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# Unraveling The Impact Of Media Use On Political Knowledge

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UNIVERSITY OF CALGARY

Unraveling The Impact Of  
Media Use On Political Knowledge

by

Ryan Pike

A THESIS

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## **Abstract**

Contributing to the effort to explain declining political knowledge levels among young Canadians, this thesis examines the relationship between an individual's media use and their level of political knowledge. Its core hypothesis held that reliance on online media for political information – as many young Canadians do – would result in lower levels of political knowledge. Using a multi-dimensional operationalization of political knowledge, this thesis finds that Canadians most likely to be knowledgeable about domestic politics are older men with higher levels of education and income who read news from online sources. Canadians most likely to be knowledgeable about international politics are men with higher levels of education who read news from online sources. Canadians most likely to be knowledgeable about the practical application of government programs and policies are older women. In contrast with both public perception and a section of the literature, reliance on online news sources for political information is the strongest positive media influence on political knowledge for two of the three types of political knowledge, while age, gender and education are strong influencers on knowledge across all types.

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## **Chapter 1: Introduction**

In recent years, a great deal of concern has been registered, on the pages of newspapers, books and scholarly publications alike, regarding the health and future of Canadian electoral democracy. The concern being expressed is not without good reason.

Voter turn-out in Canadian federal elections has been declining for several decades. After hitting a peak with the 1958 election of 79.4% of eligible voters casting a ballot, the figure has declined ever since, reaching a nadir of 58.8% of eligible voters for the 2008 election. However, the decline has occurred rather recently and rather rapidly; as recently as the 1980s, three-quarters of eligible voters exercised their franchise. However, turn-out has declined to the point where the three lowest-ever voter turn-outs have been experienced in the past four federal elections (Elections Canada 2013).

Examining the decline in political participation in the United States, including a decline in voting, Popkin and Dimock (1999) concluded that “the dominant feature of nonvoting in America is lack of knowledge about government” (142), rather than other factors such as distrust in political authority or lack of interest. If this notion holds true, a decline in voter turn-out would be driven by a similar decline in political knowledge. Based on the available data and literature, that is generally what is happening; cohorts of newly-eligible voters are being replaced by groups with less political knowledge and less propensity to vote (Lambert et al. 1988). This revelation has resulted in a groundswell of investigations, each attempting to answer the underlying question of why this decline in knowledge is taking place.

One potential factor that is theorized to be contributing to the decline is the news media, and its role in acting as a conduit for political information. Outside of the formal education system, the news media are likely the primary source for political information for the voting public. This sector has undergone profound change over the past 25 years, through the decline of print media (most visible in

the circulation of newspapers), the advent of cable television and the proliferation of an endless number of channels and choices, as well as the the rise of the Internet. With the emergence of the Internet and the increasing reliance of individuals on online media for their news and political information, the political world is possibly experiencing the most significant seismic shift in media consumption and information acquisition patterns in several decades. Media consumption has shifted so drastically that by early 2014, for the first time ever, American spent more time consuming media via digital devices than through traditional media sources (Delo 2013). A similar media usage pattern transformation is underway in Canada, though it lags a few years behind the shift being observed in the United States (Fraser 2013). Young Canadians in particular are notably reliant on the Internet for their news and information, a phenomenon that is thought to contribute to their lagging knowledge of politics and low level of participation in elections (Howe 2010; Wattenberg 2008).

There is a large body of literature examining both news media and political knowledge, as well their theorized interactions. Holbert (2005) writes that the contribution of media to political learning is “perhaps the central question for the discipline” (511). The work of Anthony Downs, particularly the exploration and elaboration of “political rationality” (1957), is frequently referenced and relied-up in explanations of political ignorance and lagging participation. The crux of Downs' work is his theory of “rational ignorance,” detailing the incentive structures in place for potential political actors and framing their inattentiveness and lack of participatory behaviour as a rational act based on a type of cost/benefit analysis.

A sizable body of literature has explored the interactions between traditional news media usage and political knowledge, reaching consensus regarding a positive relationship (Chaffee & Frank 1996; Chaffee et al. 1994; Drew & Weaver 1998; Scheufele 2002; Wei & Lo 2008; Zhao & Chaffee 1995) though there has been some variation observed across media and types of political knowledge (Dimitrova et al. 2014)



However, there is still little consensus on the influence of digital media sources, such as the Internet, on political knowledge. Some have argued they will have positive effects on knowledge (Norris 2001; Hendricks & Denton 2010), others have disagreed, feeling the new media source will have a cooling effect on knowledge (Bimber 2001; Baumgartner & Morris 2009), with Prior (2007) specifically citing the entertainment-centric content of online media sources as a deterrent to potential knowledge gains. “Cyber optimists have been pitted against cyber pessimists” (Dimitrova et al. 2014, 97). “Cyber optimists” predict that the increasing use of online news sources will foster greater participation and knowledge over time, while the pessimists believe that similar usage patterns will emerge and reinforce the existing participation and knowledge levels.

The media landscape has been radically altered in recent years, and the degree to which this is changing how individuals obtain their political information is still not fully understood. As Marshall McLuhan famously declared, when it comes to the perception of transmitted information, “the medium is the message” (McLuhan 1974). The array of media sources now available for consumption each have their own different and very distinct traits, all of which alter the content and effectiveness of any transmission of political information, whether via news content or advertisements. The effectiveness of each media must be taken into account when assessing the changes underway in terms of media use and political knowledge, particularly given the transformations taking place in terms of media consumption, with individuals now able to shift their media consumption through both time and space and tailor their consumption experience to their personal preferences to a much greater degree than prior generations.

To determine whether there is a connection between the reliance of young Canadians on online media resources and their lax political knowledge and participation rates, this thesis endeavours to explore the connection between news media usage and political knowledge in Canada. The following chapters will review the related literature and construct testable hypotheses designed to examine the

relationship between news media usage and political knowledge. Then variables will be constructed for the sake of analysis based upon the available data and the relevant theories from the literature. Finally, regression analysis will take place to test the hypotheses and reach conclusions regarding the relationship between news media usage and political knowledge.

## **Chapter 2: Theoretical Framework and Hypotheses**

### **2.1 Introduction**

This chapter constructs the foundation for analyzing the relationship between news media usage and political knowledge. It conducts an overview of the literature and theories surrounding the effect of news media usage on political knowledge, explores their importance, and examines the theoretical linkages between news media usage and political knowledge. Potentially confounding and conflicting background factors will also be established and discussed, laying the groundwork for creating variables to measure and examine these topics. Finally, based upon the literature reviewed, this chapter will establish hypotheses that will be used to evaluate the relationship between news media usage and political knowledge.

### **2.2 Theoretical Framework**

Political knowledge is a critically important concept in the field of political science. Research in political science has found that accumulated knowledge informs individual and group decision-making, structures the political world, and contributes to a healthy, functioning democratic society via an informed electorate with enlightened preferences and the ability to weigh their electoral choices in a reasoned, logical manner (Howe 2010, Wattenberg 2008). This study seeks to examine the relationship between an individual's news media usage choices, their level of usage and choice of news media source, and their level of political knowledge. This study differs from prior examinations of this relationship by incorporating digital media in the analysis and attempts to aid in contributing to a more complete understanding of the relationship.

### **2.3 Political Knowledge**

What is “political knowledge?” Within the confines of this analysis, it is defined as an

individual's ability to recall facts about individuals or groups involved in the political system.

Within the broader discipline of political science, political knowledge is crucially important. Much of political science is focused on the examination of governments and governance. As a result, both the concepts of consent of the governed, via citizen participation in elections, and informed consent, through the fostering of an educated and informed electorate, are vitally important to a healthy and effective representative democracy. According to Galston (2001),

Unless citizens possess a basic level of civic knowledge—especially concerning political institutions and processes—it is difficult for them to understand political events or to integrate new information into an existing framework. (By analogy, imagine trying to make sense of the flow of events in a sports competition for which one does not know the rules of the game.)(223)

Possessing some amount of political knowledge is crucial for individuals to function as participants in the political system.

Political knowledge can also reflect the norms and values of a society or culture and provide a template of local, regional or national history to transfer to future generations. Analyzing knowledge over life-cycles and across generations, Jennings (1996) treats knowledge of historical facts as if they were collective memories. They use knowledge of historical events, particularly wars, as examples of persistent “memories” across a generation, and how knowledge of those events can seemingly be disseminated to future generations. It is also noted that population replacement would become the driving force behind changes in collective memories. “As with crystallized political attitudes, the key point here rests with the content of what is being internalized, because this content will be relatively enduring over the course of the life cycle” (250). In this sense, the media individuals consume and the various kinds of knowledge they obtain (via media consumption) become important, in that their impacts may be felt and retained throughout life-cycles and across generations.

Knowledge of politics and the political system has been commonly held within the discipline as

a predictor of political efficacy, participation, and sophistication (Delli Carpini and Keeter 1993; Lambert et al 1988). Political efficacy refers to an individual's belief in the effectiveness of the political system, as well as their understanding and belief in the effectiveness of their participation in that system. Political participation is more straightforward, referring to an individual's involvement in the political system itself; this is typically measured in terms of traditional participation such as voting in elections or joining a political party, but has also been expanded in recent analyses to include non-traditional participation such as protesting or signing petitions. As elaborated upon by Luskin (1990), political sophistication is an attempt to capture the quality of an individual's political participation, relying upon examinations and estimations of the depth and number of an individual's political cognitions. For instance, the ability to make political decisions based on information-gathering and rationality rather than informational short-cuts would be held as an example of political sophistication.

Research has suggested that increased levels of political knowledge – both individually and in the aggregate – correspond with higher likelihood of political participation (Howe 2006) in both traditional and digital forms (Bakker and de Vreese 2011). Howe (2006) notes, however, that the contribution of knowledge to participation is likely not uniform; a study comparing the Netherlands and Canada noted that decreases in the level of political knowledge in each country did not have the same effect, in terms of a decline in political participation, in both countries. This suggests that while knowledge and participatory behaviours appear to be correlated, the exact nature of this relationship may be context-dependent and influenced by other factors. Discussing the decline in several participatory measures seen in the United States, Popkin and Dimock (1999) conclude: “The dominant feature of nonvoting in America is lack of knowledge about government; not distrust of government, lack of interest in politics, lack of media exposure to politics, or feelings of inefficacy” (142). In essence, knowledge of the political system is a signpost that illuminates to potential participants when, why and how to participate in the political system. As a result, knowledge is expected to be an

important stimulus for political participation. However, individuals already involved in the political process have an incentive to learn about the political world and a demonstrated interest in the subject, also suggesting that the relationship between knowledge and participation may be on some level circular.

The acquisition and accumulation of political knowledge is also said to contribute to the sophistication of an individual's political decision-making. Luskin (1990) notes: "Some people know and have thought much more about politics than others" (332). The degree to which an individual has differentiated and organized cognitions about the political world describes their degree of political sophistication. Luskin observes that political sophistication is crucial to a functioning democracy: "The less sophisticated the public, the less alert to its interests, the less active and unswerving in pursuit of them, and the less resistant to manipulation from above-the further, in short, from the democratic ideal" (333).

While some consensus has occurred throughout the literature regarding the importance and influence of political knowledge, both on an individual and collective basis, much less agreement has emerged regarding the various factors that contribute to its accumulation. There are competing incentives and disincentives for individuals to become politically knowledgeable, as well as several complex and inter-mingling factors theorized to contribute to the acquisition of political knowledge. Factors such as amount and composition of media usage, gender, income and educational level are thought to be influences on knowledge acquisition on an individual basis, as is an individual's own interest level or preference set in terms of political knowledge and activity. In the aggregate, inequalities across income and education levels, as well as across the two genders, are expected to structure patterns of knowledge acquisition.

In regards to individual interest or preferences, the work of Anthony Downs, vested in the realm of political economy and rationality, has emerged as foundational to the understanding, analysis and

examination of political knowledge and its role in political activity. Downs' (1957) exploration of the concept of political rationality – why an individual would participate in the political process given the extremely small likelihood that their participation will make an appreciable difference in the outcome – has been a key building block for much of the more recent discussion and examination of political knowledge and participatory measures. Downs explores a concept he identifies as “rational ignorance,” stemming from what he terms an “economic theory of democracy” (147) – which presumes that individuals are rational actors in terms of their political activity, and that their activities are informed by the relevant costs and benefits of that activity. Under this model of political behaviour, individuals gather political information until the marginal benefit of gathering that information is exceeded by its marginal cost. Downs predicts that individuals' participatory behaviour can be modelled in a similar manner; political participation is also a weighing of the costs of participation and the level of participation versus the benefits.

According to Downs' model, individuals seek to maximize their personal well-being within an individual cost/benefit preference set; therefore, individuals not participating (or choosing not to gather political information) is framed as a rational act, as they only have to pay the costs of participation and information-gathering if they choose to engage as a participant (Somin 2006). The weighing of the costs and benefits leading to a decision not to participate or not to information-gather beyond a particular cut-off point is defined as “rational ignorance.” Attempting to explain the costs and benefits for individuals in a democratic society, Downs concludes that it is irrational for a hypothetical citizen to become politically informed for the purposes of voting. After concluding that the policy benefits of a well-informed electorate are indivisible, Downs notes:

...the benefits of these policies accrue to each member of the majority they serve, regardless of whether he has helped bring them about. In other words, the individual receives these benefits whether or not he is well informed, so long as people are well informed and his interests are

similar to those of the majority. (147)

Somin notes that “We cannot know for certain that the rational-ignorance hypothesis is correct. But the available evidence strongly supports it” (257), as the hypothesis explains the stagnation of political knowledge levels despite recent technological advances that theoretically lower the marginal costs of information-gathering.

Attempting to explain why individuals would accumulate political knowledge despite the irrationality of doing so, Somin (2006) utilizes an analogy that compares political observers and participants to sports fans. He argues that political observers gain some benefits from “following the political game,” and as a result even if they do not intend to vote or otherwise participate, they use information cues and short-cuts to keep up with politics just enough to know a bit about what is going on in their area. As a result, retention of some political knowledge may not go against Downs' theory, as the benefits experienced by following the “political game” are not entirely off-set by the cost of using information cues and short-cuts. Examining low-information voters, Popkin and Dimock (1999) observe that “people who do not know as much about the structure of political institutions attend to different information when evaluating candidates, rely upon different information shortcuts in deciding whether to vote, and are less likely to vote” (122), reinforcing the notion that individuals with low levels of political information would be expected to appear lower on participatory metrics.

The literature suggests that individuals use information cues and short-cuts to organize the volume of information that they come into contact with, a phenomenon that occurs across the political knowledge spectrum. Havrick (2000) predicted that the introduction of the volume and variety of information available from the Internet into a media landscape that had, to that point, been television-dominant would be “likely to encourage specialization and fragmentation in society” (283), as individuals with extreme viewpoints would become more readily able to find those with similar views. While this fragmentation may not have occurred to the degree Havrick predicted, the emergence and



popularity of new media sources considered be “offer[ing] ideologically slanted content” (Prior 2013, 102) – such as FOX News in the United States – has contributed to the discussion of selection bias. Somin (2006) indicates that many knowledge-seekers, notably on the higher end of the knowledge spectrum, selectively use new information to reinforce their established views on political issues, a phenomenon known as selection bias. In a similar manner to lower information voters use symbols and shortcuts to order the large amount of political information available, high information voters are thought to use symbols and shortcuts – thought primarily in the case of selection bias to be ideological – to order the information at their disposal. Prior (2013) notes that there is no evidence supporting the claim that long-standing media sources have become more ideologically slanted, suggesting that selection bias and the polarization of the media is a recent occurrence.

Alluding to Downs' discussions of rational ignorance, Somin observes that if “the main goal [of being political informed] is to enjoy psychic benefits similar to those available to sports fans, the greater bias of the more politically knowledgeable is perfectly rational” (262). Rather than seeking additional information, these knowledge-seekers may be trying to capture “psychic benefits.” While this specific accumulation and utilization of political knowledge appears unsophisticated, to the degree that organized cognitions and differentiation of information is occurring it can be argued that this type of participation does represent a moderate level of political sophistication. With an apparent acknowledgement of the unlikelihood that any individual will be a crucial participant in the process, the individuals involved persist in accumulating political information to the degree that it brings them entertainment value.

One of the common occurrences throughout the literature regarding political knowledge is a sense of confusion that, despite decades of progress in a lengthy list of factors suspected of positively influencing political knowledge, observed knowledge levels have barely budged. Adult literacy levels are higher than ever. Individuals are more likely to grow up with books in their home than at any time

in the past, are more likely to have one or more parents with a university education, and are more likely to have attended post-secondary education themselves than ever before (Bennett 1998; Howe 2010; Wattenberg 2008). Major advances in communications technology have resulted in lower information-gathering costs (Bimber 2001). Any of these factors would, on their own, be suspected of contributing to higher levels of political knowledge.

Higher levels of literacy and greater exposure to books, particularly at a young age, would be suspected to create more frequent patterns of use of text-based media such as newspapers or the Internet (Lee et al. 2009). Higher levels of post-secondary education would be expected to lead to individuals with more-developed cognitive pathways, with more experience seeking out information efficiently, and with more exposure to political information (Wei and Hindman 2001). Lower information-gathering costs would theoretically provide individuals with lower barriers to seeking out additional political information, or at least provide them with more time to analyze and organize the political information they gather (Bimber 2001).

However, this has not been the case based on the available data and analyses. Most measures of political knowledge have been declining when compared to the same measures in previous generations – notably when controlling for increasing levels of formal education over time (Howe 2010). This is not an entirely recent development: Delli Carpini and Keeter (1991) found that when controlling for increases in educational attainment, political knowledge declined between the 1940s and 1980s.

Fifty years ago, three-fourths of the electorate had not finished high school and only 10 percent had any college experience. Today, three-fourths of the electorate has finished high school and nearly 40 percent has been to college. But despite this increase in education, voter turnout has declined and factual knowledge about government and current political debates is at best only marginally higher. (Popkin and Dimock 1999, 123)

By most accounts, knowledge levels have remained stagnant or slightly declined in the interim (Somin

2006; Howe 2010). Even the predicted impact of something as simple as a university education doesn't have the predicted result; McClintock and Turner (1962) find that four years of college has no major impact on political knowledge levels, though those results obviously precede the introduction of many new media resources. Bimber (2001) summarizes the accessibility argument:

Internet advocates' claim amounts to an assertion that the cost and accessibility of political information are related to citizens' level of engagement with political affairs: the lower the cost and higher the accessibility of political information, the higher the aggregate level of citizen engagement. (54)

Somin (2006) explains that one of the key implications of the rational-ignorance hypothesis is that knowledge levels are unlikely to increase substantially merely due to the greater availability of information and the lowering of transaction costs. The reasoning provided is that while the marginal costs of the information have been diminished, from a rational actor standpoint, there is no appreciable increase in marginal benefit for the potential information-gatherer. As a result, the information-gatherer merely collects what information they were already seeking more easily, rather than attempting to gather more. "Even if information is readily available at low cost, rationally ignorant voters have little or no incentive to spend time learning it and weighing its implications" (Somin 2006, 269). Popkin and Dimock (1999) offer an alternate explanation: "Knowledge of government and its institutions is not a simple function of education" (123).

Both Jennings (1996) and Wattenberg (2008) uncover differences in political knowledge levels between two generational age groups. Jennings attributes the differences to how each generation used their historical memories "as new political stimuli cross their perceptual thresholds" (229), while Wattenberg points to the different socialization experiences in the two groups, notably much different patterns of information acquisition between the two age groupings. Both studies note that knowledge acquisition and retention remained stable through most of life, with Jennings finding stability as

individuals exited young adulthood and entered midlife. This runs contrary to arguments that life-cycle factors – such as the acquisition of sufficient material interests to become appropriately politically motivated (Strate et al. 1989) – would lead to an eventual increase in knowledge levels, and participation, among young people (Highton and Wolfinger 2001). In a 2009 blog post on the publication's website, *Macleans* editor Andrew Potter discusses the debate regarding the political disengagement of young Canadians, and summarizes much of the literature regarding life-cycles, economic voting and maturation: “My argument was not that kids are disengaged; it was that regardless of what they are up to now, they’ll become more conventionally engaged once their lives become more, well, conventional” (Potter 2009). Though Mindich (2005) observes a significant positive relationship between age and political knowledge in general, as life experience and repetition result in retention and accumulation of knowledge over time, the evidence from the literature appears to conclude that political knowledge is not a simple function of age.

One of the more extensively examined factors is the gender gap in political knowledge observed between males and females. Males consistently have been found to have higher levels of political knowledge than females, although both the reasons for the gap and its extent are subjects of considerable debate (Dow 2009). “At least two-thirds of the gender difference in political knowledge results from female–male differences in returns to the predictors of political knowledge, with educational achievement accounting for most of the gap” (132). Other studies attribute a significant portion of the gap merely to how political knowledge is being measured; while acknowledging that the gender knowledge gap exists, reliance on survey measures for knowledge which included “I don't know” response options revealed an apparent willingness for males to guess the answer rather than answer “I don't know” and for women to decline to do so (Mondak and Anderson 2004, Lizotte and Sidman 2009). Eliminating this “guessing effect” cut the knowledge gap between genders down by approximately 36% in one such instance (Lizotte and Sidman 2009).

Stolle and Gidengil (2010) attribute some of the gender gap to a narrow definition of what constitutes political knowledge, particularly a focus on “traditional political arenas” (102). “We find that the gender gap closes (and for some items, even reverses) when men and women are queried about government benefits and services” (103), while Dolan (2011) found the gender gap reversed when asking respondents to identify females in traditional political roles. Regardless of the underlying causes of the gender gap, its persistence in the literature will undoubtedly factor into this analysis, potentially in differences in media selection across the two genders.

Dimitrova et al. (2014) reach a simple conclusion regarding levels of political knowledge and awareness: individuals vary in their attentiveness to politics, and that average levels of information are quite low. “More succinctly, there is high variance in political awareness around a generally low mean” (18). Zaller (1992) observes that rather than fall towards the two extremes – being news experts or completely ignorant – most citizens fall somewhere in the middle. “Probably from some combination of civic obligation and the entertainment value of politics, a majority pay enough attention to public affairs to learn something about it” (16).

### **2.3.1 Definition**

Studies of political knowledge employ a variety of definitions and operationalizations, tending to vary depending on the scope and specificity of the analysis and the availability and quality of the data, if any, available for analysis. It has been generally defined as what individuals know about political facts, events and the political system (Downs 1957; Howe 2006). Delli Carpini and Keeter (1996) define it more technically as “the range of factual information about politics that is stored in long-term memory” (10).

Many studies of political knowledge rely upon “straightforward factual questions about government and politics” (Jennings 1997 229). Zaller (1992) asserts that tests of neutral factual information are the most accurate manner of constructing a knowledge metric: “tests of political

information, more directly than any of the alternative measures, capture what has actually gotten into people's minds, which, in turn, is critical for intellectual engagement with politics” (21). Lambert et al. (1988) stress the importance of “externally verifiable descriptive beliefs about what 'is'” (361) when measuring political knowledge.

Another strength of this method of variable construction is that it is shielded from falsification due to a not possessing a socially desirable response set. With a different method of variable construction, an individual would be able to provide an answer contrary to their actual viewpoint, belief or preferences based on a desire to provide a response that is socially desirable – rather than reflecting their own views on social, political, or economic issues. For example, due to the potential social desirability of appearing to be environmentally conscious while responding to a survey or questionnaire, a respondent could provide answers that reflect that viewpoint when they do not actually hold that belief or preference – such as falsifying the number of days they ride a bicycle for transportation. Zaller (1992) notes the strength of utilizing neutral factual information in measuring political knowledge is that “individuals cannot overstate their levels of information holding because they perceive that it is socially desirable to appear politically aware” (335). With few exceptions, the measurement of political knowledge across the field of political science has relied upon this approach.

Interpretations of its definition have produced different applications and categorizations of political knowledge, often tweaked to the specificities of each study. Downs (1957) differentiates between two types of knowledge: “Contextual knowledge illuminates the basic causal structure of some field of operations; while information provides current data on the variables significant in that field” (81). Subsequent studies have primarily combined both of Downs' types in creating hybrid metrics. In their study of the social sources of political knowledge, Lambert et al. (1988) distinguishes between factual and conceptual measures of knowledge: they measure factual knowledge by testing a respondent's ability to correctly identify Canadian provincial premiers and conceptual knowledge by

testing respondents' ability to place Canadian federal political parties on the political spectrum.

Jennings (1996) only examines factual knowledge, dividing the category into three sub-categories: government mechanics, current events, and historical facts, and measuring each based on answers to survey questions. Respondents were asked questions about both domestic and international politics and history: term lengths of United States senators, the size of the United States Supreme Court, to identify the governor of a state, to identify Franklin Roosevelt's party affiliation, which president succeeded John F. Kennedy, which country Marshall Tito led, which country had concentration camps during World War 2, and to name a country bordering either North or South Vietnam. Attempting to normalize the measurement of political knowledge, Delli Carpini and Keeter (1993) propose a five-item panel survey, comprised of survey questions relating to government mechanics, current events, and conceptual knowledge from two years of National Election Study survey data. The five items, chosen based on regression analysis to construct the best explanatory variable, are exclusively domestic knowledge questions: identifying which party has control of the House, what percentage of the House is required to override a presidential veto, which of the two major parties is more "conservative," which apparatus of the U.S. Government determines constitutionality of laws, and identifying the vice president. Stradling (1977) and Furnham and Gunther (1987) focus on domestic factual knowledge and "procedural or know how" (93) knowledge; constructing four categories of questions. Respondents were asked about party policy positions (given a policy and identifying it as either Conservative, Labour, Liberal or SDP), political leaders (identifying the prime minister, party leaders, foreign secretary, home secretary, chancellor of the exchequer and number of Members of Parliament), parliamentary and local political knowledge (mostly about rules and customs; such as when elections must be held, who is allowed to become an MP, and who can can an election, and such) and knowledge of public services (who is in charge of water supply, social security, refuse collection, parks and swimming pools, electricity supply, providing houses, and hospitals and clinics). For the most part,

measurement of factual knowledge has involved a combination of Downs' contextual knowledge and information measures, primarily focusing on domestic knowledge but also on occasion examining international knowledge of political structures and history.

Approaches to measuring conceptual knowledge have varied; questions asking respondents to place political parties on a left-to-right political spectrum or asking them to identify which party or candidate was more “conservative” (Lambert et al. 1988). Attempts to measure conceptual knowledge categories are more subjective than factual categories and face some difficulty getting past the external verifiability requirement posited by Lambert and his colleagues; this may explain why studies involving political knowledge often excise or ignore conceptual knowledge measurements, as their nature makes them difficult to verify. The types of questions typically used to measure this knowledge are also often framed more as tests of perception rather than of objective facts; Lambert et al.'s chosen questions are more tests of how the parties are perceived by voters rather than how much respondents can comprehend the political spectrum.

One persistent factor that emerged throughout the discussion of measurement was the role of gender. A two-pronged argument emerged: most measures of knowledge result in females lagging significantly behind males, and many have argued that part of the gap is a result of what is being measured (Dolan 2011; Delli Carpini and Keeter 1996; Stolle and Gidengil 2010). This in turn has led to analysis of what has been termed “domain specific knowledge,” knowledge that is considered directly relevant to specific groups but not necessarily the population as a whole (Dolan 2011). For example: Stolle and Gidengil (2010) demonstrate that Canadian women know more about how to access various government benefits and services than do men, Dolan (2011) notes that females are more able to identify females in traditional political roles than males are, and Furnham and Gunther's (1987) analysis found that age was a primary factor in knowing what level of government is responsible for social security.



Within the scope of this analysis, political knowledge is defined as the ability to correctly answer neutral, factual questions about government and politics. The tests of knowledge should, if possible based upon the available data, be multi-dimensional; assessments of knowledge should be based upon the ability to demonstrate knowledge of the their immediate political world, in terms of the ability to utilize government programs, and in a general awareness of politics outside of what is instrumentally useful in terms of voting.

## **2.4 Media Usage**

The literature review presented in this chapter touched upon media consumption as being a determinant of political knowledge. This is hardly surprising, particularly in light of the approach taken to measuring political knowledge. For most people, television, radio, newspapers and the Internet would be the source of factual information, such as the name of a provincial premier or federal cabinet minister. Therefore, it is imperative to elaborate on what specifically is meant by news media usage, why it is important, and how it is measured.

Given the decline in many different participation measures despite many developments – educational and technological – that would be expected to have the opposite effect, the role of mass media in providing political information has been extensively studied in recent years. “Perhaps the central question for the discipline concerns how media aid citizens in becoming informed voters” (Holbert 2005, 511). Aside from the education system, the mass media is how individuals obtain information about the world – both political and otherwise – which in turn informs, influences, and structures their political behaviour. Therefore, what individuals know about the political world can be, at times, a direct result of where or whether they obtain their information.

In addition to contributing much to the discussion of political knowledge through his theories on rationality, Downs (1957) predicts a rational citizen is unlikely to change his or her information-gathering techniques once they have found reliable sources, as to minimize the searching costs of

information-gathering. “The information-seeker continues to invest resources in procuring data until the marginal return from information equals its marginal cost” (215). This assessment is echoed by what Killian et al (2012) term “Riepl's law,” formulated by Wolfgang Reipl, and stating that “seldom replaced by newer, more developed types of media” (118). The persistence of radio, even with after the introduction of television, is cited as an example of this law. In essence, media usage patterns are expected to be established early and difficult to change; Lee et al (2009) notes that “children’s television viewing and reading habits are formed early in life, and those media habits are reinforced over time” (139), which corresponds with the predictions from the literature. A change in media usage patterns in a population would be expected to be as a result of generational replacement, rather than through individuals altering their established habits and patterns.

The transformation of media usage patterns predicted by Downs may be best exemplified by the patterns in newspaper readership. The past several decades have seen significant declines in newspaper readership both in Europe and the United States, believed to be due to a combination of age and cohort effects (Lauf 2001; Robinson 1980), as older frequent newspaper readers are replaced by a younger cohort that reads newspapers less often. Based upon this usage pattern and presuming a similar effect holds for other media types, any widespread change in media usage patterns over time would likely be primarily due to generational replacement rather than a rapid abandonment of traditional media, in a manner similar to changes in shared knowledge across generations. This observation is consistent with previous changes caused by the introduction of newer forms of media. The introduction of television resulted in the displacement of radio (Bogart 1957) and, similarly, “motion pictures, radio, newspapers, and network television all declined in popularity as newer media technologies were developed and diffused” (Athaus and Tewksbury 2000, 22). However, support for this “replacement hypothesis” is uneven (Gaskins and Jerit 2012), and Prior (2007) noted an absence of evidence for a decline in total news consumption. This observed consistency in total news consumption is itself consistent with

Downs' work; if the benefits of political information are unchanged over a period of time, it would follow that the costs of that information – the total amount of news consumption across all media – would also be unchanged. As such, it appears that overall news consumption levels are remaining stable, but the proportions of different media individuals are consuming are transforming over time, although a general trend away from traditional media was observed across all age groups in an Australian study (Spurgeon 2012).

An examination of the importance of the changing state of media usage must also take into account the importance of media usage to begin with. A great deal of the discussion of media usage is informed by or in response to the work of Marshall McLuhan. McLuhan's lasting contribution to the study of media use is his declaration that “the medium is the message.” The logic behind this truism is that “it is the medium that shapes and controls the scale and form of human association and action. The content or use of such media are as diverse as they are ineffectual in shaping the form of human association” (McLuhan 1964, 108). As such, an individual's choice of media is important, as the medium effectively structures how information is transmitted and, in essence, what information an individual user can obtain and absorb.

Given the importance of political knowledge in political participation, and the primacy of the media as a source of political information, McLuhan's declaration makes an individual's reliance on their media sources – and those of the population as a whole – doubly important. McLuhan observes that the importance of media choices rivals those of economic resources in terms of their ability to influence and anchor a society:

If the formative power in the media are the media themselves, that raises a host of larger matters that can only be mentioned here, although they deserve volumes. Namely, that technological media are staples or natural resources, exactly as coal or cotton or oil. Anybody will concede that society whose economy is dependent upon one or two major staples...is going to have some

obvious social patterns of organization as a result. (116)

In terms of informational staples, society is in the midst of a transition. While previously television was thought to be the medium most frequently relied-upon by individuals for their political news and information, the introduction of online news sources to the portfolio of available resources has begun a transition in the society's informational “patterns of organization,” though the extent to which this has already progressed is unclear.

Though the emergence of the Internet as an informational resource has arguably created learning opportunities, Somin (2006) and others observe that individuals often manage the sheer diversity of online information by seeking out only that content which fits with their own views, a phenomenon termed “selective exposure.” New media technologies allow people to consume media content catering to their individual interests and needs (Sunstein 2001; Tewksbury 2005) as a mechanism to navigate the wide variety of competing and occasionally conflicting information sources. In some cases, such as in one study that examines the knowledge impact of exposure to Fox News, knowledge of public affairs may actually diminish due to selective exposure (Meirick 2013). Somin (2006) relates selective exposure to Downs' rational ignorance hypothesis; if, as Somin posits, the main goal of attaining additional political information is to enjoy “psychic benefits similar to those available to sports fans” (262), then selective exposure may be a rational action given a certain information saturation point. Bimber (2001) notes that selective exposure in media usage is consistent with the psychological concept of utilizing schema to order an individual's experience of the world. Selective exposure has been cited as a potential explanation for, while the amount of political information available on the Internet has increased dramatically, individuals’ awareness of public affairs has not increased appreciably (DiMaggio et al. 2001; Graber 1996; Johnson et al. 1999; Norris 2001).

In terms of media's impact on political knowledge, changes in the administration of traditional news media properties in recent years – in part due to erosion of usage and advertising revenues due to

the emergence of new media – have in turn triggered changes in the type of information they disseminate and the manner in which they do so. Due to the diversity in sources of information – via the advent of online news sources, print media, cable, broadcast and satellite television – the level of competition for news audiences has never been higher. At the same time, due to this expanding media universe and the shrinking potential average audience for each news source, it is increasingly difficult to monetize news media. Audiences are fragmenting, advertising revenue is diminishing and with that diminishing revenue comes declining budgets for media outlets. Due to these economic pressures, market-driven media systems have cut down on international coverage in favour of domestic news (Moisy 1996; Norris 1996). “As news budgets diminish, the need to be physically present in more parts of the world increases. As political coverage moves online, there is an added pressure to reach out to international audiences that are able to access content without regard for borders” (Gurevitch 2009, 173) This has placed news media producers in an unenviable position, with news agencies increasingly pushed by consumer demand for international news, but facing increasing budgetary pressures that strains their ability to meet that demand. As a result studies have also observed that large countries, such as the United States, are often comprised of multiple “levels” of news, with journalists and editors juggling local, regional, national, and international news (Iyengar and McGrady 2007), often with syndicated networks of national and international news operating across platforms, with local news specifically provided in-market. One study notes that “the level of local broadcast news in most areas exceeds national news by a factor of 4:1” (Iyengar 2010, 304), potentially a reflection of the relative costs of these two levels of news.

Market pressures and audience fragmentation have also influenced how news is reported across various media sources in a different manner. In addition to creating challenges for news providers to meet demand for each particular “level” of news – local, national or international – market pressures have also impacted how news is being reported and presented in a manner that has the potential to

influence patterns of political learning and political knowledge. In response to the increased potential for audience fragmentation, several studies have identified a shift in how news media – primarily on television – has presented information, in an effort to solidify or expand ratings or readership. Baum (2002, 2003) researches the differentiation between “soft” (entertainment-driven) and “hard” (political) news in traditional media. Wei and Hindman (2011) observe that research has shown a relative emphasis within traditional media towards either news or entertainment programming, often in newspapers and television respectively, that results in a rather “homogeneous supply of content from traditional mass media” (220). Similarly, Prior (2005) also observes a trend towards human interest stories and a reliance on “if it bleeds, it leads,” headline-driven “soft” news over substantive deliberative discussion and “hard” news in recent years. With the Internet being a self-directed content exploration experience that allows users to explore entertainment or news stories at their own direction, there is an undercurrent of concern in both Baum and Prior's work that the informational value of traditional news media may be watered-down in an effort to prevent audiences from migrating from those media. Through a comparison of the readers of the print versus the online editions of the *New York Times*, Tewksbury and Althaus (1999) find that online readers were exposed to fewer articles concerning international, national, or political issues and were less likely to attend to stories that traditionally were grouped in the front page of print newspapers. There is also a recent trend towards a hybrid news/entertainment approach – primarily on cable television – in the form of political satire and popular culture programming that has been cited in encouraging political interest and participation to varying degrees (Xenos and Becker 2009; Street 2012).

Each individual's specific usage of media is important, but the overall media environment that individuals are situated in has a strong influence on what individuals know or may be able to know by structuring the learning opportunities for each individual. The media environment may even influence knowledge accumulation beyond what is instrumentally useful for individuals; an analysis of

individuals in the state of New Jersey found that those served by New York-based media knew more about the mayoral election in that city than those served by Philadelphia's media, even though they had no real use for that information (Zukin and Snyder 1984). While knowledge is influenced to some degree by demographic and socio-economic factors, several studies emphasize the importance of learning opportunities provided by the larger media environment to which individuals reside (Delli Carpini and Keeter 1993; Jerit et al. 2006; Luskin 1990; Prior 2007). For example, studies examining countries with subsidized public broadcasting or more market-driven systems found that those with public broadcasters have lower opportunity costs for political learning and higher levels of public affairs knowledge than those with market-based systems (Soroka et al. 2012). Downs' (1957) rational choice functionality predicts that the specific moment in time that an individual becomes politically engaged, and the media choices that are available to them at that point, may have long-lasting effects on their media consumption patterns and, by extension, the types and forms of political information they consume. The data available suggests this is the case; new media choices have tended to complement existing media for each cohort, rather than to replace (Howe 2010).

Much of the discussion of online media's emergence has developed a conception of online news as fundamentally different than traditional media sources such as television and newspapers. Online media is thought to be more open and democratic, in the sense that content creators do not require a printing press or a transmitter to broadcast a television signal in order to participate. While that may be the case, the observed usage of online media sources has not gravitated to these content creators in this manner. Several studies have concluded that much of the usage of the Internet for news relies upon the websites of traditional news media – television networks and newspapers (Blevins 2001; Dahlberg 2001, 2005; Hindman 2006; Introna and Nissenbaum 2000; McChesney, 2004; Milberry and Anderson 2009). As a result, sites from non-traditional outlets are accessed far less than their traditional counterparts (Parmalee et al. 2011). Ahlers (2006) notes that 51 percent of users of Internet news

sources relied upon multiple media throughout their day for news, corresponding with other studies that found that online news consumers also used newspapers and television (Dutta-Bergman 2004), though they were more likely to use newspapers than television (Tewksbury 2003). This usage pattern may dampen the effect that online news sources may have, or may indicate that they are used as a complement to existing traditional media sources rather than as a replacement.

Bakker and de Vreese's (2011) study of several measures of traditional and emerging forms of political participation concludes that Internet news media use is a stronger predictor for newer forms of “digital” political participation, such as responding to online articles, polls or petitions, or visiting political websites, than for traditional forms, like sending letters or making phone calls regarding political activities, signing petitions or reading about political or social issues. However, the study concludes that online news media use is also a predictor, albeit a weaker one, of traditional participation. The same study found that newspaper use only had significant positive associations with traditional forms of participation.

The concept of “knowledge gaps” are frequently discussed in the literature regarding political learning and knowledge, referring to the difference in knowledge between socio-economic groups; between low and high income, or low and high education. The theory behind knowledge gaps is that based on these socio-economic factors, individuals on the high end of the spectrum acquire political information more efficiently than those on the lower end, through a combination of increased access to efficient media and more developed information processing abilities (Tichenor et al 1970; Gibson and McAllister 2011). Studies have found that media have differing effects on these knowledge gaps. Television is thought to bridge the knowledge gap and act as a knowledge-leveller, providing nearly the same level of benefit to both high and low income and education users (Eveland and Scheufele 2000), as are newspapers (Chaffee and Frank 1996) – although some studies suggest that newspapers have a middle-class bias while television news is aimed more at the lower income and education groups. The



nature of each media type may dictate which group they are best-suited to provide information; television has the benefit of being able to use both audio and visual cues to both “show and tell” aspects of a story, while newspapers and online news generally rely on visuals (primarily text) to share information. The multi-media potential for online news may allow it to act as a knowledge-leveller. However, recent work has found “strong support” for the hypothesis that the Internet may actually widen knowledge gaps (Gibson and McAllister 2011); one such study found evidence that, despite increased media choices, a knowledge gap is emerging due to differing levels of Internet access between groups causing individuals without Internet access to “[fall] behind in the knowledge stakes” (15). However, de Vreese and Boomgaarden (2006) suggest that the effects of media usage on knowledge and participation are contingent, depending on pre-existing levels of knowledge (and reinforcing the proposed influence of education of both knowledge and participation). Their findings make the proposed influence of interacting media types on knowledge gaps, and participation, much less clear.

In terms of knowledge gaps and knowledge-levelling, the effects of media on knowledge are generally expressed through the combined impacts of income and education. A common thread throughout the knowledge levelling discussions is the notion that socio-economic factors structure access to both media and information. In short, individuals with higher levels of education generally earn more money, which provides them with both the free time to explore media and information, as well as the access to more sophisticated information sources. For instance, some media sources – such as news via cable television, newspaper subscriptions, or computers and Internet service – have built-in access costs, therefore those with higher levels of education and income would likely have more access to these sources due to their ability to bear the costs. Bimber (2001) notes that political information online comes at low marginal cost, “at least by citizens with access to the Internet” (59), suggesting income as a structural barrier to media and knowledge access. In addition to the access aspect, those

with higher levels of education are thought to have developed – through their schooling – more advanced cognitive pathways, enabling them to process information from the media they encounter more efficiently than those with lower education levels (Wei and Hindman 2001). However, McClintock and Turner (1962) find that four years of college has no major impact on political knowledge levels, so perhaps the effects of education are contingent on other factors.

Each media type is theorized to have its own level of effectiveness, referring to its ability to transmit political information efficiently to its users. While the effectiveness of each media source is contingent on several factors, many of them underlying and having nothing to do with the media sources themselves, the body of literature suggests that print media is more effective than online media in terms of individuals acquiring knowledge (Eveland 2003; Eveland and Dunwoody 2002). Looking at young adult media usage, Stroud (2011) finds that “newspaper reading and, even more, reading news on the Internet significantly affect political knowledge, while the effect of watching TV news is also positive, but not as strong” (109). A handful of studies by Gunter and others have declared television inferior to newspapers in terms of providing political information to citizens (Gunter 1987; Gunter et al. 1994). Druckman (2005) details some of the possible reasons for the inferiority; television news broadcasts have much more limited space than newspapers, viewers of television news cannot consume at their own pace, and the visual element of television broadcasts may complicate the reception of the information. These results suggest a continuum of media effectiveness; newspapers and online news are seen as more effective as television, with newspapers more effective than online news.

Much of the literature comparing traditional news media sources with newer sources, such as the Internet, makes a distinction regarding content “gate-keeping” and the information-transmitting potential of each media. “Gate-keeping” refers to the amount of structure and level of editorial control in a media's presentation of content; content that is heavily gate-kept would have the content creators dictating a strictly-linear content experience for the users, while content that is barely gate-kept would

have very little linearity and allow the user to experience the content in an order and manner of their choosing. Newspapers and television news broadcasts structure their stories in a hierarchical manner, placing the most important stories most prominently, structuring the consumer's interaction with the information (Graber 1988). Similarly, the linear structure of newspapers and television may lead to accidental exposure to political information by less interested media consumers seeking out other information (Prior 2007). The chance for such inadvertent exposure is likely lower for online news users, as the structure of online news features less gate-keeping and linearity than traditional media (Yang and Grabe 2011; Prior 2007). Gate-keeping of content itself is akin to structuring the food available for a meal; with a specific menu you lose the element of choice but are likely to eat what is presented, while there is less certainty at a buffet that any individual food option will be consumed (Dimitrova et al. 2014). Newspapers and television deliver content in a menu-based structure – users must consume the content as presented – while online content is like a buffet, with the decisions of what to consume and in what order left to the individual user. Tewksbury and Althaus (2000) indicate that, compared with readers of print newspapers, readers of the online version of the *New York Times* are more likely to select news articles that they want to read because they are more likely to pay attention to personally relevant news stories than to the “most important” news stories as determined by the newspaper’s editors and the format’s structure.

#### **2.4.1 Definition**

In terms of what constitutes media usage for the purposes of this analysis, the focus is on usage of a media source for consuming news programming – the primary means of disseminating political information in mass media.

In a theoretical “perfect” world, the ideal measurement for media usage would be the number of hours a media is used per day, with measures available for the major media types. The reason that this measure would be ideal is its transformability. With an “hours per day” metric, the data can be

converted into a measure of reliance, examining which media a respondent uses most often for the information, or aggregated into a measure of the level of one's overall media use, such as hours per week per media or a total measure combining various media types. Conversion into these measures is reliant on the data from the initial collection being accurate, otherwise the imperfections from that initial collection are passed along and perpetuated.

However, this theoretical ideal metric has generally not been utilized, primarily due to a lack of availability. Survey measures regarding media usage have not generally not asked respondents about their hours of daily use, potentially due to errors in memory or approximations creating false measurements. The Canadian Election Study, as well as other surveys and studies, have examined and measured media usage through several federal election cycles. The two main measures collected via these surveys have been the conversion metrics that the ideal data can be transformed into, but which is less useful than the ideal metric due to its the conversion metrics' inability to convert. To use a metaphor: the conversion metrics are a wall and the ideal metric is the bricks; you can use bricks to build a wall, but you cannot necessarily smash apart a wall to retrieve the constituent bricks.

The two primary metrics are determined by two general types of survey questions. The two metrics attempt to encapsulate two facts: what media types respondents use and how much they use them. The first metric consists of questions asking respondents what media source they use the most for news or information – used to formulate the measures of media reliance. While this type looks at what news media source an individual relies upon to obtain political news and information, it does not capture how much they that particular media source, their total level of news media consumption, nor the proportion of their total news media consumption their relied-upon measure represents. The second measurement consists of questions asking how frequently an individual uses a particular media source, with the two sub-types in the most recent Canadian Election Study (Fournier et al. 2011) measuring the media usage in “days per week” or “hours per week.” This measure can be used to approximate an

individual's total level of news media consumption, as well as the proportions of their news media consumption each media source represents. However, this measure and its approximations rely upon the assumption when using the "days per week" metric that the individual uses each media source for similar amounts of time per day. The Canadian Election Study has used both measures in the past, as well as a measure of "total hours per week" of combined news consumption from all media (Gidengil et al. 2008; Fournier et al. 2011).

In contrast to the frequently used political knowledge measures, which rely upon externally provable neutral factual information, no such means of external validation exist in the case of media usage measurement. While political knowledge measurements are protected from falsification by respondents to satisfy a social desirability bias, it is entirely possible for respondents to over-estimate or otherwise exaggerate their media usage due to the social desirability of being informed. Even ignoring the possibility of social desirability bias becoming involved, there is a possibility that rather than report an accurate figure for number of hours or days per week they utilize a particular media type, respondents may merely guess because they cannot recall a precise figure. In both cases, the days-per-week measurement may provide more accurate measurement due to its limited scale; there are more opportunities for variation in an hours-per-week measure rather than in the days-per-week scale, though it does pose the problem of scale in that an individual who quickly skims the newspaper daily would report the same daily usage as an individual who reads it cover-to-cover. In this sense, that may be both the limitation and the strength of the days-per-week approach.

## **2.5 Hypotheses**

The existing literature on political knowledge and news media usage suggests a continuum, reflecting the ability of each media to effectively transmit political information – both domestic and international. Due to the "gate-keeping" present in newspapers and the market-driven pressures on that medium, newspapers readers would acquire more domestic political information than those using the

other media. However, due to the lack of gate-keeping and the ability to search out whatever topics interest them regardless of their geographic location, online news users will likely acquire more international political information than those using other media.

**H1:** Newspaper readers will acquire more domestic political knowledge than online news or television users, and therefore have higher knowledge scores in that category.

**H2:** Online news users will acquire more international political knowledge than newspaper or television users, and therefore have higher knowledge scores in that category.

In addition, due to the ability of online news to provide a heterogeneous supply of political information, one would expect topics not generally discussed in-depth in traditional news coverage, or in traditional media, to be discussed in online news. Therefore, it is expected that due to this information heterogeneity, there would be more discussion of practical political knowledge – how government and its mechanisms work rather than what is happening within them or knowledge of their theoretical structures – in online news than in traditional media.

**H3:** Online news users will acquire more practical political knowledge than newspaper or television users, and therefore have higher knowledge scores in that category.

## **2.6 Conclusion**

This chapter conducted an overview of the varied literature and theories related to news media usage and political knowledge. It established the importance of the two topics, as well as the connection between the two topics and the importance of their inter-relation, particularly in recent years. The chapter also reviewed several potentially confounding background factors and laid the groundwork for the creation of variables to measure these topics in the following chapter.. Finally, this chapter established hypotheses based upon the theories that emerged from the review of the literature that will be used in the following chapters to evaluate, explore, and analyze the relationship between media usage and political knowledge.

## **Chapter 3: Methodology and Measurement**

### **3.1 Introduction**

This chapter operationalizes the concepts discussed in the previous chapter into variables with which to measure and analyze the relationship between news media usage and political knowledge. A review of the data source and methodological approach will be conducted, as well as a summary of the available questions and an explanation of how these questions will be turned into the dependent and independent variables for this analysis. A similar process will be conducted to construct control variables to account for the potentially confounding factors.

### **3.2 Data and Data Source**

The study of political knowledge lends itself to analysis using survey data. Survey items testing respondents' knowledge of political information, reporting respondents' media usage and relevant demographic characteristics provide the necessary data for the analysis conducted within this thesis.

The general methodological approach of this study is secondary analysis of existing data, with analysis conducted as a multi-variate regression. The general relationship being tested is linear, between media usage and political knowledge. However, given multiple types of political knowledge were suggested by the literature and the existence of multiple news media sources, as well as several potentially confounding background variables, multi-variate regression is the most appropriate approach for this analysis. Multi-variate regression allows for the analysis to take these complexities into account without overtly manipulating the data or the analysis itself.

The Canadian Election Study was chosen as a data source for several reasons. First and foremost, it is a prominent national survey with a long history, a reputation for methodological rigour, and a large sample size. Conducted for the first time in 1965, the Canadian Election Study has examined both media usage and political knowledge among its respondents for the majority of its

history.

Media usage questions have been part of every CES survey since 1984. The two types of questions have appeared on the survey: media reliance questions and usage level questions. Media reliance questions appeared on the 1984 survey, and in each survey since 1997, and ask the respondent which media source they rely on most to obtain their political (or election) information. Media usage level questions began appearing with the 1988 survey, and ask respondents how often they use a particular media source for their political (or election) information. The surveys alternatively used two different measures – asking respondents how many days per week or hours per week they used a particular media type. Internet media sources began appearing as an option on the Canadian Election Survey beginning in 2000.

Political knowledge questions have been included in every CES survey since 1997. Each survey asked respondents to name the individual holding a particular political office, or to answer a factual question relating to the political world. The survey alternated between questions identifying either provincial premiers or national and international political figures, with questions relating to the latter appearing on the 2011 survey. Questions asking individuals to place both themselves and political parties on the left-to-right political spectrum have appeared sporadically throughout the survey's life-span; while these questions have been used as representations of conceptual knowledge in the past, they are more effective as examinations of party perception than knowledge measures.

The 2011 edition of the Canadian Election Study was specifically chosen for a data source as it is the most current and relevant version of the survey. Additionally, the survey contains questions pertaining to all the applicable background and demographic factors that this analysis wishes to include, such as age, income, education, and gender. As will be discussed in detail later in this chapter, the survey includes questions regarding both media usage and political knowledge that can be operationalized into the best possible available variables for analyzing the relationship between the two



factors. The 2011 survey also contains a larger battery of knowledge questions than prior studies, providing for an enriched examination of political knowledge.

The 2011 CES included four components: a campaign period telephone survey, a post-election telephone survey, a mail-back survey and a web-based survey. Approximately 4,308 respondents participated in the study in one or more of the survey components: 743 respondents completed all four components, 815 respondents completed three components, 1837 respondents completed two components, and 913 respondents only completed one component, that being the campaign period survey. The data presented has been weighed to the survey's national sample. Questions involving political knowledge were found on all but the web-based section of the survey, while all the media usage questions were part of the post-election component of the study.

While data from the 2011 Canadian Election Study surveys were used in this analysis, the analysis conducted within this study is the author's alone, and any errors in interpretation or calculation are also the author's. Any opinions, findings, conclusions or recommendations expressed in this work are the author's, and do not necessarily reflect the views of the scholars, agencies, or funders of the original data.

### **3.3 From Concept to Measurement**

The testing of the hypotheses necessitated creation of measures capturing both the three kinds of political knowledge undergoing examination and the amount of usage of the different types of news media sources. In addition, some attention should be paid to factors that may confound or skew the results of any potential analysis if they are not taken into account. As a result, it is necessary at this juncture to define each concept in a manner that makes operationalizing that concept possible, in order to integrate it into a regression analysis.

#### **3.3.1 Political Knowledge**

This examination begins with the definition and measurement of political knowledge, as

discussed in Chapter 2. While the definition often varies slightly due to the scope of the analysis taking place as well as the logistical challenges sometimes posed by the data, political knowledge is generally defined as what respondents know about the political world. This definition is further elaborated upon later in this chapter, and categories of knowledge differentiated based upon the literature.

In terms of operationalization, the measures developed for this analysis are constructed by utilizing externally verifiable, neutral factual questions about government and politics. The strength of this approach is that respondents cannot “bluff” or provide responses they believe to be socially desirable; the questions focus on gauging knowledge captured by respondents, not opinions or perceptions, protecting from individuals providing answers that reflect how they wish to be perceived. Regardless of an individual's desire to appear politically knowledgeable, a series of externally verifiable, neutral factual questions are protected against falsification of answers to reflect a perception bias and instead reflect what knowledge the individual has actually internalized (Zaller 1992). While the kinds of questions utilized to measure political knowledge are not completely perfect in terms of their preciseness, focusing on knowledge of people and trivia rather than specific knowledge of political issues, the 2011 Canadian Election Study offers a more varied and much richer set of questions than have been included in previous surveys.

There are 15 externally verifiable, neutral factual questions about government and politics found on the 2011 Canadian Election Study survey. The responses for each question were re-coded to create dummy variables, allowing for easier aggregation into categorical knowledge scores. Correct answers were re-coded to “yes.” Blank, incorrect or “don't know” or “not sure” responses were re-coded to “no.” Any refusals to answer the question were excluded from the analysis. In the case of the question regarding provincial premiers, the answers were sorted by province prior to undergoing recoding. The inclusion of questions from the mail-back survey lowered the potential level of response to all 15 knowledge questions, spanning the main survey and the mail-back survey, to approximately

1089 respondents.

One potential complication of this examination relates to the treatment of “don't know” responses. The literature suggests that the inclusion of “don't know” as answers on survey questions may influence the observed knowledge gap between males and females, with Mondak and Anderson (2004) estimating this effect may influence approximately 20 per cent of the observed knowledge gap when questions including “don't know” options are included as part of the analysis. The reasoning presented is that males have been theorized to have a tendency to guess at the answer rather than choose a “don't know” response, while the opposite may be true for females (Mondak and Anderson 2004, Lizotte and Sidman 2009). The Canadian Election Study survey includes both “don't know” and “not sure” options in its political knowledge questions. While this analysis seeks to determine an explanation for what Canadians know and don't know based upon their news media usage, there is a likelihood that some portion of the gender knowledge gap will be maintained by the study due to the reliance on a survey that included “don't know” and “not sure” options. These two options are included as incorrect answers because the respondents were unable to correctly identify the answer, but it must also be noted that it is impossible to determine what portion of the correct responses are based upon respondents of either gender guessing the answer, while it is possible to determine what portion of incorrect responses are based upon respondents declining to guess and instead choosing the “don't know” or “not sure” options.

The 15 questions are split into three analytical categories based upon two divisions; one division suggested by the literature on political knowledge, the other suggested by the literature on media usage. The common thread throughout much of the discussion in the literature regarding factual political knowledge suggests a division between what Stradling (1977) and Furnham and Gunther (1987) classify as factual knowledge and “procedural or know how” (93) knowledge. This division, particularly the second category, which includes questions about the workings of government programs

and services, coincides with Dolan's (2011) concept of “domain specific knowledge.” Conceived as a means of explaining the knowledge differentials experienced by specific groups, notably women, Dolan classified this category as knowledge more directly applicable to specific groups. The second division is derived from the media usage literature; specifically the suggestion that different media types would provide a different amount of domestic and international political news. As such, the factual knowledge questions are split into groupings of Canadian (domestic) and global (international) political knowledge questions.

Factor analysis and reliability analysis were conducted to test each category's internal reliability, with results grouped with the applicable category description. Three knowledge categories are distinguished: Canadian (domestic) factual knowledge, containing questions relating to individuals and mechanisms comprising the Canadian parliamentary system, global (international) factual knowledge, containing questioning relating to international and extra-parliamentary politics (including global movements), and practical knowledge, comprised of questions relating to specific mechanisms and procedures relating to practical applications of Canadian government programs and policies.

#### **3.3.1.1 Canadian Factual Knowledge**

The Canadian (domestic) factual political knowledge category contains questions regarding specific knowledge of the facts and mechanisms of formal Canadian parliamentary politics. This category involves questions asking respondents to identify individuals holding positions within Canada's political system, as well as regarding electoral rules, results, and governmental roles. Included in this category are three items asking respondents to identify by name the individuals holding a particular position (the respondent's provincial premier, federal Minister of Finance, and Governor-General) and three items relating to Canadian political institutions (level of government with primary responsibility for health care, longest time allowed between federal elections, and which party finished second in the 2011 federal election). The Cronbach's Alpha score, measuring the category's internal

consistency in terms of how closely related the items in the category are to each other in a range from 0 to 1, is 0.664 for this knowledge category, a moderate level. Canadian factual knowledge is generally similar to that in the international factual knowledge category in that it focuses on individuals and systems of formal government and politics, but differentiated by being specifically and exclusively about Canadian politics and institutions. The first three questions included were from the main survey component, the question regarding education and health care responsibility was from the post-election component, while the remaining two questions were from the mail-back component of the survey.

Table 3.1 Questions Involving Canadian Political Knowledge

	<b>Answer</b>	<b>Correct</b>	<b>Incorrect/ Don't Know/ Not Sure</b>
Do you happen to recall the name of the Premier of your Province?	Various	869 (79.8%)	220 (20.2%)
And the name of the federal Minister of Finance?	Jim Flaherty	418 (38.4%)	671 (61.6%)
And the name of the Governor-General of Canada who just finished her term last December?	Michaelle Jean	717 (65.8%)	372 (34.2%)
Do you happen to know which government has the PRIMARY responsibility for education and health care?	Provincial	866 (79.5%)	223 (20.5%)
What is the longest time allowed between one federal election and the next?	5 Years	311 (28.6%)	778 (71.4%)
Which party came in second in the election on May 2 <sup>nd</sup> ?	New Democratic Party	981 (90.0%)	108 (10.0%)

Respondents displayed a moderate level of knowledge on most items included in the Canadian knowledge index, with substantially lower levels on two items. By far, the question that most

respondents answered correctly was identifying the second-place party in the 2011 federal election, with 90% scoring correctly. After that question, the next-most correctly answered questions were the pair asking respondents to name their provincial premier and to name which level of government had primary responsibility for education and health care, with 79.8% and 79.5% of respondents respectively answering correctly. Fewer respondents – though still a sizable majority – were able to name the then-most recent Governor General, with 65.8% answering correctly. The remainder of the questions were most frequently answered incorrectly than correctly by respondents. Just over one-third of respondents – approximately 38.4% - were able to correctly identify the Minister of Finance, while perhaps owing to confusion regarding the constitutional bearing of recent legislation (Tremblay 2008), an even smaller proportion of respondents – 28.6% - were able to identify the longest time allowed between federal elections.

The respondents who correctly identified the longest time allowed between elections, this category's question with the lowest number of correct answers, tended to have higher levels of education, higher levels of income, and were more likely to be male than female when compared to the respondents that answered the question incorrectly.

Table 3.2 Canadian Political Knowledge Category Scores

<b>Number of Correct Answers</b>	<b>Frequency</b>
0	24 (2.2%)
1	56 (5.1%)
2	115 (10.5%)
3	214 (19.7%)
4	286 (26.2%)
5	276 (25.3%)
6	119 (10.9%)
Total Valid Responses	1089 (100%)

Mean: 3.82; Cronbach's Alpha: .664

As suggested by the number and distribution of correct and incorrect responses to the individual knowledge questions, the level of Canadian political knowledge across the sample was fairly high. The mean score was 3.82 of a possible 6 questions, equating with an average of 63.6 per cent of questions answered correctly. Similarly, half of respondents answered 4, 5 or all 6 questions correctly. With a standard deviation of approximately 1.45 (or 24.2 per cent), the distribution of correct answers is skewed towards the high side, indicating that most respondents have a substantial amount of political knowledge relating to domestic politics.

### **3.3.1.2 Global Factual Knowledge**

The Global (international) factual political knowledge category includes questions regarding specific knowledge of the facts and mechanisms of international and extra-Parliamentary politics. This category involves questions regarding identification of individuals holding positions within international politics, as well as symbols and facts about broad international movements and groups. Included in this category are one items asking respondents to identify by name the individuals holding a particular formal political position (the first president of South Africa after apartheid), two items asking respondents to identify aspects of international movements with political influence (the gay and lesbian movement, and WikiLeaks) and two items relating to specific Canadian aspects of international movements (the tar sands, and the environmental movement). The Cronbach's Alpha score for this knowledge category is .915, which indicates that the questions in the category are highly related. The questions in this category are generally similar to those in the Canadian (domestic) factual knowledge category in that they look at the apparatuses of government and politics, but are differentiated by being related to issues that have been widely publicized by international social movements, are not exclusively related to Canadian politics and institutions, or are not exclusively represented in the

formal Parliamentary institutions of government and politics. All five questions included are from the mail-back component of the survey.

**Table 3.3 Questions Involving Global Political Knowledge**

	<b>Answer</b>	<b>Correct</b>	<b>Incorrect/ Don't Know/ Not Sure</b>
Which group uses a rainbow flag as their symbol?	Gay and lesbian groups	701 (64.4%)	388 (35.6%)
Who is the founder of WikiLeaks?	Julian Assange	638 (58.6%)	451 (41.4%)
In which of these provinces are the tar sands located?	Alberta	966 (88.7%)	123 (11.3%)
Sierra Club Canada is an organization devoted to which cause?	Protecting the environment	538 (49.4%)	551 (50.6%)
Who was the first president of South Africa after apartheid ended?	Nelson Mandela	710 (65.2%)	379 (34.8%)

Respondents displayed a moderate level of knowledge on most items included in this index, with even the question with the lowest proportion of correct answers being well above the level of answers of the lowest Canadian knowledge questions. The level of overall knowledge is similar to that of the Canadian index, though with less variation. A high proportion (88.7%) were able to correctly name the location of the tar sands, which is included in the international category due to being a prominent subject of protests and discussion for the international environmental movement. A smaller, but still sizable, proportion of respondents were able to correctly name the first post-apartheid South African president (65.2%) and identify the group using the rainbow flag (64.4%). A smaller proportion, but still a majority (58.6%), were able to name the founder of Wikileaks. And the smallest proportion of respondents answering correctly in this index, just under half (49.4%), were able to name the cause the Sierra Club is working to further.



Individuals correctly answering the question about the Sierra Club, this category's question with the lowest number of correct answers, tended to have higher education levels, higher levels of income, and were more likely to be male than female when compared to the individuals that answered the question incorrectly.

Table 3.4 Global Political Knowledge Category Scores

<b>Number of Correct Answers</b>	<b>Frequency</b>
0	47 (4.4%)
1	120 (11.0%)
2	174 (15.9%)
3	207 (19.0%)
4	238 (21.9%)
5	303 (27.8%)
Total Valid Responses	1089 (100%)

Mean: 3.26; Cronbach's Alpha: .915

The level of Global political knowledge among survey respondents was generally similar to Canadian political knowledge, albeit slightly higher by percentage when adjusting for the different sizes of the two knowledge indexes. The mean Global political knowledge score was 3.26 out of 5 questions, representing approximately 65.2 per cent of respondents answering the survey questions correctly on average. However, compared to the distribution of Canadian political knowledge, the responses for Global political knowledge are more widely distributed, with a standard deviation of 1.50 (or 30 per cent). The general shape of the distribution indicates a general, step-wise progression of knowledge (and the proportion of respondents with higher levels of global political knowledge) as one moves up the scale.

### **3.3.1.3 Practical Knowledge**

The Practical knowledge category includes questions regarding practical application of knowledge of Canadian government, its workings and its policies. Included in this category are two items relating to employment (compassionate care leave, and employment insurance benefits), one item related to the tax system, and one item relating to the legal system. The Cronbach's Alpha score for this knowledge category is .810, an indicator that the questions in the category are highly related. All four questions included were from the mail-back component of the survey.

Table 3.5 Questions Involving Practical Political Knowledge

<b>Practical questions</b>	<b>Answer</b>	<b>Correct</b>	<b>Incorrect/ Don't Know/ Not Sure</b>
If someone working & has to take care of seriously ill relative, how many weeks of compassionate care benefits are paid?	Six weeks	94 (8.7%)	995 (91.3%)
If someone had to go to court and could not afford a lawyer, where would be the BEST place to go for help?	Legal aid	936 (85.9%)	153 (14.1%)
Can people with low incomes receive a GST tax credit from the Canada Revenue Agency?	Yes	944 (86.6%)	146 (13.4%)
Can people who QUIT their job because they don't enjoy it receive employment insurance benefits?	No	683 (62.7%)	406 (37.3%)

Respondents displayed a high level of knowledge on most items included in this index, with slightly lower level of knowledge on one item and substantially lower level on one other. A large proportion of respondents were able to correctly answer questions regarding GST tax credits (86.6%) and sources of legal help (85.9%). Substantially fewer respondents, but still a sizable majority, correctly answered a question regarding employment insurance benefits (62.7%). A very small

proportion of respondents, the lowest of any of the questions in the three knowledge indexes, were able to correctly name the number of weeks of compassionate care benefits (8.7%).

Individuals correctly answering the compassionate care question correctly were more likely to be female than male when compared to those answering incorrectly. This pattern appears to support Dolan's (2011) conception of “domain specific knowledge,” and Stolle and Gidengel's (2010) observation that females more frequently answered questions about government services correctly than males.

Table 3.6: Practical Political Knowledge Category Scores

<b>Number of Correct Answers</b>	<b>Frequency</b>
0	24 (2.2%)
1	105 (9.7%)
2	387 (35.6%)
3	513 (47.1%)
4	60 (5.5%)
Total Valid Responses	1089 (100%)

Mean: 2.43; Cronbach's Alpha: .810

The scale for practical political knowledge is smaller than the other two categories, with only four questions, and when adjusting for the difference the level of practical political knowledge is slightly lower on average than the other two knowledge categories. The mean practical knowledge score was 2.43 out of 4 questions correct, translating to an average of approximately 61 per cent questions answered correctly. The standard deviation was 0.825 (or 20.6 per cent of the scale), reflecting that the distribution of practical knowledge scores are more compacted on the scale than the other two categories.

Comparing the three knowledge measures and taking into account the differences in size

between the three knowledge indices, practical knowledge has the lowest average percentage of correct answers but has the most consistent scores, global knowledge has the highest average percentage of correct answers but the least consistent scores (otherwise classified as the least condensed distribution), and Canadian knowledge between the other two knowledge types, with the average percentage of correct answers and condensed distribution in-between those of the other two knowledge indexes. Based on what the literature suggests, in particular the focus on differentials in access to information sources based on background factors, the variation may be explained by socio-economic differences.

### **3.3.2 News Media Usage**

After defining the measurement of political knowledge, we shift attention towards news media usage. In this section we determine the definition and measurement of news media usage. Based on the literature, the news media is the primary method – outside of the formal education system – for individuals to learn about the political world, accumulate political information, and inform their political decision-making. As such, examining their media usage, both in the amount of media they use for information-gathering purposes and the composition of that use, may help explain their political behaviour and levels of political knowledge. Two general methods of measurement are commonly used in political communications research and are possible based upon the questions available in the 2011 Canadian Election Study.

In measuring media usage, we are interested in how much media is consumed and from what source. The first method consists of utilizing questions asking respondents what media source they use the most for political news or information – classified as “reliance” measures. While this approach looks at what news media source an individual relies upon to obtain political news and information, it does not capture how much they use that particular media source, their total level of news media consumption, nor the proportion of their total news media consumption their relied-upon measure

represents. The second method consists of questions asking how frequently an individual uses a particular media source, with the two sub-types in the 2011 Canadian Election Study survey measuring the media usage in “days per week” or “hours per week.” This measure can be used to approximate an individual’s total level of news media consumption, as well as the proportions of news media consumption each media source represents, presuming that the media selections represented on the survey are exhaustive. However, this measure and its approximations rely upon the assumption when using the “days per week” metric that the individual uses each media source for similar amounts of time per day. The Canadian Election Study has utilized both measures, as well as “total hours per week” of combined news consumption from all media (Gidengil et al. 2008; Fournier et al. 2011).

In contrast to the established political knowledge measures, which rely upon externally provable factual information, no such controls exist in the case of media usage measurement. While political knowledge measurements are protected from respondents' propensity to satisfy a social desirability bias, as they are usually constructed of externally verifiable, neutral factual questions, it is entirely possible for respondents to over-estimate or otherwise exaggerate their media usage due to the social desirability of appearing to be politically informed. Even ignoring the possibility of social desirability bias becoming involved, there is a possibility that rather than report an accurate figure for number of hours or days per week they utilize a particular media type, respondents may merely guess because they cannot recall a precise figure. In both cases, the days-per-week measurement may provide more accurate measurement due to its scale; there are more opportunities for variation in an hours-per-week measure rather than in the days-per-week scale, though it does pose the problem of scale in that an individual who quickly skims the newspaper daily would report the same daily usage as an individual who reads it cover-to-cover. This may represent both the limitation and the strength of a days-per-week approach of measuring news media usage.

The notable prominent news media source explored by the Canadian Election Study but not

included in this analysis is radio. There are two key reasons for radio's exclusion. First, the majority of the literature and theory regarding different news media's proposed differential impact on political knowledge does not discuss radio as having a prominent influence. As such, including it in this analysis is somewhat unnecessary and could serve to complicate the study. Second, prior analysis by scholars such as Paul Howe has discussed the nature of radio as a news medium and how different it is when compared to television, newspapers and the Internet. Notably, Howe classified listening to the radio as a “secondary activity serving as an aural background to something else requiring primary attention” (Howe 2010, 114), opposed to the primary attention required by an individual to consume news via the other major media. News transmission on the radio was also noted as being generally limited to shorter, intermittent segments rather than being concentrated as on the other media. Given this difference between the three primary sources requiring primary attention and that of radio, radio was excluded from this analysis.

As occurred with questions related to political knowledge on the survey, all potential news media usage questions were collected from the 2011 Canadian Election Study. This produced a list of several potential questions, which were reduced for the purposes of analysis to the three primary contemporary news media – newspapers, television and the Internet – with their usage each gauged by a question asking respondents how many days per week they use each medium for news gathering. The remaining media questions, focusing on specific sub-types of usage of each of these media, were not included in the model for this analysis but were relied upon in developing context for the interpretation of the model's data. Once the questions were selected, the only coding changes conducted on the primary “days of the week” questions was the elimination of “don't know” and “refused” entries, as these responses reflected an absence of knowledge or inability to recall media usage amounts, making them irrelevant for the purposes of this analysis.

While the data captured from the “days of the week” questions are valuable, the results from

any regression combined with political knowledge would merely reveal the marginal benefit of increasing use of one news media source by one day – and carries with it the presumption that the marginal benefit is uniform throughout the scale. For instance, this measure presumes that marginal benefits are linear and, to a degree, ignores that marginal benefits could potentially be increasing or diminishing along the scale and that benefits may not be strictly linear. This specific presumption influenced the development of the metrics used for media usage measurement in this analysis.

Table 3.7 Media Usage Frequencies

<b>Days of Weekly Use</b>	<b>Television News Frequency</b>	<b>Newspaper Frequency</b>	<b>Online News Frequency</b>
0	82 (7.5%)	257 (23.6%)	482 (44.3%)
1	47 (4.3%)	127 (11.7%)	88 (8.1%)
2	59 (5.4%)	99 (9.1%)	70 (6.4%)
3	60 (5.5%)	60 (5.5%)	66 (6.1%)
4	60 (5.5%)	34 (3.1%)	48 (4.5%)
5	136 (12.5%)	50 (4.6%)	76 (7.0%)
6	61 (5.6%)	104 (9.5%)	27 (2.5%)
7	584 (53.6%)	358 (32.9%)	230 (21.1%)
Total Valid Responses	1089 (100%)	1089 (100%)	1086 (100%)

In terms of pure days-per-week usage, television is heavily used, with the sample survey revealing both the lowest percentage of respondents reporting zero days of usage of the three media analyzed as well as the highest percentage of respondents reporting seven days of usage. The mean reported usage among respondents for television was 5.25 days per week, with the distribution heavily skewed towards the high-end side of the usage spectrum.

The distribution of newspaper usage appears to be bi-modal, but the reasoning behind the distribution is logical. On the low-use side of the spectrum, roughly half of respondents reported

reading the newspaper two days or fewer. On the high-use side of the spectrum, the most common response to the usage question was using newspapers all seven days of the week. Based upon these most common responses, individuals either read the newspaper every day, suggesting a daily subscription, or they only read the newspaper infrequently, suggesting Sunday or weekend reading, or not at all. The mean usage of 3.69 days-per-week is considerably lower than television's mean usage, but also does not reflect the much different usage patterns.

While television use was tilted towards daily usage and newspaper usage was bi-modally distributed, with high frequencies of respondents at both daily and low usage, online news usage is heavily tilted towards low or no usage. Just under half of respondents reported zero days of usage, although daily usage was the second most-common response, albeit a distant second. The mean usage was 2.54 days-per-week, though like with newspaper usage, this does not reflect the distribution.

Based upon the suggestion within the literature that reliance on a particular source of political information has an influence on level and type of political knowledge, construction of a measure of reliance is necessary to determine what relationship – if any – exists between media reliance by type and political knowledge by type. In the case of media usage, a measure of reliance would be required to differentiate between heavy usage and non-heavy usage of each particular media type. In order to determine a proper cut-off for what constitutes “heavy” media usage to create a measure of reliance, several cross-tabulations were conducted with three, four and five days per week considered as potential qualifiers for constituting heavy usage. Four days was deemed to have the largest potential explanatory value of the three cut-off points that were considered, as well as maintained as close to an even split between the proportion of heavy and non-heavy users to allow for a reasonable comparison between high and low media usage for each media type – though an even split only emerged in regards to newspaper usage. Based on the four days-per-week cut-off for heavy media usage, binary recoding was conducted on the existing “days-per-week” measures, marking using a media source four or more



days a week as heavy usage and less than four per week as light usage.

Table 3.8 Heavy Media Use

<b>Days of Weekly Media Use</b>	<b>Television News Frequency</b>	<b>Newspaper Frequency</b>	<b>Online News Frequency</b>
3 days or less	248 (22.8%)	543 (49.9%)	705 (64.9%)
4 days or more	841 (77.2%)	545 (50.1%)	381 (35.1%)
Total Valid Responses	1089 (100%)	1089 (100%)	1086 (100%)

When grouped into heavy and light usage categories, it is possible to see which media are most relied-upon. Television is a heavily relied-upon news media source, with more than three-quarters of respondents reporting heavy usage. Newspapers are less heavily relied-upon than television: slightly more than half of respondents reported using newspapers four days or more per week, which is considerably lower than the reported heavy usage for television.

Of the three major media, the internet is the least heavily-used for news-gathering. Just over one-third of respondents reported using the internet for news-gathering four or more days per week. Between the three media types, a staggered distribution can be seen; television being the most heavily-used, online sources being the least heavily-used, and newspapers landing in the middle. Cost may be a factor in these usage patterns; consuming television news requires purchasing a television and perhaps a cable subscription, newspaper consumption requires an ongoing subscription (or purchasing daily), while consuming online news sources require a computer, internet access and, sometimes, a subscription to a news service.

In addition to comparing the benefit of heavy usage of each of the three primary news media types, an examination of whether different configurations of heavy media usage – in different combinations of the three media types – have differential impacts on political knowledge is an

important step in developing a nuanced understanding of the relationship between media usage and political knowledge. Therefore, a few additional measures have been constructing using the original “days of the week” and “heavy usage” metrics to provide context for this analysis.

The first measure is a count of how many media a respondent reported using more than four days per week, which qualifies as heavy usage. Constructing using an additive measurement of the existing “heavy usage” metrics, the potential responses range from zero to all three examined media types. This metric helps determine the marginal benefit of additional heavy media usage, although without differentiating between different media usage combinations.

Table 3.9 Number of Media Types Used Heavily

<b>Media Category</b>	<b>Frequency</b>
None Used Heavily	98 (9.0%)
One Medium Used Heavily	376 (34.6%)
Two Media Used Heavily	452 (41.7%)
All Three Media Used Heavily	160 (14.7%)
Total Valid Responses	1086 (100%)

The majority of respondents reported using one or two media types heavily, with usage of both none or all three types being uncommon. Among the respondents using just one media heavily, television is by far the dominant single medium, accounting for just under 70 per cent of heavy single media users. Online news media use is more common than newspaper use among respondents using just a single media heavily. Among the respondents using two media heavily, the pairing of the two traditional media (newspapers and television) was dominant, accounting for 66 per cent of two-media heavy users. The pairing of television and online sources was more common than the pairing of newspapers and online sources by a factor of three.

There is some differentiation between the individuals who use many media types heavily and those who use few heavily. The suggested socio-economic differential-of-access narrative bears out to some degree, as individuals who use all three media heavily tend to be more highly-educated and more affluent, as well as more likely to be male than female, than those who use fewer media heavily to a statistically significant degree (significant at  $p=.001$ ).

The next constructed measure attempts to capture the differential impact of heavy media choice, differentiating between no heavy media usage, only “traditional” (television and newspaper) media usage, and Internet news media usage, both alone and in combination with traditional sources. Like the first measure, this metric is compiled in an additive manner utilizing the existing “heavy usage” measure. While the prior constructed measure attempted to determine the marginal benefit of additional heavy media usage regardless of differentiation between media, this metric does differentiate – to a degree proposing a continuum from no heavy usage to traditional usage to online usage.

Table 3.10 Media Usage by Media Category

<b>Media Category</b>	<b>Frequency</b>
None Used Heavily	98 (9.0%)
Traditional Media Only	607 (55.9%)
Internet (Alone or With Traditional Media)	381 (35.1%)
Total Valid Responses	1086 (100%)

Traditional media are the most heavily-used media types, with more than half of respondents locating themselves in the middle of the proposed usage continuum. Of these users, the largest two groups were television and newspapers (27.6% of all users, 49.4% of traditional users) and television-only users (24.0% of all users, 43.0% of traditional users). Those that use either online news sources or online sources and one of the two traditional types account for a third of respondents. Like in prior

distributions, only a small number of respondents report using no media types heavily.

As observed in the differentiation between individuals that used many media types heavily and those who used fewer media heavily, a differentiation occurs in regards to education, income level, gender and, to some extent age, between individuals using the Internet and other sources for political news and information and those not doing so. Heavy online users of any kind tend to be more highly educated, have a higher level of income, and are more likely to be male than female compared to the remainder of media users. The difference in age occurs between those using traditional media heavily only and those using online sources, alone or with traditional sources): heavy online users of any stripe are, on average, approximately nine years younger than heavy traditional media users.

The third constructed measure focuses primarily on online news media and the impact on political knowledge of adding heavy traditional media usage to heavy online media usage. Similar to the two constructed measures previously mentioned, this metric is constructed through re-coding and re-organizing in an additive manner the existing “heavy usage” categorizations. Unlike the previous categories, though, this measure focuses only on respondents with heavy online media usage – any other respondents are excluded from examination.

Table 3.11: Online Media Usage Combinations

<b>Media Category</b>	<b>Frequency</b>
Only Internet Used Heavily	68 (17.9%)
Internet and One Other Media Used Heavily	153 (40.1%)
All Three Media Used Heavily	160 (42.0%)
Total Valid Responses	381 (100%)

Of the three sub-types presented, the majority reported using either all three media types or online and one other media type. Less than one-fifth of respondents reported using online sources

heavily only. Likely because of a combination of the relatively small sub-sample size and some general similarities within the sub-sample, there are no statistically significant differences among the various sub-types of heavy online media users.

### 3.3.3 Control Variables

There are a handful of demographic and socio-economic background factors that it is necessary to control for in this analysis. If not accounted for in the modelling, these factors could potentially confound the results. As such, the following four factors are being included in the examination as control variables.

The first factor is gender. The literature on political knowledge and gender frequently discusses the “gender gap” in knowledge (Dow 2009), an observed difference in knowledge levels between males and females found on many different surveys and analyses. The reasons for gap have been a subject of much debate, with theories ranging from question structure (Mondak and Anderson 2004; Lizotte and Sidman 2009) to subject matter (Dolan 2011; Stolle and Gidengil 2010) to merely a difference in interest level in politics between the genders (Vromen 1995), but males consistently out-score females in most measures of political knowledge. Captured through a question asking the respondent their gender, the data regarding gender in the Canadian Election Study is already in binary form. The only alterations to the responses is a discarding of “refuse” responses and the construction of a dummy variable asking respondents if they identify as male or do not.

Table 3.12 Gender of Respondent

<b>Is respondent male?</b>	<b>Frequency</b>
Yes	496 (45.6%)
No	593 (54.4%)
Total Valid Responses	1089 (100%)

The survey's sample is appreciably more female than male based upon these responses, even after weighing the data by survey sample.

The second factor is age. The literature theorizes an increase in political interest over the life-cycle, as individuals accumulate material wealth and become interested in political issues as a result (Highton and Wolfinger 2001, Strate et al 1989). A general positive relationship was also observed between age and political knowledge (Mindich 2005), likely due to accumulation of life experience and knowledge-gathering over the life-cycle. The data for a respondent's age is captured through a question on the main survey component asking the respondent their year of birth (“In what year were you born?”). The only alteration of the responses is a discarding of “refused” and “don't know” entries and converting year of birth to age by subtracting their year of birth from 2011. The data is presented here using the groupings used by Statistics Canada to present age, but the data itself is numeric in nature and is only grouped to simplify the discussion of its distribution. However, as the youngest respondent was 18 years of age, and that category is presented as part of a 15-19 year category by Statistics Canada, 18 and 19 have been combined with the next age category up, 20-24 years of age.

Table 3.13 Age of Respondent

<b>Age Group</b>	<b>Frequency</b>	<b>Percentage</b>
18 to 24 years	34	3.10%
25 to 29 years	27	2.50%
30 to 34 years	45	4.10%
35 to 39 years	65	6.00%
40 to 44 years	51	4.70%
45 to 49 years	98	9.10%
50 to 54 years	122	11.30%
55 to 59 years	156	14.40%
60 to 64 years	165	15.30%
65 to 69 years	120	11.10%
70 to 74 years	75	7.00%
75 to 79 years	67	6.20%
80 to 84 years	38	3.60%
85 to 89 years	13	1.20%
90 years and older	5	0.50%
Total Valid Responses	1080	100.00%

The mean age of the sample is 56 years old. The median age group is 55 to 59 years of age, which is also the most common age group. The standard deviation is 15 years, with a majority of the sample ranging between 41 and 71 years of age. An age-squared variable is also constructed in order to capture the potential shape of the effect of age over the life-cycle.

The third factor is the respondent's level of education. Individuals who have attained higher levels of education are thought to have developed more advanced cognitive pathways, allowing them to more easily process and interpret political information than those with less education (Wei and Hindman 2001). As such, individuals with higher levels of education are theorized to have higher levels of political knowledge. A respondent's education levels is captured through a categorical question asking respondents the highest level of schooling completed, the responses provided present somewhat of a continuum or hierarchy, ranging from those with little-to-no formal education to those with

extensive post-secondary studies. The data were altered to remove of “refused” and “don't know” entries and to combine duplicate categories to construct these educational measures.

Table 3.14: Education Level of Respondent

Highest level of education	Frequency
High school diploma or less	305 (28.1%)
Some university or college	352 (32.4%)
Baccalaureate degree or higher	428 (39.4%)
Total Valid Responses	1084 (100%)

Within the sample, the education level varies quite a bit. The mean and median of the sample have completed high school and some some post-secondary, with the most-common level of education being a baccalaureate degree or higher. Within these categories, few respondents had less than a high school diploma, while an even smaller proportion had a graduate degree.

The fourth factor is income. While education level is theorized to improve an individual's cognitive ability, income level is theorized to structure an individual's access to information (Bimber 2001), particularly given that individuals with high levels of income have more time to devote to information gathering and processing, as well as having the ability to access media types with higher marginal costs. There are two separate questions regarding income in the main component of the survey. The first question asks respondents to input their specific household income (“Could you please tell me your total household income before taxes for the year 2010?”). The second question asks respondents to choose which income category they fall into, with several broad categories presented (“We don't need the exact amount; does it fall into one of these broad categories?”). Neither question had a large response rate, with high numbers of “refused” entries for each. However, cross-tabulations revealed no over-lap between the responses – individuals who responded to one question gave a



“refused” answer to the other – so combining the responses from the two questions would not misrepresent the responses and provide an approximation of all respondents' income levels. As such, the responses to the open-ended income question were re-coded to fit the appropriate categories from the categorical income question. Any responses that marked “refused” or “don't know” to both questions were excluded from the analysis.

Table 3.15 Household Income Level of Respondent

<b>Income Category</b>	<b>Frequency</b>
\$29,000 and lower	115 (11.8%)
\$30,000 to \$59,000	277 (28.4%)
\$60,000 to \$89,000	227 (23.2%)
\$90,000 to \$109,000	107 (11.0%)
\$110,000 and above	250 (25.6%)
Total Valid Responses	1089 (100%)

The mean income category is the \$60-89,000 range. That category also represents the median income range, while the mode is the \$30-59,000 category. Despite a large number of respondents indicating their income as being \$110,000 or above, it appears that the sample's income levels are skewed towards the lower end of the income spectrum.

### 3.4 Conclusion

This chapter built upon the previous chapter by reviewing the data source and proposed methodological approach of this analysis. A summary of the available questions was conducted, as well as a detailed examination of how these questions were operationalized into the dependent and independent variables for the analysis, as well as the necessary control variables. With the methodology planned and the required variables constructed, the next step is to conduct the applicable regressions and to examine the relationship between the constructed media usage and political knowledge

variables.

## **Chapter 4: Multi-Variate Regressions**

### **4.1 Introduction**

The previous chapters have outlined the relevant literature related to political knowledge and news media usage, as well as highlighted potential confounding factors, and established testable hypotheses for examining the relationship between political knowledge and news media usage. The previous chapters have also established measurements to construct independent and dependent variables for the testing of the relationship, as well as created measures to convert the underlying factors into control variables for the sake of facilitating analysis.

This chapter builds upon the preceding chapters by utilizing both the theories compiled from the literature and the variables created in the preceding chapters in a series of multi-variate regressions to test three hypotheses relating to political knowledge and news media usage.

- ≡ Newspaper readers are more likely to acquire knowledge about domestic (Canadian) politics than online news or television users (or non-media users).
- ≡ Online news users are more likely to acquire knowledge about international (Global) politics than newspaper or television users (or non-media users).
- ≡ Online news users are more likely to acquire Practical political knowledge about policies and programs than newspaper or television users (or non-media users).

The chapter is organized into four sections. First, we outline the basic structure of the regression analysis. The remaining three sections present the results for domestic, global, and practical knowledge. Each regression analysis section will feature two regressions: a baseline regression with the dependent variable and the control variables to establish underlying relationships, followed by more comprehensive regression that includes all three independent media usage variables to test the relevant hypothesis connected to the appropriate dependent variable for that section.

This analysis in this chapter shows that Canadians most likely to be knowledgeable about

domestic politics are older men with higher levels of education and income who read news from online sources. It also establishes that Canadians most likely to be knowledgeable about international politics are men with higher levels of education who read news from online sources. Finally, Canadians most likely to be knowledgeable about the practical application of government programs and policies are older women.

## **4.2 Regression Structure**

The method of analysis for this study is multi-variate regression. Three sets of regressions were conducted, each testing the relationship between the independent variables, media usage, and the one of the three iterations of the dependent variable, political knowledge. The regression also includes several control variables to guard against factors that could confound the apparent relationship between media and political knowledge.

The three respective dependent variables are representations of different types of political knowledge, constructed by aggregating a tabulation of correct answers to questions about political knowledge. Three variables were compiled, each representing a different sub-type of political knowledge – Canadian, Global, and Practical – with each serving as the dependent variable in its own regression. The independent variables employed within these regressions are representations of each individual respondent's news media usage. The variables used to capture this are a trio of dummy variables capturing heavy media usage for television, newspapers, and online news, with use of media source for four days or more classified as heavy usage of that media.

In addition to these media usage variables, the regression analysis also incorporates several control variables designed to guard against particular factors skewing the results of the analysis. Gender is represented through a dummy variable registering whether respondents identified as male on the Canadian Election Study survey or did not. This variable is included based upon a body of literature and prior research observing a persistent underlying gap in political knowledge between males and

females (Dow 2009). Age is represented through an interval approximation of each respondent's age as of 2011. Each respondent's reported year of birth was subtracted from 2011 to create the data points. This variable is included based upon a body of literature that observed a positive relationship between age and political knowledge (Mindich 2005). An additional age-squared variable, created by squaring each respondent's age, is also included in an effort to capture the retention of political knowledge along each respondent's life-cycle (Jennings 1996). Income level is represented by a categorical variable combining responses from individuals regarding their specific household income or their placement in approximated income categories. This variable is included based upon a body of literature that theorizes that income structures access to media and information (Bimber 2001). Education level is similarly represented by a categorical variable approximating each respondent's highest level of reported educational attainment as of the 2011 survey. This variable is included based upon a body of literature that theorizes that an individual's education level structures their ability to efficiently consume and synthesize information (Wei and Hindman 2001; Tichenor et al 1970).

### **4.3 Canadian Political Knowledge**

Any individual with a high level of Canadian (domestic) political knowledge is required to have an understanding of the structure of Parliamentary politics – such as placement of key positions within institutions and election frequency – but also recall the specific facts about individuals within the political world that connect with those structures. Here, we test whether Canadians' knowledge of domestic politics varies by the type of media they consume. Recall that we anticipate that newspaper readers will know more Canadian politics than television or Internet news consumers, all things being equal, because newspapers are expected to have more expansive reporting on traditional political institutions, such as Parliament, than newer forms of media.

Newspaper content is less structured than television, featuring less content gate-keeping – the structuring of the flow of content by its creators or editors (Yang and Grabe 2011). Iyengar (2010)

notes that television broadcast news skews towards local coverage over national news in most areas “by a factor of 4:1” (304), while newspapers tend to have more emphasis on national or regional events. Therefore, newspapers would be considered a better source of domestic knowledge than television due to this emphasis, and a better source than online news due to the lack of content structuring online potentially allowing users to encounter non-news content more often than news content due to selective exposure (Sunstein 2001; Tewksbury 2005). As presented in traditional news media, news content is strictly delineated, both in terms of content length and method of delivery; page and time-limited content delivered at specific intervals. Online news content has fewer restrictions, both in terms of its creation and its consumption by its users, and the content experience is far less structured for the user than traditional media (Yang and Grabe 2011).

These theories lead to the hypothesis that newspaper readers will acquire more domestic political knowledge than online news or television users. Two multi-variate regressions are conducted to test this hypothesis; the first establishes underlying analytical relationships prior to the inclusion of media heavy usage variables, and the second tests the hypothesis with the media variables included.

Table 4.1 Canadian Political Knowledge Regression Results (Without Media)

	Coefficient	Std. Error	Beta	Sig.
(Constant)	2.182	0.445		0.000
Male Respondent	0.567	0.086	0.196	0.000
Age	0.035	0.016	0.365	0.032
Age Squared	0.000	0.000	-0.217	0.203
University Degree or More	0.430	0.102	0.146	0.000
High School or Less	-0.505	0.114	-0.156	0.000
High Income (\$90,000 or More)	0.228	0.114	0.076	0.046
	Coefficient	Std. Error	Beta	Sig.
Low Income (\$59,000 or Less)	-0.158	0.116	-0.054	0.175
N= 966, R2=.164, Std. Error of Estimate: 1.32153				

Table 4.1 shows that the relationship between sociodemographic factors and domestic political knowledge in Canada are in line with the expectations from the literature. On average, men answer 0.5 questions more (of out 6 questions) correctly than women. The standardized coefficient for the “gender effect” was second only to age in terms of its influence on Canadian political knowledge scores, with the gender gap observed in the literature emerging from the data as expected (Gidengil 2004; Dow 2009). Similarly, older respondents are significantly more likely to score well on domestic political knowledge questions than are younger respondents. This too is in line with expectations, though the relationship between age and knowledge does not decrease slightly at the end of the life course.

Higher levels of education are associated with higher levels of political knowledge. Respondents with lower levels of education answer 0.50 fewer questions correctly compared to those with a moderate level of education. Similarly, respondents with higher levels of education answer 0.43 more questions correctly compared to those with a moderate level of education. Low and middle income Canadians answer about the same number of questions correctly, while higher incomes are associated

with higher knowledge scores. This suggests that the effect of income on political knowledge presented in the literature may only occur at the higher end of the income spectrum.

Overall, then, Table 4.1 shows that Canadians most likely to be knowledgeable about domestic politics are older men with higher levels of education and income. What does including media use in the analysis tell us that is different? Enter Table 4.2.

Table 4.2 Canadian Political Knowledge Regression Results

	Coefficient	Std. Error	Beta	Sig.
(Constant)	1.812	0.443		0.000
Male Respondent	0.501	0.086	0.174	0.000
Age	0.035	0.016	0.358	0.034
Age Squared	0.000	0.000	-0.250	0.137
University Degree or More	0.420	0.100	0.142	0.000
High School or Less	-0.412	0.112	-0.128	0.000
High Income (\$90,000 or More)	0.155	0.112	0.052	0.169
Low Income (\$59,000 or Less)	-0.131	0.115	-0.044	0.254
Heavy Television User	0.278	0.106	0.083	0.009
Heavy Newspaper User	0.319	0.089	0.111	0.000
Heavy Online News User	0.436	0.092	0.146	0.000
N= 964, R2=.204, Std. Error of Estimate: 1.29197				

The hypothesis states that newspaper readers are more likely to acquire knowledge about domestic politics than online news or television users. Usage of each of the three media types were found to have positive influence on political knowledge. However, a comparison of the standardized coefficients of the three heavy media usage variables shows that of the three media types, online news users score higher on domestic political knowledge not newspaper users as the literature suggested. The



hypothesis is therefore disconfirmed. The medium expected to have the smallest influence on domestic knowledge (online) ended up having the largest.

The literature suggested a continuum of positive significant relationships between the three media usage variables and Canadian political knowledge, with newspapers having the largest positive influence followed in diminishing order by television and online news. This continuum was theorized to emerge due to the structuring of the medium's presentation allowing individuals to encounter more traditional political information in traditional media than in online news media (Yang and Grabe 2011), as well as due to television-specific market pressures as well as potential selective exposure by individuals contributing to television skewing slightly towards entertainment content rather than news (Sunstein 2001; Tewksbury 2005).

The previously observed positive impacts on domestic political knowledge related to education level, gender and age observed in the baseline regression are unchanged when the media heavy usage variables are added, with age and male respondents maintaining the two largest standardized coefficients and the relationship between education and political knowledge generally being uniform across education levels. Media use cannot explain why the individuals with the highest level of domestic knowledge are older, more educated males.

The impact on knowledge of income seen in the prior regression disappears when the media variables are included in the regression, suggesting that the impact of income on Canadian political knowledge is superseded by the impact of media usage and that any advantage from differential in access due to income is eliminated by the inclusion of media.

This result clearly appears to disconfirm the hypothesis, which predicted that newspapers would have the largest positive relationship with Canadian political knowledge. This result is not surprising, as 46% of respondents who reported using online news media four or more days per week also reported

utilizing the websites of traditional media organizations “all the time,” while only 7.2% of these online news users reported never using the websites of their news organizations. As a result, it is plausible that the individuals that reported both heavy online news usage and using traditional media websites “all the time” are receiving political information from similar news sources as individuals who rely on traditional media in broadcast or print form. However, the advantages of online content – the linkages to related content and the ability for users to explore connected content at their own pace – remain in place for these websites, rather than the narrow and limited content experience of the traditional media (Druckman 2005). It may be that the difference in effectiveness of online news versus the traditional media in transmitting Canadian political knowledge may lie in the manner in which the content is delivered and presented, not in the nature of the content itself.

This analysis shows that Canadians most likely to be knowledgeable about domestic politics are older men with higher levels of education and income who read news from online sources.

#### **4.4 Global Political Knowledge**

An individual with a high level of global political knowledge is required to have an understanding of the structure of international and extra-Parliamentary politics but also recall the specific facts about individuals and bodies within those structures. As with the previous section, here I test whether Canadians' knowledge of global politics vary by the type of media they consume. Recall that I anticipate that online news readers will know more global politics than television or newspaper consumers, because online news sources are expected to have more capacity to report on international and non-traditional political institutions, such as foreign political bodies and international movements, than traditional forms of media. As well, the linking between content in online news presentations allows individuals to consume additional articles about a topic should they desire to do so, allowing more exploration into a topic and potentially the development of a stronger level of understanding.

As noted during the previous decision of domestic political knowledge, the logic found within the literature is that traditional political institutions are reported upon by traditional media sources. Given that global political knowledge is not exclusively focused on traditional institutions, also including elements of international and movement groups that do not fit within the realm of traditional parliamentary bodies, it would follow that non-traditional political institutions are reported upon by non-traditional media sources.

Between the three major media types, television has the lowest capacity for in-depth coverage that discusses political institutions, actors, motivations and implications, likely due to the nature of content delivery and market pressures on the medium (Gunter 1987; Gunter et al. 1994; Druckman 2005). Newspapers have the capacity for depth of content, but the nature of its content delivery, with limits on pages and words available for coverage may cap its effectiveness in delivering depth. Online news media can provide depth of content because of a lack of space or time restrictions on content, as well as the open-ended nature of content delivery and user exploration. If an individual reads a story on air quality regulations, to provide an example, they have the ability to explore content and acquire information about the issue at their own pace, rather than be restricted by time-slots, page sizes or content delivery schedules (Yang and Grabe 2011; Stroud 2011).

The other factor that is thought to be a determinant of global political knowledge is an individual's level of education. Individuals would learn about the international political landscape and which political structures and institutions are important on a global scale through their formal education, as well as generate an increased awareness of global economic and political power structures. Media use connects with an individual's knowledge of these structures and updates them with current information about the individuals and groups within these structures.

These theories result in the following hypothesis: Online news users will acquire more international political knowledge than newspaper or television users, and therefore have higher

knowledge scores in that category. As with Canadian political knowledge, two multi-variate regressions were conducted; the first to establish underlying analytical relationships prior to the inclusion of media heavy usage variables, and the second to test the hypothesis with the media variables included.

Table 4.3 displays the underlying relationships found in the regression.

Table 4.3 Global Political Knowledge Regression Results (Without Media)

	Coefficient	Std. Error	Beta	Sig.
(Constant)	2.675	0.455		0.000
Male Respondent	0.451	0.088	0.150	0.000
Age	0.005	0.017	0.051	0.759
Age Squared	0.000	0.000	-0.005	0.977
University Degree or More	0.726	0.104	0.238	0.000
High School or Less	-0.548	0.116	-0.164	0.000
High Income (\$90,000 or More)	0.159	0.116	0.051	0.172
Low Income (\$59,000 or Less)	-0.224	0.119	-0.073	0.060
N= 966, R2=.188, Std. Error of Estimate: 1.35123				

As was observed when examining domestic political knowledge, the baseline regression produces regression coefficients for Global political knowledge that fit approximately with the theories produced by the literature, with one exception.

Men are more likely than women to answer questions about global knowledge correctly. On average, men answer 0.45 questions more (of out 5 questions) correctly than women. As was found with domestic knowledge, the standardized coefficient indicated that gender was the second-largest influence on global political knowledge, with the gender gap also found in domestic knowledge recurring in regards to this knowledge type. Gender is the second-largest influence on global

knowledge next to education, which is in line with the expectations laid out by the literature.

As with domestic knowledge, higher levels of education are associated with higher levels of global political knowledge. Respondents with lower levels of education answer 0.55 fewer questions correctly compared to those with a moderate level of education. Similarly, respondents with higher levels of education answer 0.73 more questions correctly compared to those with a moderate level of education. This differential between levels of education is in contrast to the effect seen with domestic knowledge, where it was more uniform. In a departure from the literature, neither age or income level had a significant influence on an individual's level of global political knowledge.

Overall, then, Table 4.3 shows that Canadians most likely to be knowledgeable about global politics are men with higher levels of education. Table 4.4 re-evaluates this relationship by taking into account each individual's media use.

Table 4.4 Global Political Knowledge Regression Results

	Coefficient	Std. Error	Beta	Sig.
(Constant)	2.265	0.453		0.000
Male Respondent	0.366	0.087	0.122	0.000
Age	0.011	0.017	0.106	0.523
Age Squared	0.000	0.000	-0.064	0.699
University Degree or More	0.682	0.102	0.223	0.000
High School or Less	-0.449	0.115	-0.134	0.000
High Income (\$90,000 or More)	0.071	0.115	0.023	0.534
Low Income (\$59,000 or Less)	-0.183	0.117	-0.060	0.119
Heavy Television User	-0.074	0.108	-0.021	0.494
Heavy Newspaper User	0.392	0.091	0.131	0.000
Heavy Online News User	0.525	0.094	0.169	0.000
N= 964, R2=.229, Std. Error of Estimate: 1.31955				

The hypothesis states that online news users are more likely to acquire knowledge about international politics than newspaper or television users. Usage of both newspapers and online media were found to have positive influence on political knowledge. However, a comparison of the standardized coefficients of these two found that online news users score higher on international political knowledge than newspaper users. The hypothesis is confirmed.

As was anticipated for domestic political knowledge, but did not occur, a continuum of influence was also anticipated to be found in regards to media usage and global political knowledge. As detailed previously in this chapter, the overriding factor in constructing the continuum is the ability of a medium to convey depth and allow for further exploration of content: online news sources were expected to have the most influence, followed by newspapers and television (Yang and Grabe 2011; Bonfadelli 2002; Stroud 2011). These expectations were met by the data.

When incorporating the media heavy usage variables in the regression, the previously-observed

relationships between the social-demographic variables and global political knowledge are largely unchanged from the baseline regression. This suggests that in the case of global political knowledge that media usage and these variables are not strongly related.

Based upon this analysis, the Canadians most likely to be knowledgeable about international politics are men with higher levels of education who read news from online sources.

#### **4.5 Practical Political Knowledge**

An individual with a high level of practical political knowledge is required to have an understanding of the the specific applications of government services and policies. As with the prior sections, here I test whether Canadians' knowledge of these practical applications of the utilization of government resources vary by the type of media they consume.

The potential for depth of content and the open-ended consumption experience of online news media makes it theorized to be even more crucial for practical political knowledge attainment than for the other two knowledge types. Traditional news media reports on stories in terms of actions and headlines, and the discussion and transmission of Canadian and Global political knowledge is often facilitated by traditional media because these types of knowledge are based upon facts and events, something the traditional media sources report readily. However, practical knowledge is more vested in procedures and processes – how institutions and their resources function rather than which individuals run them. Understanding of these processes involves a depth of information, particularly when developing knowledge of specific minutiae and institutional detail, something that scarcity of reporting space and that content structuring makes traditional media ill-prepared to provide (Yang and Grabe 2011; Bonfadelli 2002). Online news media has a greater capacity to provide this depth of information, particularly given that an online news user has a greater ability to find subsequent details on aspects of government resources and procedures if they seek further information after reading an initial news story or article on a subject.

As with the other types of political knowledge, education is expected to have a positive influence on practical political knowledge. An individual's experience in formal education would give them a level of awareness of the types of government resources available. Similarly, age is also expected to have a positive influence on practical knowledge for the same reason it is expected to have for the other knowledge type: accumulation life experience allows individuals to operate more efficiently. In the case of the other two knowledge types, the efficiency was in terms of information accumulation and processing; in the case of practical knowledge, it is efficiency in navigating government bureaucracy and procedures.

The theories and logic in the body of literature results in the following hypothesis: Online news users will acquire more practical political knowledge than newspaper or television users, and therefore have higher knowledge scores in that category. A multi-variate regression was conducted to test this hypothesis. As with the other two political knowledge types, two multi-variate regressions were conducted; the first to establish underlying analytical relationships prior to the inclusion of media heavy usage variables, and the second to test the hypothesis with the media variables included. Table 4.5 presents the results of the first regression.

Table 4.5 Practical Political Knowledge Regression Results (Without Media)



	Coefficient	Std. Error	Beta	Sig.
(Constant)	1.665	0.277		0.000
Male Respondent	-0.109	0.054	-0.066	0.043
Age	0.036	0.010	0.648	0.000
Age Squared	0.000	0.000	-0.715	0.000
University Degree or More	-0.020	0.063	-0.012	0.754
High School or Less	-0.028	0.071	-0.015	0.691
High Income (\$90,000 or More)	0.075	0.071	0.043	0.293
Low Income (\$59,000 or Less)	0.052	0.072	0.030	0.476
N= 966, R2=.025, Std. Error of Estimate: 0.82185				

The regression results for practical political knowledge are quite different from those found with the other two types of knowledge, which is logical considering that the subject matter of practical knowledge is considerably different than the other two knowledge types.

As with the other two knowledge types, gender was a significant factor, though in a different manner. Women are more likely than men to answer questions about practical knowledge correctly. On average, women answer 0.11 questions more (out of 4 questions) correctly than men. The significance of gender's influence on practical knowledge is a departure from the prior two knowledge types, but in keeping with the literature on domain-specific knowledge, which predicts that females would have more reason to seek out information about government resources (Stolle and Gidengil 2010). Age is the largest significant determinant of practical political knowledge.

The only other significant influence on practical knowledge is age. As individuals get older, they accumulate practical knowledge, an intuition that bears out in the data. The age-squared variable is also significant, which indicates that the shape of the effect of age over the life-cycle meets the expectations from the literature. Neither of income or education level were significant influences on practical

knowledge.

Finally, notable compared to the other two knowledge analyses, the regression results for practical knowledge revealed a R-squared coefficient that was quite low. This suggests that Practical political knowledge may be different in nature from the other two political knowledge types given that the same predictive factors have considerably less explanatory power for practical knowledge.

Table 4.5 illustrates that Canadians most likely to be knowledgeable about the practical application of government programs and policies are females. Table 4.6 re-examines this relationship by taking into account each individual's media use.

Table 4.6 Practical Political Knowledge Regression Results

	Coefficient	Std. Error	Beta	Sig.
(Constant)	1.638	0.281		0.000
Male Respondent	-0.012	0.054	-0.074	0.024
Age	0.034	0.010	0.608	0.001
Age Squared	0.000	0.000	-0.670	0.000
University Degree or More	-0.019	0.063	-0.011	0.763
High School or Less	-0.018	0.071	-0.010	0.798
High Income (\$90,000 or More)	0.064	0.071	0.038	0.368
Low Income (\$59,000 or Less)	0.047	0.073	0.028	0.517
Heavy Television User	0.058	0.067	0.030	0.385
Heavy Newspaper User	0.025	0.057	0.015	0.655
Heavy Online News User	0.092	0.058	0.053	0.115
N= 964, R2=.026, Std. Error of Estimate: 0.82010				

The hypothesis states that online news users are more likely to acquire practical political

knowledge about policies and programs than newspaper or television users. The regression results presented show none of the three heavy media usage variables are significant determinants of practical knowledge. Given that none of the three media variables are significant, especially online news, the hypothesis therefore cannot be confirmed definitively and is instead disconfirmed.

There are very few changes observed due to adding the media usage variables to the previous baseline regression in terms of overall significance, their inclusion does impact the coefficients. After the inclusion of media use, age becomes the largest determinant of practical knowledge, followed by being female, while age-squared remains significant but its coefficient is smaller than in the previous regression.

Based upon this analysis, the Canadians most likely to be knowledgeable about the practical application of government programs and policies are older women.

#### **4.6 Conclusion**

Building upon the body of literature and theory compiled in previous chapters, this chapter analyzed the relationship between political knowledge and news media usage. Utilizing the constructed independent and dependent variables derived from the literature and the available data, and incorporating several control variables, multi-variate regressions were used to test the three hypotheses relating to political knowledge and news media usage.

Of the three hypotheses tested in this analysis, only one is definitively proven while the other two are disproven. While online news users are more likely of the users of the three types of media to acquire knowledge about international politics, confirming that hypothesis, it cannot be confirmed that newspaper readers are more likely than other media users to acquire knowledge about domestic politics or that online news users are more likely than other media users to acquire practical political knowledge about policies and programs. The latter two hypotheses were disproven by the regression

results.

Canadians most likely to be knowledgeable about domestic politics are older men with higher levels of education and income who read news from online sources. Canadians most likely to be knowledgeable about international politics are men with higher levels of education who read news from online sources. Canadians most likely to be knowledgeable about the practical application of government programs and policies are older women.

The next chapter will consider the implications of these regression results in the context of the previously-established literature and theory in this field, and situate these findings in the areas of the literature where further investigation is warranted. Finally, the next chapter will frame opportunities in the study of media usage and political knowledge for subsequent analysis and identify areas of potential analytical improvement.

## **Chapter 5: Conclusion**

### **5.1 Introduction**

For several decades, many measures of political participation – voter turn-out in particular – have been in decline. There are several competing explanations for this phenomenon circulating throughout the political science community driving much of the latest research in the discipline, though nearly all of them point towards the youngest cohort as a predictor. Young Canadians are less likely to vote than ever before, and know less about the political world than the cohort they are replacing. The dilemma is why this is now the case.

While considerable attention has been paid to the influences of factors such as income level, education level and gender on participatory indicators, in recent years attention has begun to shift towards the explanatory role of political information and the information sources themselves, such as the news media. The emergence of the Internet has arguably transformed political communications to a seismic degree, to a degree not seen since the introduction of cable television. The introduction of online media as a political information source is potentially the most significant change to the political landscape in decades, and the replacement of reliance on traditional media with reliance on online media sources – particularly amongst young people – is theorized to explain some of the variation in knowledge and participation seen in recent years.

However, there is an unresolved debate in the literature regarding how much of the decline in knowledge and participatory measures can be attributed to media choice. A handful of questions from the literature drove the investigation of this study. Has the change in media usage patterns contributed to the decline in political knowledge? What role does media usage play in contributing to an individual's level of political knowledge? And given the ongoing demographic replacement, with younger cohorts replacing older cohorts, should there be concern regarding the political knowledge levels of the future Canadian electorate based upon this investigation? Is the concern of the so-called

“cyber pessimists” warranted, or does the data rather support the claims of the “cyber optimists” that online resources will be a boon for participation and knowledge?

The hypothesis tests conducted testing the relationship between media usage choices and different types of political knowledge produced mixed results. However, the results of the hypotheses tests and other findings from the regressions conducted provide insight into the dynamics of political knowledge and media usage.

## **5.2 Findings and Reflections**

The hypothesis results revealed that online media is more influential in regards to political knowledge than the literature suggests. The regression tests confirm the assertion from the literature that news media usage is an important factor in determining political knowledge. However, the divergence from the literature is in regards to what media source influences what political knowledge type the most.

Television was not expected to have much influence on political knowledge across the board, and that expectation played out in the data. It was only statistically significant for Canadian knowledge, where it was the least influential of the three media sources. It was not significant for the other two knowledge types. Newspapers were expected to be the main media determinant for Canadian knowledge but be not as influential for the other two knowledge types. Its influence was out-weighted by online media across the board, though neither was statistically significant when relating to Practical knowledge. Online media was the main media determinant for both Canadian knowledge, which the literature did not predict, and Global knowledge, which it did. These results suggest that the open-ended quality of online media is as important an influence on domestic political knowledge-seekers as it is for global knowledge, as individuals can explore topics at their own volition. The literature seems to under-value this quality of the media in regards to domestic knowledge in favour of the structured presentation of domestic knowledge in newspapers.

Gender was an influence on all three types of political knowledge, reaching statistical significance across the board. Being male was a positive determinant of both Canadian and global political knowledge, reflecting the literature on knowledge gaps between the genders (Dow 2009) and confirming that this gap perpetuates even when controlling for other factors. However, being female was a positive determinant of practical knowledge, reflecting the literature on domain-specific knowledge. It should be noted that the regression results do not explain the origins of the gender gap, but do seemingly confirm that the content of survey questions is one of the reasons for its existence based on the swing between questions regarding “traditional” political institutions and those focusing on applications of government programs and policies.

An individual's education level was expected to be a positive determinant across all three knowledge types, but was only statistically significant for Canadian and Global political knowledge. In both cases, there were observed increasing marginal returns of political knowledge when moving up the educational spectrum, suggesting increasing positive effects at higher levels of educational attainment. Education level was not significant in regards to Practical knowledge, a slightly departure from the literature, which posited that education structures cognitive functions and allows individuals to process information more efficiently.

Age was expected to be a positive factor regarding political knowledge across the board, acting as a proxy for life experience per the literature (Mindich 2005). The expected relationship was observed for Canadian knowledge. In the case of Practical knowledge, the negative factor of age-squared appears to cancel out the positive influence of age on knowledge. There is no significant relationship between age and Global knowledge. It is probable that the influence of education level may account for the relative lack of influence of age on political knowledge; the positive impact of moving up in the education spectrum, particularly with the increasing returns moving up the spectrum, having a stronger influence than that of aging.

In a similar manner as education level or age, income level was expected to be a positive determinant of political knowledge across all three knowledge types. The literature predicts this based on the notion that income level structures access to information sources by allowing an individual with higher income level greater ability to absorb the costs of more sophisticated or efficient information sources. However, income had no statistically significant relationship with political knowledge in any of its forms. More so than with age, it seems probable that the influence of income level overlaps with the influence of education level; given that individuals with higher levels of education tend to have higher levels of income, there is likely some covariance between the two variables. However, given that income level was significant on the baseline regression for Canadian knowledge but lost significance when the media variables were included, it appears likely that the literature's contention that income structures access bears some weight.

Overall, the regression results appear to confirm several suspicions and theories from the literature. Political knowledge is influenced by news media choice, though the primacy of Internet news sources in regards to both factual knowledge categories is a slight departure from the literature, which predicted it would be out-done by newspapers when it came to Canadian knowledge. The persistence of education level as an influence on the factual knowledge categories also points to an interesting potential underlying argument found in the literature: the information-rich getting richer. Online news may be the most efficient manner of gaining political information, but it is also the medium with the most persistent costs attached to that information. Similarly, higher levels of education allow individuals to more efficiently process information, but also come with a price tag. As such, despite income having little statistical significance as a variable, economic factors are crucially important when it comes to political knowledge.

The rise of the Internet as a source of political information appears to be a positive factor for political knowledge levels. Of the three media sources in this analysis, online news fared the best.



Education level was the other main influence on political knowledge. Both of these determinants have potential access restrictions due to economic structures and inherent costs. In terms of the debate between “cyber optimists” and “cyber pessimists,” the regression results suggest that the optimists have reasons to be optimistic looking at the impacts of media choices alone. Given the expected changes in media use composition among the population over time – as online media use becomes a larger and larger proportion of all media use – that change alone should not contribute to a decline in knowledge levels among the Canadian population. If young Canadians continue to be reliant on online sources of political information, there likely should not be wide-spread concern about the future health of Canadian democracy based on that fact alone. However, any concern should be focused rather on economic structures that may restrict individuals' access to educational opportunities and media sources that foster political knowledge.

### **5.3 Directions for Future Research**

There were some limitations in this study, due both to survey design or data availability, that could be correct to provide more robust results in subsequent analysis conducted on this subject matter. In addition, the results of this study have illuminated some gaps in the literature that could also be filled with subsequent work.

In terms of the results themselves, the relative dominance of the Internet over traditional media as a news source may be a bit over-stated. The literature suggests, and the limited amount of available data appears to confirm, that a large proportion of online news users are reliant on the online presences of traditional media outlets such as television networks or newspapers for their political information. Only a small proportion of online news users are reliant upon alternative online news sources based on the data in the 2011 Canadian Election Study. However, questions regarding specific online media usage are part of the web-based post-election survey and the relevant questions received only 554 responses, which dropped further to 535 when the sample was limited only to the individuals who

responded to all 15 political knowledge questions. With a larger sample size, a future study could shed definitive light on the specific differences between the various types of online news media. As it stands, online news can only be treated as an amorphous grouping of sources rather than distinct sub-types. Similarly, given that contemporary media users are decreasingly tied to consuming their media in a particular time or place, as media can now be shifted in time and space via technological innovations such as podcasts, personal video recorders and increasingly sophisticated cellular devices, questions regarding in what manner individuals consume their media are as valuable to researchers as questions about what media they consume.

Three main improvements can be made to provide a more well-rounded picture of political knowledge. The first would be standardization of the sizes of the knowledge type indexes by incorporating the same number of questions for each knowledge category. Based upon the questions included in the 2011 Canadian Election Study, that would primarily entail adding additional practical knowledge questions to the survey. This would allow for more robust results and make comparing media influence on each knowledge type less fraught with potential for error. Similarly, a well-rounded picture of political knowledge should include some measurement of conceptual knowledge. However, that requires incorporation of externally verifiable tests of conceptual knowledge to the survey, rather than the types of questions included in the 2011 survey. Finally, the elimination of “don't know” options among the survey answers themselves is theorized to eliminate some of the gender knowledge gap between males and females, given the observed male propensity to guess rather than answer “don't know” and for females to do the opposite, provide a more accurate and complete picture of the relationship between gender and political knowledge.

Finally, the regression results across all three political knowledge categories point out that it may be useful for causal purposes to examine the inter-dependence and inter-relation between income level, education level and age, as well as their relationship with political knowledge. Based upon the

results presented in this study, there is some interplay between these three factors. However, all that can be determined through this study is the importance of education, while the influence of age and income on education – and in turn on political knowledge – can only be presumed. Determining the relationship of these three factors with each other would likely contribute to a stronger understanding of their relationship with political knowledge.

#### **5.4 Conclusion**

The political world is changing. As demographics of the voting-eligible public have changed, older generations have been replaced by a cohort that is less likely to vote than they were. As a result, the turnout of the voting-eligible population is lower than ever, and expected to continue to decline as generational replacement continues.

However, the finger of blame cannot definitively be pointed towards media usage among the youngest cohorts as the culprit. While younger Canadians do rely more on the Internet for political information than their predecessors, who rely upon traditional media such as television and newspapers, the analysis conducted in this study shows that online media usage is actually a positive contributor to political knowledge when controlling for background factors, suggesting that the stance of “cyber optimists” that online resources could foster increased knowledge and participation has some merit. It is the strongest determinant of knowledge for Canadian and international politics, and no worse than the other media when practical knowledge is measured. The other consistent factor in terms of political knowledge is an individual's level of educational attainment.

Looking towards the future of political activity and participation, the data provides little evidence that scholars should be overly concerned with the ability of media to transmit political information, particularly newspapers and online media. If there is a topic for concern, it may be regarding access to media. The most effective media in terms of transmitting political information are also those with the highest costs, and higher levels of education carry with them higher costs as well. Future study in this

area should be focused on determining the extent of the potential problem of media access, as well as determining potential solutions.

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## **Appendix**

### **THE SAMPLE**

Respondents in this analysis come from a national sample of Canadian adults drawn from all 10 provinces for the 2011 Canadian Election Study. While 4,308 individuals responded to one or more stages of the Canadian Election Study survey, the examination in this study is limited only to the individuals that responded to all 15 political knowledge questions on the survey. As a result, the sample is limited to 1,089 individuals. The data has been weighed to the sample in SPSS to replicate as representative a sample as possible.

### **DEMOGRAPHICS**

#### **GENDER**

Male	45.6%
Female	54.4%

#### **PROVINCE OF RESIDENCE**

British Columbia	13.2%
Alberta	5.8%
Saskatchewan	4.6%
Manitoba	4.9%
Ontario	34.4%
Quebec	23.9%
New Brunswick	2.3%
Nova Scotia	3.1%
Prince Edward Island	4.6%
Newfoundland and Labrador	3.3%

#### **AGE GROUP**

18 to 34	9.7%
35 to 64	60.3%
65 and Older	29.2%

#### **HIGHEST LEVEL OF EDUCATIONAL ATTAINMENT**

High school diploma or less	28.0%
Some post-secondary	32.3%
Baccalaureate degree +	39.3%

#### **INCOME LEVEL**

Less than \$29,999	10.6%
\$30,000 to \$59,999	25.4%
\$60,000 to \$89,999	20.8%
\$90,000 to \$109,999	9.8%
More than \$110,000	23.0%

BORN IN CANADA	84.6%
METIS/FIRST NATIONS/INUIT	2.2%

#### FIRST LANGUAGE LEARNED

English	64.3%
French	23.0%
German	2.0%
Chinese	1.1%

#### EMPLOYMENT STATUS

Working for pay	39.5%
Retired	34.2%
Self employed	11.2%
Unemployed/looking	3.6%

VOTED IN 2011 ELECTION	94.4%
Voted Conservative	33.3% (of sample)
Voted NDP	27.8% (of sample)
Voted Liberal	18.6% (of sample)

#### MEDIA USAGE

##### TELEVISION USE

0 days per week	7.5%
1 day per week	4.3%
2 days per week	5.4%
3 days per week	5.5%
4 days per week	5.5%
5 days per week	12.5%
6 days per week	5.6%
7 days a week	53.6%
Heavy use (4+ days)	77.2%
Mean: 5.25 days	

##### NEWSPAPER USE

0 days a week	23.6%
1 day per week	11.7%
2 days per week	9.1%
3 days per week	5.5%
4 days per week	3.1%
5 days per week	4.6%

6 days per week	9.5%
7 days a week	32.9%
Heavy use (4+ days)	50.1%
Mean: 3.69 days	

#### ONLINE NEWS MEDIA USE

0 days a week	44.3%
1 day per week	8.1%
2 days per week	6.4%
3 days per week	6.1%
4 days per week	4.5%
5 days per week	7.0%
6 days per week	2.5%
7 days a week	21.1%
Heavy use (4+ days)	35.1%
Mean: 2.55 days	

#### NUMBER OF MEDIA USED HEAVILY

0 types	9.0%
1 type	34.6%
Television Only	24.0%
Newspaper Only	4.3%
Online Only	6.3%
2 types	41.7%
TV & Newspaper	27.6%
TV & Online	10.8%
Newspaper & Online	3.3%
3 types	14.7%

#### CANADIAN POLITICAL KNOWLEDGE

Table A.1 Percentage of Correct Canadian Political Knowledge Responses by Media Usage Group

	All Respondents	Heavy TV Users	Heavy Newspaper Users	Heavy Online News Users
Do you happen to recall the name of the Premier of your Province?	869 (79.8%)	691 (82.2%)	464 (85.1%)	329 (86.4%)
And the name of the federal Minister of Finance?	418 (38.4%)	344 (40.9%)	249 (45.6%)	177 (46.5%)
And the name of the Governor-General of Canada who just finished her term last December?	717 (65.8%)	561 (66.7%)	393 (72.1%)	269 (70.6%)
Do you happen to know which government has the PRIMARY	866 (79.5%)	675 (80.3%)	455 (83.5%)	330 (86.6%)

responsibility for education and health care?				
What is the longest time allowed between one federal election and the next?	311 (28.6%)	242 (28.8%)	182 (33.4%)	133 (34.9%)
Which party came in second in the election on May 2 <sup>nd</sup> ?	981 (90.0%)	776 (92.3%)	505 (92.5%)	362 (94.8%)
Mean Knowledge Index Score	3.82	3.91	4.12	4.2

Table A.2 Percentage of Correct Canadian Political Knowledge Responses by Income Category

	All Respondents	High Income (\$90,000 and above)	Low Income (less than \$60,000)
Do you happen to recall the name of the Premier of your Province?	869 (79.8%)	306 (85.7%)	290 (74.0%)
And the name of the federal Minister of Finance?	418 (38.4%)	156 (43.6%)	133 (33.9%)
And the name of the Governor-General of Canada who just finished her term last December?	717 (65.8%)	266 (74.3%)	234 (59.5%)
Do you happen to know which government has the PRIMARY responsibility for education and health care?	866 (79.5%)	309 (86.6%)	283 (72.2%)
What is the longest time allowed between one federal election and the next?	311 (28.6%)	125 (34.9%)	89 (22.7%)
Which party came in second in the election on May 2 <sup>nd</sup> ?	981 (90.0%)	329 (92.2%)	344 (87.8%)
Mean Knowledge Index Score	3.82	4.17	3.5

Table A.3 Percentage of Correct Canadian Political Knowledge Responses by Education Level

	All Respondents	Baccalaureate Degree or More	High School Diploma or Less
Do you happen to recall the name of the Premier of your Province?	869 (79.8%)	368 (86.0%)	226 (74.1%)
And the name of the federal Minister of Finance?	418 (38.4%)	197 (46.0%)	81 (26.6%)

And the name of the Governor-General of Canada who just finished her term last December?	717 (65.8%)	318 (74.3%)	175 (57.4%)
Do you happen to know which government has the PRIMARY responsibility for education and health care?	866 (79.5%)	376 (88.8%)	203 (66.6%)
What is the longest time allowed between one federal election and the next?	311 (28.6%)	161 (37.6%)	55 (18.0%)
Which party came in second in the election on May 2 <sup>nd</sup> ?	981 (90.0%)	407 (95.1%)	252 (82.6%)
Mean Knowledge Index Score	3.82	4.27	3.26

Table A.4 Percentage of Correct Canadian Political Knowledge Responses by Gender

	All Respondents	Male	Female
Do you happen to recall the name of the Premier of your Province?	869 (79.8%)	422 (84.9%)	448 (75.5%)
And the name of the federal Minister of Finance?	418 (38.4%)	240 (48.3%)	179 (30.2%)
And the name of the Governor-General of Canada who just finished her term last December?	717 (65.8%)	322 (64.8%)	395 (66.6%)
Do you happen to know which government has the PRIMARY responsibility for education and health care?	866 (79.5%)	431 (86.9%)	434 (73.2%)
What is the longest time allowed between one federal election and the next?	311 (28.6%)	174 (35.1%)	137 (23.1%)
Which party came in second in the election on May 2 <sup>nd</sup> ?	981 (90.0%)	472 (95.2%)	509 (85.8%)
Mean Knowledge Index Score	3.82	4.15	3.54

Table A.5 Percentage of Correct Canadian Political Knowledge Responses by Age Group

	All Respondents	18 to 34	65 and older
Do you happen to recall the name	869 (79.8%)	74 (70.5%)	260 (81.8%)

of the Premier of your Province?			
And the name of the federal Minister of Finance?	418 (38.4%)	30 (28.3%)	152 (47.8%)
And the name of the Governor-General of Canada who just finished her term last December?	717 (65.8%)	64 (61.0%)	210 (66.6%)
Do you happen to know which government has the PRIMARY responsibility for education and health care?	866 (79.5%)	80 (75.5%)	255 (80.2%)
What is the longest time allowed between one federal election and the next?	311 (28.6%)	32 (30.5%)	89 (28.0%)
Which party came in second in the election on May 2 <sup>nd</sup> ?	981 (90.0%)	89 (84.8%)	293 (92.1%)
Mean Knowledge Index Score	3.82	3.5	3.96

## GLOBAL POLITICAL KNOWLEDGE

Table A.6 Percentage of Correct Global Political Knowledge Responses by Media Usage Group

	All Respondents	Heavy TV Users	Heavy Newspaper Users	Heavy Online News Users
Which group uses a rainbow flag as their symbol?	701 (64.4%)	510 (60.6%)	374 (68.5%)	292 (76.4%)
Who is the founder of WikiLeaks?	638 (58.6%)	502 (59.7%)	360 (66.1%)	277 (72.7%)
In which of these provinces are the tar sands located?	966 (88.7%)	752 (89.4%)	494 (90.6%)	354 (92.9%)
Sierra Club Canada is an organization devoted to which cause?	538 (49.4%)	414 (49.2%)	316 (57.9%)	230 (60.4%)
Who was the first president of South Africa after apartheid ended?	710 (65.2%)	552 (65.6%)	378 (69.4%)	285 (74.8%)
Mean Knowledge Index Score	3.26	3.25	3.52	3.77

Table A.7 Percentage of Correct Global Political Knowledge Responses by Income Level

	All	High Income	Low Income
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	Respondents	(\$90,000 and above)	(less than \$60,000)
Which group uses a rainbow flag as their symbol?	701 (64.4%)	282(78.8%)	201 (51.3%)
Who is the founder of WikiLeaks?	638 (58.6%)	236 (66.1%)	206 (58.6%)
In which of these provinces are the tar sands located?	966 (88.7%)	329 (91.9%)	325 (82.7%)
Sierra Club Canada is an organization devoted to which cause?	538 (49.4%)	210 (58.7%)	153 (39.0%)
Who was the first president of South Africa after apartheid ended?	710 (65.2%)	252 (70.6%)	234 (59.7%)
Mean Knowledge Index Score	3.26	3.66	2.85

Table A.8 Percentage of Correct Global Political Knowledge Responses by Education Level

	All Respondents	Baccalaureate Degree or More	High School Diploma or Less
Which group uses a rainbow flag as their symbol?	701 (64.4%)	321(75.2%)	143 (46.9%)
Who is the founder of WikiLeaks?	638 (58.6%)	319 (74.5%)	125 (41.0%)
In which of these provinces are the tar sands located?	966 (88.7%)	400 (93.5%)	243 (79.7%)
Sierra Club Canada is an organization devoted to which cause?	538 (49.4%)	287 (67.1%)	88 (28.9%)
Who was the first president of South Africa after apartheid ended?	710 (65.2%)	346 (80.8%)	151 (49.5%)
Mean Knowledge Index Score	3.26	3.91	2.46

Table A.9 Percentage of Correct Global Political Knowledge Responses by Gender

	All Respondents	Male	Female
Which group uses a rainbow flag	701 (64.4%)	330 (66.4%)	372 (62.7%)



as their symbol?			
Who is the founder of WikiLeaks?	638 (58.6%)	321 (64.7%)	318 (53.6%)
In which of these provinces are the tar sands located?	966 (88.7%)	469 (94.6%)	497 (83.8%)
Sierra Club Canada is an organization devoted to which cause?	538 (49.4%)	281 (56.7%)	257 (43.3%)
Who was the first president of South Africa after apartheid ended?	710 (65.2%)	352 (71.0%)	359 (60.5%)
Mean Knowledge Index Score	3.26	3.53	3.04

Table A.10 Percentage of Correct Global Political Knowledge Responses by Age Group

	All Respondents	18 to 34	65 and older
Which group uses a rainbow flag as their symbol?	701 (64.4%)	94 (88.7%)	147 (46.2%)
Who is the founder of WikiLeaks?	638 (58.6%)	64 (60.4%)	197 (61.9%)
In which of these provinces are the tar sands located?	966 (88.7%)	87 (82.9%)	289 (90.6%)
Sierra Club Canada is an organization devoted to which cause?	538 (49.4%)	33 (31.3%)	163 (51.3%)
Who was the first president of South Africa after apartheid ended?	710 (65.2%)	67 (63.2%)	214 (67.3%)
Mean Knowledge Index Score	3.26	3.26	3.18

## PRACTICAL POLITICAL KNOWLEDGE

Table A.11 Percentage of Correct Practical Political Knowledge Responses by Media Usage Group

	All Respondents	Heavy TV Users	Heavy Newspaper Users	Heavy Online News Users
If someone working & has to take care of seriously ill relative, how many weeks of	94 (8.7%)	73 (8.7%)	53 (9.7%)	36 (9.4%)

compassionate care benefits are paid?				
If someone had to go to court and could not afford a lawyer, where would be the BEST place to go for help?	936 (85.9%)	730 (86.8%)	468 (85.9%)	330 (86.6%)
Can people with low incomes receive a GST tax credit from the Canada Revenue Agency?	944 (86.6%)	733 (87.2%)	475 (87.0%)	334 (87.7%)
Can people who QUIT their job because they don't enjoy it receive employment insurance benefits?	683 (62.7%)	518 (61.6%)	332 (60.9%)	259 (68.0%)
Mean Knowledge Index Score	2.44	2.44	2.44	2.51

Table A.12 Percentage of Correct Practical Political Knowledge Responses by Income Level

	All Respondents	High Income (\$90,000 and above)	Low Income (less than \$60,000)
If someone working & has to take care of seriously ill relative, how many weeks of compassionate care benefits are paid?	94 (8.7%)	34 (9.5%)	32 (8.2%)
If someone had to go to court and could not afford a lawyer, where would be the BEST place to go for help?	936 (85.9%)	313 (87.7%)	335 (85.5%)
Can people with low incomes receive a GST tax credit from the Canada Revenue Agency?	944 (86.6%)	313 (87.7%)	341 (87.0%)
Can people who QUIT their job because they don't enjoy it receive employment insurance benefits?	683 (62.7%)	235 (65.6%)	243 (62.0%)
Mean Knowledge Index Score	2.44	2.51	2.43

Table A.13 Percentage of Correct Practical Political Knowledge Responses by Education Level

	All Respondents	Baccalaureate Degree or	High School Diploma or
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		More	Less
If someone working & has to take care of seriously ill relative, how many weeks of compassionate care benefits are paid?	94 (8.7%)	43 (10.1%)	22 (7.2%)
If someone had to go to court and could not afford a lawyer, where would be the BEST place to go for help?	936 (85.9%)	375 (87.6%)	259 (84.9%)
Can people with low incomes receive a GST tax credit from the Canada Revenue Agency?	944 (86.6%)	372 (86.9%)	258 (84.6%)
Can people who QUIT their job because they don't enjoy it receive employment insurance benefits?	683 (62.7%)	264 (61.7%)	182 (59.7%)
Mean Knowledge Index Score	2.44	2.46	2.36

Table A.14 Percentage of Correct Practical Political Knowledge Responses by Gender

	All Respondents	Male	Female
If someone working & has to take care of seriously ill relative, how many weeks of compassionate care benefits are paid?	94 (8.7%)	34 (6.9%)	60 (10.1%)
If someone had to go to court and could not afford a lawyer, where would be the BEST place to go for help?	936 (85.9%)	425 (85.7%)	511 (86.2%)
Can people with low incomes receive a GST tax credit from the Canada Revenue Agency?	944 (86.6%)	424 (85.3%)	520 (87.7%)
Can people who QUIT their job because they don't enjoy it receive employment insurance benefits?	683 (62.7%)	305 (61.5%)	378 (63.7%)
Mean Knowledge Index Score	2.44	2.39	2.48

Table A.15 Percentage of Correct Practical Political Knowledge Responses by Age Group

	All Respondents	18 to 34	65 and older
If someone working & has to take care of seriously ill relative, how many weeks of compassionate care benefits are paid?	94 (8.7%)	9 (8.6%)	21 (6.6%)
If someone had to go to court and could not afford a lawyer, where would be the BEST place to go for help?	936 (85.9%)	78 (74.3%)	280 (88.1%)
Can people with low incomes receive a GST tax credit from the Canada Revenue Agency?	944 (86.6%)	84 (80.0%)	260 (81.5%)
Can people who QUIT their job because they don't enjoy it receive employment insurance benefits?	683 (62.7%)	76 (72.4%)	169 (53.0%)
Mean Knowledge Index Score	2.44	2.35	2.30