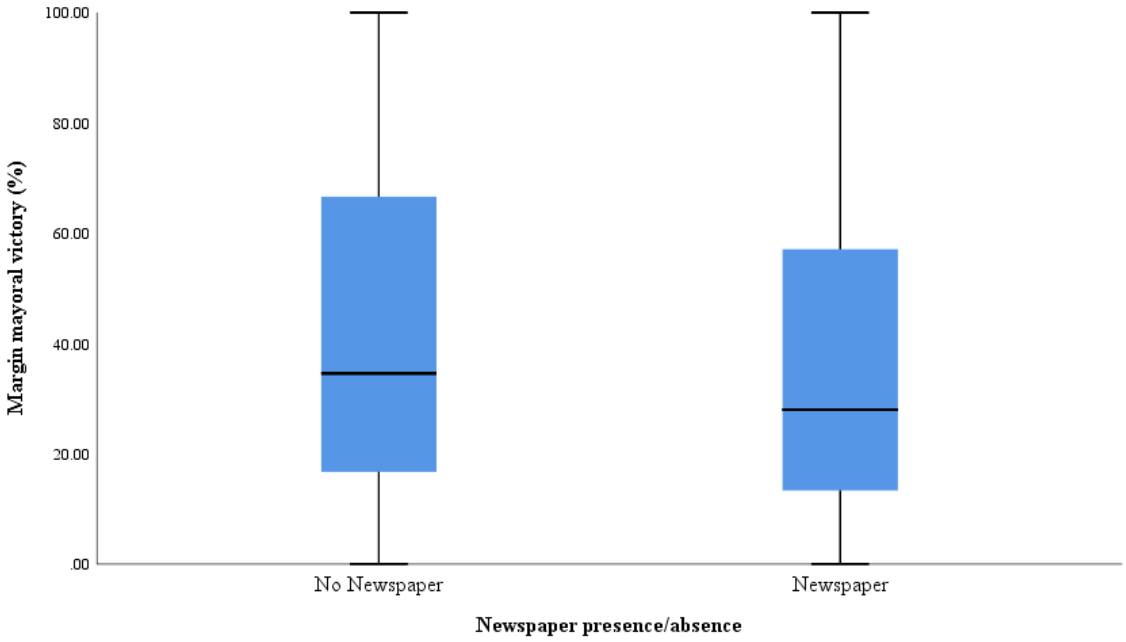

Figure 13: Box plot of margin of mayoral victory by newspaper presence/absence (N=366)

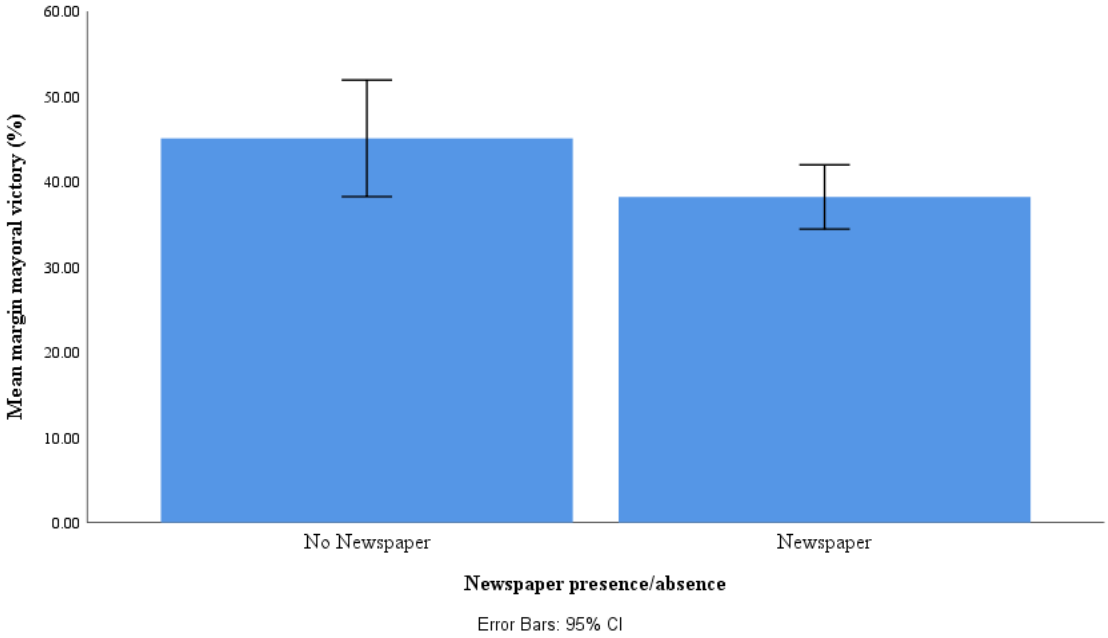

Figure 14: Bar graph of mean margin of mayoral victory by newspaper presence/absence (N=366)

Additional measures of newspaper health were likewise negatively related to MMV, indicating increased competitiveness with healthier local newspapers. *Figure 15* shows that mean MMV is slightly lower in municipalities where the largest newspaper is broadsheet instead of tabloid, and *Figure 16* demonstrates the same relationship in municipalities where the largest newspaper is considered 'daily' instead of 'community'. Neither of these relationships is significant, however, with respective p values of 0.660 and 0.757.

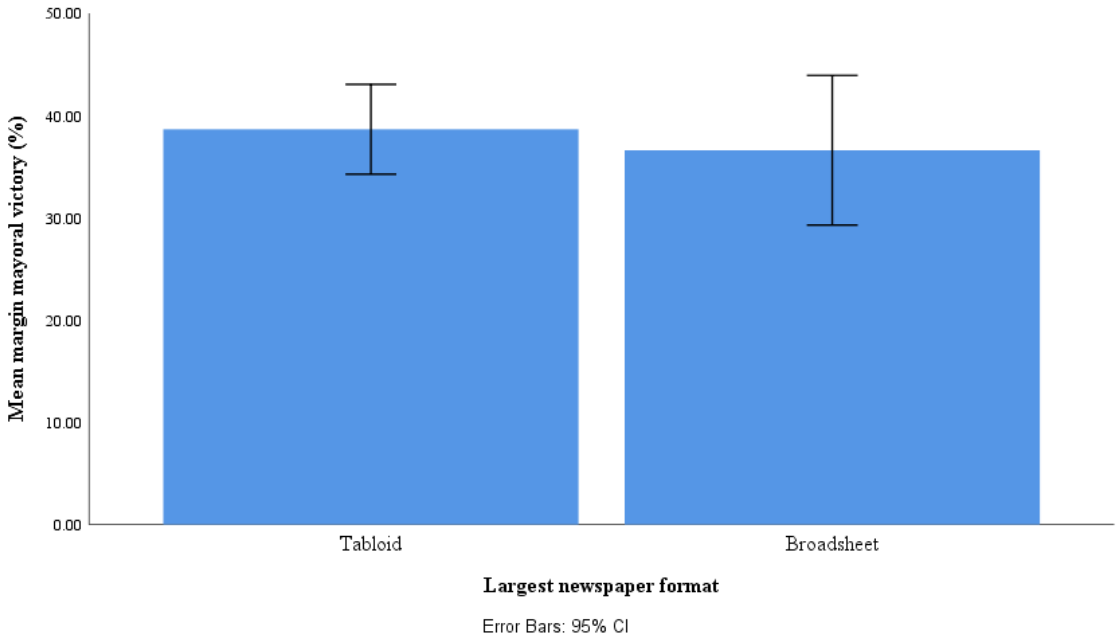

Figure 15: Bar graph of mean margin of mayoral victory by largest newspaper format (N=366)

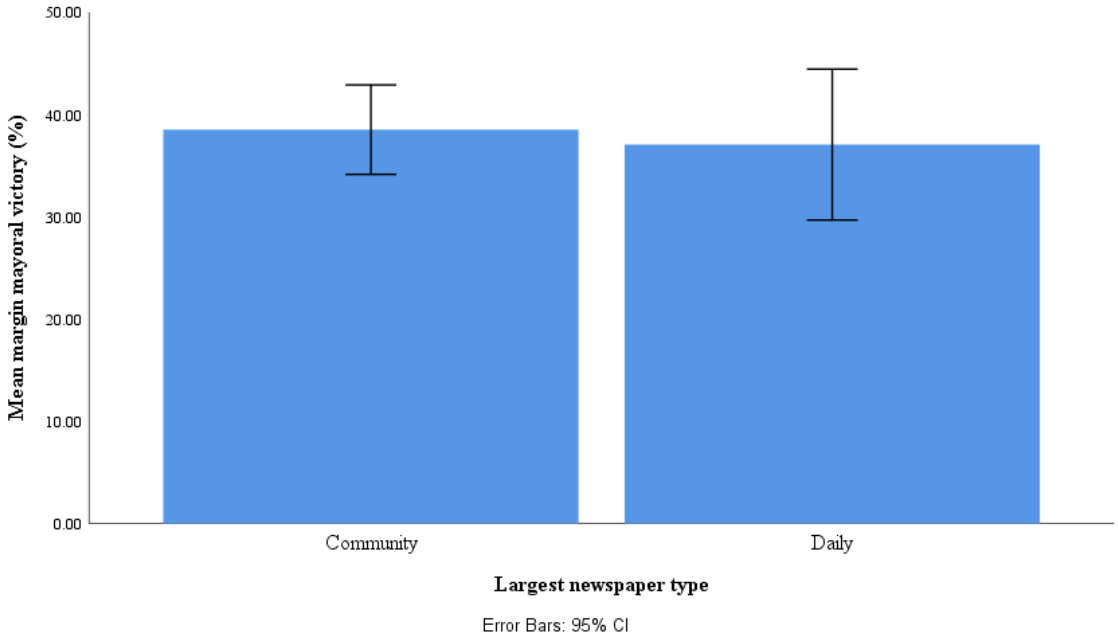

Figure 16: Bar graph of mean margin of mayoral victory by largest newspaper type (N=366)

These bivariate results indicate that multivariate analyses are warranted. I will not, however, afford these analyses the same theoretical grounding as the turnout analysis, as turnout is my primary dependent variable while competitiveness variables are supplemental and exploratory. Fortunately, Breux, Couture and Koop (2019) conclude that "the factors that shape the number of mayoral candidates in election campaigns are similar to those that shape political participation in general" (p. 165). These authors find seven determinants of electoral competitiveness that "reached conventional levels of statistical significance" (p. 174) in large Canadian cities: log population density, presence of an incumbent mayor, mayoral salary, public expenditures per capita, number of councilors per capita, presence of other elected positions, and a lag dependent variable. Of these seven variables, I included just two—log population density and councilors per capita—in my dataset. As a result, whatever proportion of the total variance the final model explains, it will not be comprehensive. I did, however, follow Breux et al. (2019)

in including all three sociospatial variables previously included in the turnout analysis, though just one—density—reached significance in their final model. When running the analysis with NMC as the dependent variable, I *excluded* MMV as, despite its negative correlation with NMC, causation clearly runs the opposite direction. For the same reason, I *included* NMC when running the analysis with MMV as the dependent. In both models I retained the provincial dummies with Ontario as the reference category.

I ran two forced entry OLS multivariate linear regressions, the first with NMC as the dependent variable, and the second with MMV as the dependent variable. From an original dataset that included acclamation cases, listwise deletion resulted in 263 cases in both models. Table 6 summarizes the results.

Table 6
OLS Regression Municipal Electoral Competitiveness

	Model 1 – NMC		Model 2 – MMV	
	B	S.E	B	S.E
Control				
Δ Population	0.000	0.005	0.001	0.003
Population	**0.379*** **	0.051	**0.150*** **	0.027
Population Density	-0.008	0.022	-0.008	0.011
Number of Mayoral Candidates			**-0.454*** **	0.030
Councilors per Population	0.087	0.059	**0.048* **	0.028
British Columbia	0.011	0.090	0.037	0.043
Alberta	-0.086	0.118	0.019	0.057
Quebec	-0.081	0.080	0.031	0.039
Explanatory				
Total Newspapers per Population	0.063	0.084	0.057	0.040
Largest Newspaper Print Circulation per Population	0.040	0.026	-0.006	0.012
Days per Week Largest Newspaper Published	0.007	0.026	0.001	0.013
Largest Newspaper Format (Broadsheet/Tabloid)	0.099	0.109	**0.089* **	0.053
Intercept	-3.052		-0.791	
R-square	0.398		0.487	
Adjusted R-square	0.372		0.462	
N	263		263	

'Ontario' is the reference category for province. Significant at p ≤ 0.10*, 0.05**, 0.01***

The results lend limited support to H1-H4. Despite an adjusted R-square of 0.372, the only significant variable in model one was the log of municipal population. This result is intuitive, as a larger population is liable to produce more political hopefuls than a smaller population. In contrast, model two explained 46.2 percent of the variance in MMV, and four variables reached varying degrees of significance. Once again, municipal population (expressed logarithmically) was significant at the 0.01 level, as was NMC. That NMC was negatively correlated is also intuitive, as more candidates means greater fragmentation of the electorate. In line with Breux et al. (2019), councillors per population was positively correlated with MMV, although only significant at the 0.1 level. Newspaper format was the only explanatory variable that reached significance, and it likewise did so only at the 0.1 level. This result suggests that candidates win mayoral elections by a wider margin in Canadian municipalities where the largest newspaper is broadsheet than in municipalities where the largest newspaper is tabloid. The implications of this and other findings will be discussed in greater depth in the following chapter.

Chapter Five: Discussion

The findings presented in the previous chapter substantiated two of four hypotheses but failed to support the third and directly contradicted the fourth. The purpose of this chapter is to interpret these results and situate them within the relevant theoretical and empirical literature. I will begin by discussing the relationship between the four newspaper variables and turnout, before turning my attention to findings uncovered in the supplementary analysis of electoral competition.

H1 anticipated a significant positive correlation between municipal turnout and the total number of newspapers per population in a municipality. My results confirmed this expectation, both with and without controls. The addition of controls, however, reduced the beta value by more than half, from 0.043 to 0.021, and reduced the level of significance from $p \leq 0.01$ to $p \leq 0.1$. This result suggests that a portion of the variance originally explained by total newspapers must be attributed instead to a positive confound, such as percentage young (18-34). The Pearson correlation matrix, however, revealed several significant relationships between total newspapers and controls—including all three sociospatial and several sociodemographic variables—making it difficult to determine which variable or group of variables is confounding the result (see Appendix B). Nonetheless, total newspapers per population retained significance and explained the most variance of any measure of newspaper health. An increase of one newspaper per 10,000 inhabitants increases turnout by 2.2 percentage points with a moderate degree of certainty (a 10 percent chance of falsely rejecting the null hypothesis). In smaller municipalities, it may be possible to increase the number of newspapers by this magnitude with relative ease. Two municipalities in this study have

less than 10,000 residents and would therefore require just a single additional newspaper to reap tangible representation gains. In larger municipalities, however, an increase of this nature is unlikely to be feasible. Toronto, a city with a population of approximately 3 million and 30 local newspapers, would require an additional 273 newspapers to increase turnout by just two percent.

H1 relates to the first of two variables which capture the 'quantity' dimension of civic function journalism—that is, the number of articles or fragments of information relevant to municipal politics available for consumption. Studies on Canadian municipalities have speculated that information is "less plentiful" (Cutler & Matthews, 2005, p. 360; Breux et al., 2017) in local elections than in other democratic contexts. The evidence presented in this study seemingly supports Carpini et al.'s (1994) conclusion that a decrease in the production rather than consumption of news was the trigger in a "critical shift" (p. 144) toward civic disengagement in the United States. As Filla and Martin (2010) demonstrate, "access" (p. 679) to information about local government alone may be enough to increase participation in local politics. In line with this reasoning, many studies (e.g., Oberholzer-Gee & Waldfogel, 2009; Schulhofer-Wohl & Garrido, 2013) operationalize the link between information and turnout as the mere presence of a particular media product, be it television (Gentzkow, 2006) or newspapers (Baekgaard et al., 2014).

Although a positive correlation between turnout and the presence of a local newspaper is reported nearly ubiquitously across the literature, the effect size tends to be limited compared to established determinants of turnout. Baekgaard et al. (2014) consider media coverage "a variable of lesser importance" (p. 527) to many sociodemographic

drivers of turnout, and my findings confirm that conclusion. The effect size observed in this study is similar in magnitude to Gentzkow et al.'s (2011) finding that one additional newspaper increases presidential and congressional turnout by approximately 0.3 percent. To put this in perspective, the results of my final multivariate model suggest that an increase of just one percentage point in the 18-34 age cohort would reduce turnout by almost five percent. For example, if Victoria, B.C., increased its total number of newspapers from three to 12, it could expect a two percent increase in turnout. If, however, its 18-34 age cohort dropped from 32 to 31 percent of its total population, Victoria could expect an almost five percent turnout bump.

The number of newspapers may explain only a small portion of the total variance in turnout, but its malleability relative to largely static sociodemographic factors makes it interesting from a public policy perspective, especially in small population centres. I expand on policy implications in Chapter Six. It is worth noting that this statistic weighs all newspapers equally, regardless of publication type, format, or frequency. It is, therefore, impossible to determine through this variable alone whether certain newspaper classifications have a greater or lesser impact than others. The three following newspaper variables allow for a finer analysis.

H2 anticipated a significant positive correlation between turnout and the weekly print circulation of the largest newspaper in a municipality. My results directly contradicted this prediction, showing a significant *negative* correlation between turnout and circulation at the $p \leq 0.01$ level in the model with controls. As the circulation variable was not significant in the model without controls, a negative confound may be present. The beta value for the circulation variable was -0.010, indicating a small suppressing

effect on turnout for an increase of one unit in circulation. To increase this measure by one unit, print circulation must increase by one copy per person per week. For example, the weekly print circulation of the *Guelph Mercury* would have to increase by over 300 percent for turnout in Guelph to drop by one percent. The effect of circulation may run counter to theoretical expectations, but its effect size is clearly limited.

That higher circulation is negatively correlated with turnout nonetheless presents a theoretical puzzle. This finding contradicts results from previous studies (e.g., Kubler & Goodman, 2019) and from this study as well. Why is turnout higher in municipalities with more newspapers but lower in municipalities with more widely read newspapers? Declines in print circulation present a significant financial challenge to Canadian local newspapers (Public Policy Forum, 2017), forcing cuts to newsroom staff (Rubado and Jennings, 2019) and reducing newspapers' capacity to cover local affairs and government (Powers, Zambrano & Baisnee, 2015). The natural implication is that high circulation newspapers ought to produce more civic-function journalism. Considering, as well, that newspaper readers tend to be wealthier and better educated than the average Canadian (News Media Canada Community Snapshot, 2015)—two well-established predictors or turnout (Blais et al., 2004)—one would expect turnout to increase with circulation. Yet, the reverse appears true empirically.

Including controls in the discussion further complicates the results. As a brief aside, municipal population and turnout are negatively correlated, suggesting that Canadians who live in smaller municipalities are more likely to vote in local elections. This finding aligns with national (Cancela and Geys, 2016), subnational (Oliver, 2000), and Canadian subnational data (Couture et al., 2014; Kushner et al., 1997), but

contradicts Breux et al.'s (2017) pan-Canadian analysis. Breux et al. (2017) speculate that a comparatively sophisticated local media environment may explain higher turnout in larger municipalities, but the weight of the evidence suggests instead that turnout drops as municipal population grows—at least in the largest provinces. Returning to H2, my circulation measure is biased towards small municipalities, partly due to competition for readership among prominent newspapers. Municipal population and print circulation per population are negatively correlated at the $p \leq 0.067$ level, providing moderate evidence for this bias. In other words, the percentage of the population that reads the largest print newspaper tends to decrease as the municipal population gets larger. Unfortunately, the negative relationship between turnout and municipal size means that any inherent bias in my metric is unlikely to be responsible for the negative circulation beta.

One potentially fruitful line of inquiry lies in provincial effects. In the first model, which included only controls, there was a significant negative correlation ($p \leq 0.01$) between the B.C. dummy and turnout, indicating that fewer people vote in B.C. municipal elections than in the reference category, Ontario. This relationship disappeared, however, in the third model, which included both controls and explanatory variables. Simultaneously, print circulation changed from a beta value of 0.000 in the model without provincial fixed effects to -0.010 in the model with provincial fixed effects, gaining significance at $p \leq 0.01$. It is therefore possible that print circulation explains some percentage of the variance in turnout originally attributed to the B.C. dummy. To examine this possibility, I ran a simple OLS regression with print circulation as the dependent variable and the provincial dummies as independent variables. In this brief analysis, the B.C. dummy produced a beta value of 0.796 and was the only

significant predictor ($p \leq 0.01$) in the model. Although far from conclusive, this result suggests that print circulation per population is higher in B.C. than in the other three largest provinces. *Figure 17* illustrates this finding graphically (note large error bars for B.C.).

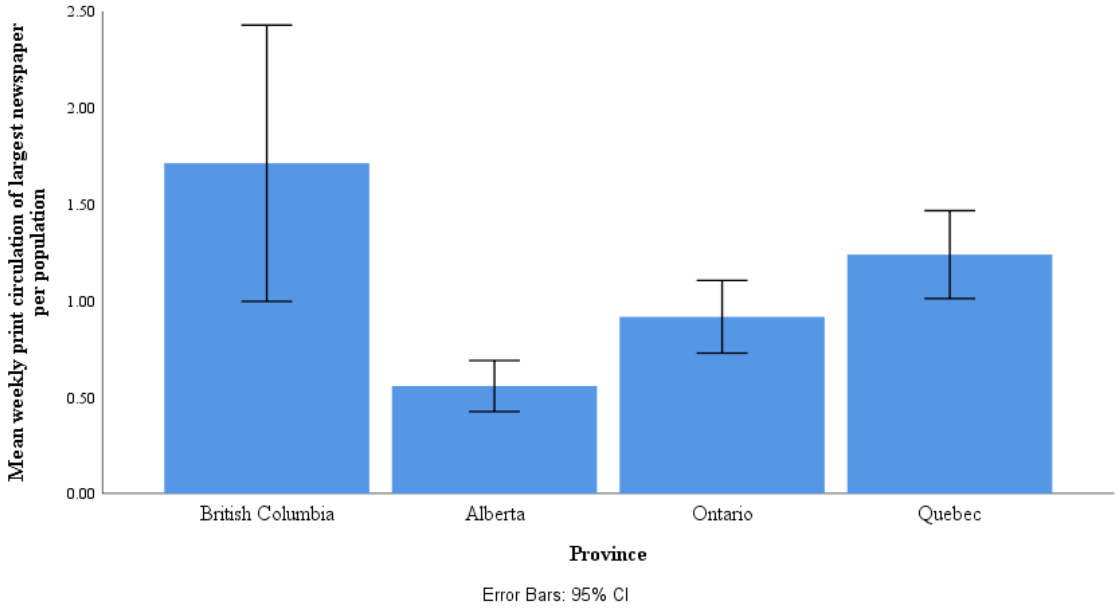

Figure 17: Bar graph of mean weekly print circulation of largest newspaper per municipal population by province (N=233)

While *Figure 17* shows that a higher percentage of B.C. residents read print newspapers than residents in other large provinces, this relationship contributes little to the circulation puzzle. The negative relationship between print newspaper circulation and turnout may be partly explained by characteristically low municipal participation in B.C. (Breux et al., 2017, p. 714). This connection is intriguing, but the causal direction is far from established. Is low turnout in B.C. partly the result of high print circulation, or is the observed effect for circulation partly due to perennially low turnout in B.C.? Or is low turnout the result of some other factor altogether, such as a high concentration of at-large

elections (Breux et al., 2017, p. 714)? Perhaps it is the result of some as-yet unaccounted for factor that acts as a silent confound to give the appearance of a negative correlation between circulation and turnout. At this point, the latter option seems most plausible, as a link between high circulation and low turnout—limited though it appears to be—is difficult to explain theoretically. I will attempt to do so, however, by considering the specific operationalization of my circulation variable.

Unlike other studies that measure circulation (e.g., Powers et al., 2016), my variable focuses exclusively on the largest newspaper in the municipality. It therefore favours municipalities with limited competition among newspapers and is biased toward smaller municipalities as a result. For example, in my analysis, Montreal, Quebec (a large municipality), scores 0.36 on circulation per population, which is well below the overall mean of 1.1, or slightly more than one copy per person per week. Montreal's score is based on a weekly print circulation of 621,901 for its largest newspaper, La Presse. This score obscures significant competition from Le Journal de Montreal, Le Devoir, and the English language paper, The Gazette, each of which exceeds 200,000 in print circulation. In addition, due to industry-leading investments in digital distribution (Public Policy Forum, 2017), print circulation captures only a fraction of La Presse's total readership. As stated previously, my justification for operationalizing circulation this way is twofold. First, the large number of cases in this study makes it prohibitively time-consuming to emulate other studies (e.g., Starr, 2014) which operationalize penetration as newspapers per 1,000 inhabitants. And second, previous studies have determined that the effect of newspapers on turnout is "driven mainly by the first newspaper in the market" (Gentzkow, Shapiro & Sinkinson, 2011, p. 2980). It remains a possibility, however, that

competition among healthy newspapers is the salient local media factor driving turnout *in Canada*, whereas the monopolization of civic coverage by a single large newspaper depresses it. Support for this perspective is provided by the confirmation of H1, discussed previously. Clearly, further research is needed to better illuminate this seemingly contradictory relationship. Especially considering that the following variable, publication frequency of the largest newspaper, complicates the picture further.

H3 anticipated a significant positive correlation between turnout and the publication frequency of the largest newspaper in a municipality. My results confirmed this prediction with a beta value of 0.011, significant at the $p \leq 0.01$ level. Like H2, this variable was significant only in the model with controls, suggesting that a negative confound may be present among control variables. Nonetheless, this result is intriguing from a public policy perspective, as it suggests that tangible democratic improvement can be attained with minor improvements in the health of existing newspapers. The results suggest that increasing the publication frequency of the largest newspaper by one day per week will increase municipal turnout by just over one percent. In municipalities where the largest newspaper is a community paper published just once per week—which is the case in 130 of 233 municipalities (55.8%)—there is room for over six percent improvement in turnout. This finding strongly supports the value of the 'quantity' of information dimension of local newspaper health. The confirmation of H1 and H3 combined with the rejection of H2 indicates that the supply side of civic information is more important to local democracy than the demand side. This conclusion aligns with Carpini et al.'s (1994) findings.

H4 anticipated that turnout would be significantly higher in municipalities where the format of the largest newspaper was broadsheet compared to tabloid. My results failed to confirm this expectation regardless of whether controls were included in the model or excluded from it. This result was surprising, as studies routinely stress the importance of accounting for the quality of newspaper content (e.g., Slater, 2004; Baekgaard et al., 2014), referred to here as the "relevance" dimension. My variable was, however, less specific than other variables employed across the literature to capture the same concept. Common measures for the quality of local media content include market congruence (Kubler & Goodman, 2019; Schnaffner & Sellers, 2003; Althaus & Trautmann, 2008; Snyder & Stromberg, 2010), large-scale surveys (Baekgaard et al., 2014), subjective interviews (Cutler & Matthews), and content analyses (de Vreese & Boomgaarden, 2006). By comparison, my variable is an imprecise proxy measure of information quality, despite theoretical grounding. The literature identifies a reasonably stable hierarchy of effects on political participation attributable to different information sources: civic content is better than entertainment (McLeod et al., 1996), newspapers (print or digital) are better than television (see Shah et al., 2001 for print; Tolbert & McNeal, 2003 for digital), and broadsheet newspapers are better than tabloid (Newton, 1999).

Despite reason to expect otherwise, broadsheet newspapers exerted no influence on turnout in this study. It is unclear why this is the case. One possible explanation is that daily newspapers are more likely to be published in broadsheet than tabloid format—a finding evidenced by a Pearson correlation between the two variables of 0.780, significant at the 0.01 level. Because News Media Canada distinguishes between daily

and community newspapers by publication frequency, newspapers which are published more frequently are also more likely to be published in broadsheet format. I deemed multicollinearity of newspaper variables a non-factor, as VIF values for all explanatory variables were well below the common cut-off of five. To investigate further, I ran the analysis a second time with all original variables except publication frequency. Sure enough, the broadsheet variable gained significance at the $p \leq 0.01$ level with a beta value of 0.040. This finding indicates that publication frequency may have captured a portion of the effect that would otherwise be attributed to newspaper format—and, by extension, the relevance of the newspaper's content. Only a small-*N* content analysis designed to directly capture the amount of relevant civic content published in local newspapers can answer this question definitively. As an analysis of this kind is clearly beyond the scope of this study, I will have to leave this line of inquiry to future researchers.

The adjusted R-square of the second model, which included only explanatory variables, showed that the collective impact of print newspaper health explained 6.3 percent of the total variance in municipal turnout. In contrast, the first model, which included only controls, explained 42 percent of the variance. The third model explained a combined 47.7 percent across all variables. In general, effect sizes of this magnitude align with previous research. Filla and Johnson (2010), for example, found that daily newspapers are responsible for an "additional 8% of stable self-reported political participation" (p. 686), which is a relatively large effect but may be inflated by self-report bias. In terms of political knowledge, Larcinesse (2007) found that a person with perfect knowledge can be up to one third more likely to vote than a person at the extreme opposite end of the distribution. Conversely, some studies find much stronger evidence

than what is reported here. McLeod et al. (1996) found that the combined effects of six media variables accounted for 30 percent of the variance in "political interest" (p. 196) in the United States—though just four of these variables related to newspapers. I follow Baekgaard et al. (2014) in interpreting these limited effects optimistically, as even a weekly community newspaper in the waning days of print can positively influence local democracy in Canada.

These findings, small though they may be, lend a measure of support to the theories which underpin this study. In general, these results conform to the Information Model (Matsusaka, 1995), which expects that prospective voters will be more likely to cast a ballot if they have access to the information they need to choose the candidate which best represents their interests. In the case of the homeowner, this may be the candidate most likely to enact policies that increase the value of the voter's home; in the case of the artist, this may be the candidate most likely to support cultural infrastructure. Regardless, prospective voters are more likely to turn out if they are informed about their community and the candidates for whom they are voting.

The confirmation of H1 and H3 supports the Information Model. The results for H4 provide no such support, and the results for H2 directly refute it. H1 and H3 exerted a relatively strong influence on turnout, whereas the unexpected negative effect of circulation was weak by comparison. The Toronto Star, for example, would have to add nearly three million Saturday subscriptions to decrease turnout in Toronto elections by just one percent.[4] It is also possible to interpret the negative correlation which refutes H2

[4] This phrasing assumes causality, which is far from proven.

as the result of an operationalization which indirectly rewards monopolistic publications—hardly a strong indication of newspaper health.

Results for the controls mostly confirmed expectations. NMC, MMV, provincial fixed effects, and the proportion young (aged 18-34) all significantly correlated with turnout in the expected direction. As referenced in the discussion of H2, municipal population was significantly correlated with turnout but against the expected direction. My prediction that population would positively correlate with turnout was based on findings by Breux et al. (2017) in a study of the 100 largest municipalities in Canada. I expected my results to replicate Breux et al. (2017) as this study was closest to mine in terms of sample and methodology. Instead, my study confirmed the general trend that turnout tends to be higher in smaller population centres (e.g., Cancela & Geys, 2016; Oliver, 2000; Couture et al., 2014; Kushner et al., 1997), leaving Breux et al. (2017) an outlier among Canadian turnout studies. The percentage of young people living in a municipality had a negative effect on turnout, but there was no corresponding positive effect for the percentage of old voters. And finally, Breux et al. (2017) found that population variation had the greatest effect on participation—a one percent increase in population decreased turnout by 0.17 percent—a finding the authors attributed to the feeling of "belonging" (p. 715) associated with residing in one area for an extended period. Given the large effect observed by Breux et al. (2017), it is somewhat surprising that I found no such relationship in my study. One possible explanation for this discrepancy is that I included a percent houseowner variable, which may have captured some of the variance Breux et al. (2017) attributed solely to population variation. It makes intuitive sense that high levels of houseownership would correlate with population

stability, but an empirical demonstration of this effect is beyond the scope of this study.

Results of the supplemental competitiveness analyses were less conclusive. Given the strength of the incumbency advantage in local elections (Trounstine, 2011), coupled with the relationship between incumbency and both low participation (Trounstine, 2012; Breux et al., 2019) and newsroom deficits (Rubado and Jennings, 2019), I anticipated significant evidence that healthy newspapers improve NMC and MMV. The primary theoretical driver behind this expectation lies in the enhanced campaign financing and name recognition incumbents enjoy (Trounstine, 2011; Kushner et al., 1997; Moore, McGregor & Stephenson, 2017). In municipalities with healthy newspapers, challengers should receive more media coverage, thereby bridging the gap in name recognition and reducing the advantage in exposure accrued through campaign spending.

These expectations were not borne out empirically. None of the newspaper variables were found to significantly correlate with NMC, and just one—newspaper format—was found to correlate with MMV, but only at the $p \leq 0.1$ level. Population, by contrast, was a significant predictor of both NMC and MMV at the $p \leq 0.01$ level, as both variables increase with municipal population. NMC, however, had a significant negative effect on MMV, as a larger field of candidates tends to produce a narrower margin of victory.

I have just two explanations for the positive relationship between newspaper format and MMV. First, in a study on the 2014 Toronto municipal election, McGregor and Stephenson (2017) found that "attentiveness, on its own, does not make voters more likely to support an incumbent or non-incumbent candidate" (p. 85). This finding indicates that voters who pay close attention to municipal campaigns are no less likely to

take the “easy option” (McGregor & Stephenson, 2017, p. 86) by voting for the incumbent candidate—for whom plenty of information is available. Variables such as mine, therefore, that measure the quantity of information available to voters would be unlikely to influence competitiveness if McGregor and Stephenson’s (2017) finding held true in a larger sample of Canadian municipalities. The relevance of information may instead play a more decisive role.

Second, the way newspapers frame local elections may increase the vote differential between winning candidates and the field. The “horserace” or “game frame” (Trimble & Sampert, 2004, p. 55) is a form of campaign coverage commonly used in Canadian television (Fletcher & Everett, 1991; Mendelsohn, 1993) and print news, including national broadsheet newspapers (Trimble & Sampert, 2004). This frame, or method of packaging information, focuses on how partisan tactics and strategies interact with public opinion to influence polling data. It “encourages campaigns to be portrayed as war, as a game, as drama” (Fiske, 1987), and in doing so it “trivializes and de-politicizes electoral democracy” by drawing attention to the “most superficial, episodic and tactical elements of the campaign” (Trimble & Sampert, 2004, p. 69). If local broadsheets emulate the national titles, they may divert scarce attention towards frontrunners and away from challengers in municipal elections. Clearly, this topic demands further academic attention.

Chapter Six: Conclusion

In conducting this study, I sought to determine the impact of local newspaper health on municipal democracy using a unique dataset containing information on more than 200 Canadian municipalities. I drew data from several locations, including provincial databases, News Media Canada's website, and the Canadian Municipal Barometer's Background Data Series. After compiling information from these sources into a single comprehensive dataset, I ran a series of bivariate and multivariate analyses to examine relationships between key variables. Specifically, I either confirmed or denied four hypotheses that predicted positive correlations between municipal turnout and four distinct measures of local newspaper health. The results confirmed two of four hypotheses, as I found significant positive correlations between turnout and two variables designed to measure the "quantity" dimension of civic function journalism. Conversely, the results failed to support the third hypothesis and directly contradicted the fourth. Overall, this study lends *moderate* support to the conclusion that print newspaper health positively influences municipal democracy through increased voter mobilization. I must, however, address several caveats and limitations to this conclusion.

The first limitation is the potential built-in bias of the print circulation variable that may have contributed to its negative relationship with turnout. Although the variable seemed theoretically sound, the negative beta value in the regression analysis casts some doubt on the variable's validity. This is not to suggest that the result should be discounted because it failed to confirm my hypothesis, but rather that both alternative operationalizations and explanations should be explored. For example, it may be instructive to combine circulation data from every newspaper in a municipality (rather

than just the largest) to determine overall newspaper penetration. While this approach may yield the same result, it would at least remove any uncertainty about the validity of the measure.

The lack of specificity in the target market, as reported by News Media Canada, may also have compromised the accuracy of the circulation measure. As I mentioned in Chapter Three, News Media Canada occasionally listed multiple municipalities as the market for a single newspaper. I chose to assign the same value for total circulation to each municipality listed in the market column. This approach may have altered the data more than anticipated. If I applied an inflated circulation value to enough low turnout cases, I may have generated a false negative correlation between these two variables. Similarly, the simplicity of the broadsheet variable may be considered a limitation, because, although theoretically sound, it is nowhere near as specific or valid as a content analysis or survey as a measure of content relevance.

Sample size—233 municipalities from the four largest provinces—may also be considered a limitation. The four largest provinces contain most of the municipalities in Canada and more than 80 percent of the country's population. Yet, as evidenced by significant results for all three of the provincial dummies compared to the reference category of Ontario, there is evidence for strong provincial effects. This result includes differences both between and within regions. It is likely, therefore, that the Atlantic provinces would also differ significantly from Ontario, especially because age demographics in the Maritimes skew towards older cohorts, which comprise the bulk of print newspaper readership. The decision to exclude the four Atlantic provinces was partially one of practicality, as none of these provinces published municipal elections

data in centralized databases. The ideal study would expand the total dataset to include political and newspaper variables for every case included in the CMB (N=446). This would ensure representation from every province and territory and expand the sample size to include a larger proportion of at-risk municipalities. Two of my 233 cases had fewer than 10,000 residents. The CMB data, by contrast, includes over 30 cases that have fewer than 10,000 residents, and more than 200 others that have fewer than 20,000 residents.

Even though each municipality is treated as an unweighted single case, my sample may skew towards the largest municipalities in the country. These municipalities are, however, the most populated and important politically. In fact, my 233 cases represent just 4.5 percent of the municipalities in Canada but contain 23,567,931 of its citizens, or 67.05 percent. Toronto alone accounts for almost 8 percent of Canada's total population. Larger municipalities are not, however, at the same high risk of 'news desertification' as their smaller counterparts.

Competitiveness variables were not my primary focus, and perhaps for this reason, they were flush with limitations. For example, the literature identifies several determinants of NMC (e.g., Breux et al., 2019), yet I included just two in my analysis. I chose not to include the full set of necessary controls because it would have required a significant expansion of my dataset. I chose to leave this task to future studies which take NMC or MMV as their primary focus. Although my brief analysis did not produce the expected results, there remain many reasons to pursue this topic further, given its strong theoretical support and the limited nature of my own analysis.

Another limitation is that this study relies exclusively on privately-owned media companies and overlooks the role of public broadcasters, such as the Canadian Broadcasting Corporation (CBC). Studies demonstrate that public media provides a greater benefit to political knowledge than commercial media (Aarts and Semetko, 2003; Popescu & Toka, 2009) in most countries, including Norway, Britain (Soroka et al., 2012), and Canada (Andrew, 2013). Unsurprisingly, then, publicly owned media provides greater civic benefit than commercial media. Considering the contrasting incentive structures for journalists working in these organizations, this finding fits with expectations. A truly comprehensive study would account for the presence of local CBC coverage in Canadian municipalities, and this study does not.

One approach to correcting many of these limitations would be to simply replicate this study with an expanded dataset and slightly adjusted newspaper variables. This would allow full representation from every province and territory and include a larger sample of small-sized municipalities which are at exaggerated risk of newspaper closures. Such an expanded analysis would also benefit from incorporating digital-only publications, including hyperlocals.

A second approach could emulate a unique methodology used in a small subset of media congruence studies. Oberholzer-Gee and Waldfogel (2009) asked whether Hispanic turnout was higher in relation to non-Hispanic turnout in metropolitan areas with Spanish-language local television news. The researchers found that Spanish-language news "substantially" (p. 2127) increased Hispanic turnout in nonpresidential election years. Canadian researchers could exploit similar geographical and linguistic peculiarities to study turnout and local newspapers in Canada. One could determine

whether francophone turnout is higher in municipalities *outside* Quebec with a local *French*-language newspaper than in those without, or whether anglophone turnout is higher in municipalities *inside* Quebec with a local *English*-language newspaper than in those without. In both cases, turnout would be expressed in relation to the linguistic majority. Significant differences between cases with and without a local minority-language newspaper could likely be attributed to information availability. Bilingualism could complicate the analysis.

One could also build on a large-*N* study of this kind by selecting one or two representative cases—i.e., cases that differ substantially along key independent variables but conform to the trend in the dependent variable—and perform a small-*N* comparative study or case study. This analysis could employ qualitative measures or finer grain quantitative methods, such as interviews or content analyses, and may help establish the causal direction. Does print newspaper health impact municipal democracy? Or, does some other element of local civic culture impact both local newspaper readership and municipal democracy? Few studies have attempted to answer this question (e.g., Schulhofer-Wohl & Garrido; Shaker, 2014) and only with partial success.

This study helps illuminate the problems facing local journalism in Canada. Print newspapers in Canada are shuttering their operations at an alarming rate (Lindgren, 2017), and digital alternatives have been slow to replace them (Public Policy Forum, 2017). These developments portend a net loss in civic function journalism, but the exact nature of that loss is unknown and largely unstudied. Instead, researchers often assume the function and benefit of local journalism. The type and magnitude of democratic

benefit provided by civic function journalism should dictate the form and objectives of the eventual digital replacements for disappearing print newspapers across the country.

According to my findings, local newspapers influence municipal political participation but have a limited effect on electoral competitiveness. In short, *local newspapers can convince someone to vote but not to run for office.* Higher turnout in municipal elections is related to the range of publications and how many times each publishes per week but not their circulation or format. Most of the civic benefit, therefore, occurs on the supply side, highlighting the importance of information availability. As such, further bolstering the relative success of large newspapers with monopolies on urban readership will do little to improve political participation—and may even have the opposite effect. Policies should therefore attempt to achieve the following six objectives: (1) support the proliferation of local publications rather than channeling support towards legacy players, (2) ease the transition from print to digital for existing publications, (3) support emerging digital initiatives, (4) expand local CBC coverage, and (5) direct funding to journalists rather than organizations by expanding the model of the Local Journalism Initiative (refer to the Public Policy Forum's 2017 report, *The Shattered Mirror*, for a detailed discussion of this initiative).

If the government focuses on these policy objectives, it will be targeting the demonstrable value of print newspapers, rather than entrenching the idealistic and often nostalgic myth of local journalism. The characteristics that made local print journalism successful for much of the 20th century are rarely articulated in full. Studies on the topic often revert to industry tropes of "watchdog" (Williams, Harte & Turner, 2015, p. 209) or "adversarial" (Public Policy Forum, 2017, p. 84) journalism. Bentley (2001), by contrast,

attempted to articulate the "special something" (p. 14) that kept print newspapers popular beyond their time, but got little further than "ambience" and "aura" before claiming that the field of media studies "is ripe for a search" (p. 14). He ultimately concluded that the former success of local newspapers may have been "due to the mixture of "legitimate" news and community gossip that allow[ed] readers to fulfill their politically incorrect desire to be "nosy" in a way that is not only accepted but lauded by society" (p. 14).

Considering recent challenges to digital news, Bentley's quote reads like a warning about the transformative potential of social media. As the so-called 'gossip' function of news publications is increasingly filled by social media—which are also acting as the primary news aggregators—the 'civic' function of news publications suffers. Social media have filled the gossip gap to displace newspapers as purveyors of pulp. As a result, fact is relegated to the periphery of public discourse. The separation of guilty pleasure and community benefit has produced gossip without fact and news without funding.

It is the rare business model by which pure civic function journalism pays for itself. It has always been the case that, regardless of medium, extraneous entertainments support hard reporting. From classified advertisements to baseball scores to horoscopes, readership has always been sustained by superfluous extras. The internet has merely highlighted this relationship by dividing and individually monetizing these products. This fragmentation deprives pulp content of its serious veneer and serious content of its paying readership. I discuss none of this to glorify the print newspaper nor denigrate social media—on balance, digital technology has improved access to quality information (and misinformation)—but instead to highlight the challenges local civic function journalism

will continue to face in its transition away from print newspapers. Understanding the true nature of print newspapers is the first step in this transition.

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Appendix A

Descriptive Statistics Prior to Listwise Deletion

Variables	N	Min	Max	Mean	S.E.	S.D.
Voter Turnout	374	.00	1.00	.37	.01	.13
Total Newspapers per 10k Population	446	.00	2.92	.47	.02	.54
Largest Newspaper Print Circulation per Population	318	.00	11.79	1.09	.07	1.18
Days per Week Largest Newspaper Published	446	0	7	1.68	.10	2.01
Largest Newspaper Format (Broadsheet/Tabloid)	318	0	1	.26	.03	.44
Five-Year Population Growth (2011-2016)	446	-5.60	55.10	5.41	.35	7.33
Log Population	446	9.11	14.82	10.20	.05	1.04
Log Population Density	446	-2.30	8.61	5.25	.09	1.83
Log Number of Mayoral Candidates	384	.00	3.56	.93	.03	.59
Margin of Mayoral Victory	383	.0001	1.00	.50	.07	0.33
Councilors per 10k Population	446	.00	3.29	1.05	.04	.91
Age (18-34)	446	.13	.48	.25	.00	.06
Age (65+)	446	.04	.48	.23	.00	.07
House Ownership	446	.37	.97	.75	.01	.12
Median Income	446	38136	148236	66687.82	745.63	15746.77
Valid N	269					

Appendix B

Pearson Correlation Matrix

Variables	Voter Turn-out	NPs per POP	Largest NP Print Circ.	Largest NP Pub. Freq.	Largest NP Format	POP Growth (2011-2016)	Log POP	Log POP Density	Log NMC	MMV	Log Council -ors per POP	% 18-34	% 65+	% House owner	Median Income
Voter Turnout	–	0.275	0.030	-0.055	-0.001	-0.313	-0.287	-0.227	0.024	-0.238	0.186	0.539	0.478	-0.064	-0.338
NPs per POP	***	–	0.133	0.324	0.206	0.194	-0.679	-0.311	-0.359	0.016	0.683	-0.332	0.352	-0.033	-0.186
Largest NP Print Circ.	n.s	**	–	0.027	-0.001	-0.121	-0.172	0.127	-0.033	-0.098	0.074	-0.255	0.276	-0.115	-0.223
Largest NP Pub. Freq.	n.s.	***	n.s.	–	0.763	-0.129	0.560	0.271	0.435	0.055	-0.368	0.291	-0.050	-0.399	-0.151
Largest NP Format	n.s.	***	n.s.	***	–	-0.136	0.378	0.142	0.338	0.068	-0.258	0.169	0.048	-0.299	-0.207
POP Growth (2011-2016)	***	***	*	**	**	–	0.108	0.177	0.035	0.002	-0.056	0.432	-0.494	0.310	0.540
Log POP	***	***	***	***	***	n.s.	–	0.469	0.640	0.045	-0.702	0.468	-0.375	-0.226	0.089
Log POP Density	***	***	*	***	**	***	***	–	0.297	0.011	-0.208	0.280	-0.149	-0.283	-0.007
Log NMC	n.s.	***	n.s.	***	***	n.s.	***	***	–	-0.265	-0.345	0.233	-0.150	-0.281	-0.040
MMV	***	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.	***	–	-0.028	0.137	-0.104	0.024	0.040
Log Councilors per POP	***	***	n.s.	***	***	n.s.	***	***	***	n.s.	–	-0.271	0.290	0.097	-0.051
% 18-34	***	***	***	***	***	***	***	***	***	**	***	–	-0.842	-0.160	0.422
% 65+	***	***	***	n.s.	n.s.	***	***	**	**	n.s.	***	***	–	-0.181	-0.639
% House owner	n.s.	n.s.	*	***	***	***	***	***	***	n.s.	n.s.	**	***	–	0.642
Median Income	***	***	***	**	***	***	n.s.	n.s.	n.s.	n.s.	n.s.	***	***	***	–