Maintenance of L2 English through Informal Language Learning in Québécois Young Adults

Emma Lawrence

Department of Education, University of Oxford

Master's Dissertation

MSc ALSLA

August 12, 2022

19,215 words

Table of Contents

ACKNOWLEDGEMENTS **5**

LIST OF SYMBOLS AND ABBREVIATIONS **6**

LIST OF TABLES **7**

ABSTRACT **8**

1. INTRODUCTION **9**

1.1. FRENCH IN CANADA **9**
1.1.1. THE ORIGINS OF FRENCH IN CANADA 10
1.1.2. THE CREATION OF A QUÉBÉCOIS IDENTITY 11
1.1.3. A BILINGUAL CANADA 13
1.2. INFORMAL LANGUAGE LEARNING **13**

2. LITERATURE REVIEW **16**

2.1. FRENCH AND ENGLISH IN QUEBEC: LANGUAGE POLICY AND ATTITUDES **16**
2.1.1. LANGUAGE POLICY AND THE QUIET REVOLUTION 16
2.1.2. CONTEMPORARY LANGUAGE POLICY IN QUEBEC 17
2.1.3. ATTITUDES TOWARD ENGLISH IN QUEBEC 18
2.2. BILINGUALISM IN CONTEMPORARY QUEBEC **20**
2.2.1. ENGLISH LANGUAGE EDUCATION IN QUEBEC 20
2.2.2. ENGLISH PROFICIENCY AMONG THE QUÉBÉCOIS 22
2.2.3. INFORMAL LEARNING OF ENGLISH IN QUEBEC 23
2.3. INFORMAL LANGUAGE LEARNING THROUGH MEDIA **24**
2.3.1. INFORMAL LEARNING THROUGH MUSIC 26
2.3.2. INFORMAL LEARNING THROUGH TV AND MOVIES 27
2.3.3. INFORMAL LEARNING THROUGH READING 29
2.3.4. INFORMAL LEARNING THROUGH OTHER MEDIA 30
2.4. THE PRESENT STUDY **32**
2.4.1. AIMS 32
2.4.2. RESEARCH QUESTIONS 33

3. METHODOLOGY **35**

3.1. RESEARCH DESIGN **35**
3.2. PARTICIPANTS **35**
3.2.1. PILOT TEST 1 - ENGLISH 35
3.2.2. PILOT TEST 2 - FRENCH 35
3.2.3. EXPERIMENT 36
3.3. MATERIALS **36**
3.3.1. VOCABULARY TEST 37
3.3.2. QUESTIONNAIRE 38

3.4. PROCEDURES 39
3.4.1. PILOT 1 39
3.4.2. PILOT 2 40
3.4.3. ADMINISTRATION 41
3.5. DATA ANALYSIS 41
3.6. ETHICS 42

4. RESULTS 43

4.1. DESCRIPTIVE STATISTICS 43
4.1.1. EXPOSURE TO ENGLISH 43
4.1.2. VOCABULARY SIZE TEST 44
4.1.3. FREQUENCY AND DEPTH OF ENGAGEMENT 44
4.2. INFERENTIAL STATISTICS 46
4.2.1. CORRELATIONS 46
4.2.2. MUSIC 47
4.2.3. A FULLER PICTURE 48

5. DISCUSSION 49

5.1 KEY FINDINGS 49
5.2. INTERPRETATION OF RESULTS 49
5.2.1. DESCRIPTIVE STATISTICS 49
5.2.2. CORRELATIONS 50
5.2.3. FREQUENCY OF ENGAGEMENT 51
5.2.4. DEPTH OF ENGAGEMENT 51
5.3. IMPLICATIONS OF THE RESEARCH 52
5.4. LIMITATIONS OF THE PRESENT STUDY 54

6. CONCLUSION 59

6.1. MAIN OUTCOMES 59
6.2. REFLECTIONS 59
6.3. RECOMMENDATIONS 60

REFERENCES 62

APPENDIX A: VOCABULARY SIZE TEST 70

APPENDIX B : MEDIA ENGAGEMENT QUESTIONNAIRE 83

APPENDIX C: RECRUITMENT POSTER 89

APPENDIX D: PARTICIPANT INFORMATION SHEET 90

APPENDIX E: CUREC ETHICS APPROVAL 92

APPENDIX F: SPSS OUTPUT 93

Acknowledgements

Thank you to Faidra Faitaki for your excellent supervision and to everyone at the Department of Education for teaching me how to do applied linguistics and for helping me through a challenging year. Thank you to the wonderful community at Worcester College for making me feel at home. Thank you to the University of Toronto and the University of Oxford for showing me the power of learning. Thank you to my parents, for getting me here and for your unwavering support. Thank you to William, for believing in language and in me. And to Étienne, for keeping me sane and for showing me what it means to be Canadian. Merci à l'infini.

List of Symbols and Abbreviations

ER	Extensive Reading
CÉGEP	*Collège d'enseignement général et professionnel* (College of General and Professional Teaching)
L1	First language
L2	Second language
QR	*Révolution Tranquille* (Quiet Revolution)
VST	Vocabulary Size Test

List of Tables

Table 1 Frequency of engagement with media in English

Table 2 Depth of engagement with media in English

Table 3 Key correlations between variables

Table 4 Linear model of music as a predictor of vocabulary

Table 5 Linear model of overall English media use as a predictor of vocabulary

Abstract

French-English bilingualism is common in the primarily francophone Canadian province of Quebec, though residents here receive no more second language education than more monolingual populations elsewhere in the country. Past work exploring attitudes toward English among the Québécois has alluded to the fact that their bilingualism might develop through engagement with English media, though no existing literature explores this relationship. The present study sought to measure English proficiency and media use, with the hypothesis that both frequency and depth of engagement with media would predict English vocabulary scores. The Vocabulary Size Test was used to measure English proficiency, and a questionnaire was developed to capture media use. 23 participants, who were recruited through social media, completed the test and questionnaire online. A series of multiple linear regressions revealed no relationship between vocabulary score and frequency of engagement with media. Depth of engagement was found to have a negative relationship with vocabulary in the cases of music listening and of overall media use. These results do not support the hypothesis that there is a positive relationship between engagement with media and English proficiency. Future research could replicate the present study using a larger sample size or different measures or could explore how media might indirectly affect the learning of English in Quebec.

1. Introduction

Learning a second language can be a long and arduous task. It is not surprising that many learners reach for media in their target language to help make the process easier and more entertaining (e.g., Kerekes, 2014; Kao & Oxford, 2014). What is normally a pastime can become a language learning tool and can make learning feel effortless. The present study aims to explore the relationship between media and language learning, specifically in the context of the Canadian province of Quebec, where most citizens speak French as their first language and English-language media is readily available (Journet, 2010; Williams, 2008).

In this text, the term "Québécois" is used to refer to French-speaking (francophone) inhabitants of the province of Quebec, to distinguish this population from English-speaking (anglophone) residents of Quebec, from residents who speak a non-official language as their mother tongue (referred to in Canada as "allophones"), and from French Canadians living in other provinces.

There is a long history of tension between the French and English language populations of Quebec and consequently the Québécois have reservations about learning and using English. However, despite the perception that English is a threat to French, most Québécois people understand that speaking the language will benefit them, both economically and culturally (Belmechri & Hummel, 1998; Christofides & Swidinsky, 2010; Kircher, 2014; Oakes, 2010), and the Québécois have a reputation for speaking English relatively well. Many Canadians assume that there is a relationship between English proficiency among the Québécois and their access to and consumption of English media, yet little to no research has explicitly explored this link. The present study aims to fill this gap in the literature. Work looking at language learning through media (e.g., Arndt, 2019; Arndt & Woore, 2018; Kusyk, 2020; Kusyk & Sockett, 2012; Toffoli & Sockett, 2014) has provided context and support in the development of the present study and has guided the data analysis.

1.1. French in Canada

Canada is a bilingual country; both English and French enjoy official status at the federal level. However, the two languages are not created equal: English is much more widely spoken than French across Canada – according to the most recent census, 58.1% of

Canadians are anglophones, just 21.4% are francophones, and the remainder are allophones (Statistics Canada, 2017a). The distribution looks quite different in Quebec, the country's only majority francophone province, where 79.1% of people are francophone and 8.9% are anglophones. 87.1% of Québécois people speak French at home, at least some of the time (Statistics Canada, 2017a).

Québécois French has been evolving as a separate variety of French for centuries and can thus be expected to differ from European French in elements of pronunciation and vocabulary. However, there have long been negative attitudes toward the quality and legitimacy of Quebec French among both English Canadians and the Québécois people themselves, partly because the language borrows readily from English (Davaille, 2008). Famous figures in Quebec history have defended the language, including politician Henri Bourassa, who felt that Québécois was uniquely suited to express French-Canadian thought (Barreto, 1998; Levitt, 1970), and playwright Michel Tremblay, who used a particularly colloquial variety of Québécois French, known as "joual", in his works (Davaille, 2008). Today, French is an integral part of the Canadian identity, but this has not always been the case (Churchill, 1998), despite its long history in Canada.

1.1.1. The Origins of French in Canada

French has been spoken in what is now Canada for over 400 years. Quebec City, the first French city in North America, was founded in 1608 by Samuel de Champlain (Conrick & Regan, 2007). The French settlers called themselves "*les canadiens*" as early as the 1600s, long before the formation of Canada as we know it (Barreto, 1998). Ongoing power struggles between France and Britain culminated in the 1759 Battle of the Plains of Abraham, where the French lost to the British, with the latter gaining control of Quebec and the French community within it.

There were three principles that united French Canadians in their subsequent history: *la foi, la langue, et la race* (faith, language, and race); French and English Canadians were considered to be of different races at the time (Barreto, 1998; Conrick & Regan, 2007). Religion played a primary role in the identities of the two populations: English settlers were generally Protestant, while *les canadiens* were Catholic (Barreto, 1998). French speakers were often poorer and more rural than English Canadians (Churchill, 1998), and they developed a reputation as a kind and hard-working but old-fashioned and ignorant people

(Barreto, 1998; Levitt, 1970). An infamous 1839 report by Lord Durham, then Governor General of British North America, called for the amalgamation of French and English Canada and the eventual assimilation of the French speakers, who, he argued, had no literary history, and spoke a language that was essentially useless in the North American context (Conrick & Regan, 2007; Williams, 2008). While Canada's federation in 1867 did unite French- and English-speaking territories, the language communities remained distinct (Barreto, 1998).

British Canada was a primarily English place, and the anglophone community had greater political and economic power than its francophone counterpart, even in regions where French was dominant (Barreto, 1998). While some English, Irish and Scottish immigrants integrated into French Canada in the 18th and 19th centuries, the American Revolution generated an influx of English speakers, many of whom settled in Quebec (Barreto, 1998; Cartwright, 1987). This increase in the number of anglophones gave a further boost to English power in the province.

The French language, meanwhile, protected *les canadiens* from being absorbed by the English community (Barreto, 1998). French elites fought to prevent English control (Barreto, 1998), but the business sector in French Canada operated entirely in English (Levitt, 1970), meaning that the only residents of Canada for whom bilingualism was a necessity were the francophones (Cartwright, 1987; Kircher, 2014; 2019; Spolsky, 2004). Even beyond language requirements, it was a challenging climate for French speakers to find success in business. Institutions of higher education (along with most of Quebec society) were run by the Catholic Church, which restricted what the population could study. Québécois people did not have the opportunity to train as mid-level managers and industrial professionals. Instead, these posts were left to anglophones, with an increasingly begrudging Québécois workforce under them. Even as late as the 1970s, 78% of Quebec manufacturing was owned and run by English speakers. Once higher education became more readily available to the francophone population, this professional imbalance became a significant political issue (Barreto, 1998).

1.1.2. The Creation of a Québécois Identity

In the 1960s, Quebec underwent a huge and historical period of change, referred to as *la Révolution Tranquille*, or the Quiet Revolution (QR). This revolution constituted a process of

urbanization, a switch to secondary sector work in what had been a largely agrarian society, and a rejection of the once-dominant Catholic Church. Where the Church had held power in Quebec for centuries (Barreto, 1998), now the role of the provincial government was growing and changing. The government sought to improve the lives of a newly urbanized population through provision of educational and cultural services, previously the purview of the Church. The Lesage government (1960-66) pushed for improved education in the province, establishing l'Université du Québec, the system of colleges, and an education ministry. The Ministry of Cultural Affairs was established in 1961 to support French-language arts and culture in the province (Cartwright, 1987). These changes accompanied the shift toward an urban and more middle-class community (Davaille, 2008). At the same time, a new generation of Québécois, better educated, more socially mobile, and less religious, began to have fewer children than ever before, which caused a relative decline in the French-speaking population within Canada (Williams, 2008).

As the lives of the Québécois evolved rapidly over the course of a decade, so emerged the concept of their province as a geographically and culturally distinct region (Barreto, 1998). Before the QR, francophones in Canada had thought of themselves simply as French Canadians (Barreto, 1998; Conrick & Regan, 2007). A sense of pride and identity as a Québécois people was coupled with a psychological distancing from English Canada. Now, there was an emerging feeling of nationalism, and a desire for Quebec to be recognized as its own nation within Canada (Williams, 2008). There was additionally a proliferation of separatist politics, leading to two referendums on whether Quebec should leave Canada. The most recent of these, in 1995, fell at the peak of the separatist movement, with 49.4% of Québécois people voting to separate (Barreto, 1998).

The QR and its consequent political shock waves led to a mass exodus of over 100,000 anglophones from the province between 1976 and 1981 (Barreto, 1998; Lamarre, 2012), contributing to an 11% decrease of the English population in just ten years (Cartwright, 1987). One significant reason for the departure of such a large number of people, many of whom were young and well-educated (Spolsky, 2004), was the introduction of aggressive pro-French language policy, which will be discussed further in Chapter 2.

1.1.3. A Bilingual Canada

As a response to Quebec developing its identity as a francophone nation and to the proliferation of separatist sympathies, Canada started to embrace French at the federal level. Pierre Elliott Trudeau, who became Prime Minister of Canada during the QR, pushed for a bilingual Canada that included Quebec (Williams, 2008). The Official Languages Act was instituted in 1969, making Canada officially bilingual, and giving equal status to French and English nationally (Cardinal & Léger, 2018; Conrick & Regan, 2007). A rhetoric began to develop that cast Canada as an essentially bilingual country, something it had never been considered previously (Cardinal, 2015).

Canada's bilingual identity has developed over the years, and the federal government continues to work toward improved bilingualism, through organizations like the Office of the Commissioner of Official Languages (Cardinal, 2015) and documents like the Action Plan for Official Languages (Government of Canada, 2018). However, on an individual level, bilingualism is not particularly common in Canada; according to the most recent census, only 17.9% of Canadians speak both French and English, the highest rate of bilingualism ever reached in the country (Statistics Canada, 2017a). Despite prevalent English monolingualism, attitudes toward French across the country are generally positive, and the establishment of French immersion programs in primary schools in English Canada has been met with huge success (Churchill, 1998). Some argue that making Canada bilingual cannot undo years of English dominance or the power this language still wields (Williams, 2008), and attitudes toward English are still very mixed among the Québécois, as will be explored in Section 2.1.3.

1.2. Informal Language Learning

Quebec exists as a French entity within the anglophone mass of North America, giving the Québécois both ready access to media in English and an understanding of Anglo-American cultural references. English-language media consequently plays a large role in the lives of young Québécois. Language learning through media is an elusive topic that has received surprisingly little attention in the scientific literature. Some exploratory research has been conducted into how exposure to media in a learner's target language might further their learning, usually focusing on a single medium (e.g., Kusyk & Sockett, 2012; Sundqvist & Wikström, 2015; Toffoli & Sockett, 2014). Understanding of informal language learning is

limited by the narrowness of existing research. To date, little has been done to compare different sorts of media, to investigate the media profiles of individuals, or to study these relationships in a Québécois context.

While language learning through media is likely to occur all over the world, especially with English as the target language (the language being learned), the unique relationship that the Québécois have with English sets this context apart. Firstly, given the historical context described above, Québécois people are likely to have some negative attitudes toward English on a societal scale, or at least to be aware of this prevalent point of view. This might dissuade them from openly studying it. Secondly, they are likely to feel some ownership of English as a language that belongs to them, being part of their country's history as well as that of their province. This may encourage people to learn English and to engage with it. Thirdly, the presence of English in Canada, and in North America more broadly, means that English media is all around: the trendiest music, the most popular TV shows, the newest bestsellers are all likely to be in English, and while French versions are usually available after a delay, often a francophone will choose the original language for a superior experience.

Finally, language laws put in place over the last fifty years, such as Bills 101 and 96, have striven to make Quebec a more francophone place, effectively blaming English for a supposed weakening of the French language and culture. Young anglophones across Canada receive French education and often come away from school with a bare minimum knowledge of the language (Séror and Weinberg, 2021). The same might be true for francophones, but it is clearly the case that the Québécois speak English in large numbers (Statistics Canada, 2017a), despite a perhaps insufficient amount of English language instruction and officially negative attitudes toward the language.

Research looking at informal learning through various sorts of media has been sparse, often consisting of case studies. The medium that has received the most attention is television, and research suggests that it is possible to learn a language by watching TV. Other work has found that engaging with video games and internet video content might lead to improved language outcomes. Little has been done to investigate the effects on proficiency of reading or listening to music in the target language. Existing studies have not been particularly naturalistic, and there has not been any standard form of measurement across different types of media and between studies. Anecdotal work in the area

demonstrates the presence of a belief among some researchers that language can be learned through media, and highlights that more research is needed.

Existing work has hinted at but not directly identified two aspects of media use: frequency and depth of engagement. In the present text, “frequency” refers to how much time a learner spends with a given form of media, while “depth” consists of the level of engagement. For example, if someone regularly looks up unfamiliar words while reading a book in their second language, this might be considered deep engagement with the material. Research into the use of subtitles explores the element of depth, although without using this term. To this author’s knowledge, depth has not been considered in the context of other media, and no work has clearly set out the differences between depth and frequency and attempted to measure them.

Research into informal learning through media is important, as it can shed light on a new approach to learning. Better understanding if and how language can be learned in this way could help improve learning outcomes for those who have access to media in their second language but not to language education. Most importantly to the present context, this work can help further understanding of how Québécois young people use English language media to boost their skills, even in the absence of formal education. Informal learning may grow in importance as new legislation aims to limit the use of English in the daily lives of the Québécois.

The present study aims to explore the relationship between various types of media and English proficiency in young Québécois people, keeping their unique context in mind. The work is motivated by a desire to better understand the tacit phenomenon of learning through media, which has received little attention in the literature. This study employs a questionnaire about media use and a vocabulary test to develop an estimate of each participant’s vocabulary size, which serves as a proxy for their English proficiency.

This text will first explore the context of language legislation in Quebec and will then review the existing literature on informal language learning. Next, it will set out the methodology used, present the results obtained, and discuss the meaning of the data, before proposing new directions for future research.

2. Literature Review

2.1. French and English in Quebec: Language Policy and Attitudes

The coexistence of French and English within the borders of Quebec has not been an entirely peaceful one, as the previous chapter suggested. For decades, French played a minority role in a province where it was spoken by the majority. This changed during the Quiet Revolution (QR), when the Québécois modernized their society and took ownership over their province. A significant feature of the QR was the establishment of pro-French language policy by the Quebec government. This process began in the early 1960s and persists to this day.

2.1.1. Language Policy and the Quiet Revolution

The *Office québécois de la langue française* (Quebec Board of the French Language) was created in 1961 to govern the use of French within the province of Quebec. The provincial government began to enact various language laws, which came in four types: those regarding the symbolic status of French, those pertaining to signs, and those governing the workplace and education. Barreto (1998) suggests that these laws aimed to "enhance the role of French at the expense of English" (p. 129). By imposing legislation, the government sought to address fears that the English language was encroaching on French, for example due to immigrants choosing to send their children to English-language schools (Spolsky, 2004).

Language bills with the primary aim of promoting French as a defining feature of the Québécois people and their province proliferated in the 1970s (Barreto, 1998). In 1977, Quebec adopted the most infamous language law in Canadian history, Bill 101, or the Charter of the French Language (Lamarre, 2012). This multi-faceted piece of legislation included a component that required all inhabitants of Quebec to send their children to French-language schools, except for those considered to be a part of the established Anglo-Quebecer community (Barreto, 1998; Williams, 2008). The Supreme Court of Canada ruled that Bill 101 was a restriction of freedom of expression (Barreto, 1998) and found parts of it unconstitutional (Williams, 2008), but the bill had a large impact.

Barreto (1998) suggests that Bill 101 did not change the status quo in Quebec but did serve to alienate anglophones and empower francophones. Rules governing signage, for

instance, made Quebec appear more French, and made it so that non-francophone residents had to learn better French to manage in the province. This has been a main goal of the Quebec government over the last 50 years, to make French the only common language of the community (Kircher, 2014). While French was made the official language of Quebec in 1974 (Williams, 2008), it seems that laws like Bill 101, which make it difficult to use other languages in public life, have had a bigger effect than those recognizing the symbolic role of French.

Efforts toward *francisation*, or the teaching of French to immigrants, have been vigorous, and, some would argue, vital (e.g., Boileau, 2010). There was a dramatic increase in the uptake of French by immigrants to Quebec in the decades following the QR: while in 1966 only 25% of immigrants learned French, by 1991 this number had nearly tripled to 69% (Williams, 2008). Similarly, in the decades following the QR, young anglophones had higher French proficiency and used the language more than had previous generations (Cartwright, 1987). The more people are compelled to use French in their daily lives, the less dominant English becomes – today, English fluency is neither expected nor required for daily life in Quebec (Lamarre, 2012).

2.1.2. Contemporary Language Policy in Quebec

While political action did serve to fortify the role of French in Quebec, rapid globalization and the age of the Internet have brought English to the fore on the world stage. Bill 101 and other policies like it cannot fully protect Quebec French from the power that English wields as a global language (Kircher, 2014). Though the upper echelons of Quebec industry are no longer monolingual, francophones must still speak English to some degree to succeed in business (Barreto, 1998). Across Canada, French speakers make up a smaller percentage of the population each year (Williams, 2008). As was the case before the QR, those who speak neither English nor French as their first language (allophones) frequently choose to speak English in their daily lives (Kircher, 2014). The protection and promotion of French remain hot topics in this century.

The most dramatic, wide-sweeping legislation since Bill 101 (Authier, 2021) was passed this spring. *An Act respecting French, the official and common language of Québec* (Bill 96, 2022) aims to impose further restrictions on the use of languages other than French in the province. Bill 96 is reliant on the Notwithstanding Clause (Authier, 2021), which

allows provinces to bypass selected components of the Canadian Charter of Rights and Freedoms for a period of five years (The Canadian Encyclopedia, 2022). The new legislation will require medium-sized businesses to operate fully in French, will restrict access to health care in English, and will require legal documents to be drafted in French, among many other changes (Hanes, 2022; Hopper, 2022; Reynolds, 2022). A $100 million investment in existing language bureaucracy will enable the government to more aggressively enforce these new regulations (Authier, 2021).

The component of Bill 96 most relevant to the present discussion is that affecting post-secondary education in the province. After completing secondary school at the age of 17, Québécois youth can choose to continue their studies at a *Collège d'enseignement général et professionnel* (College of general and professional teaching), usually referred to by the acronym CÉGEP. Here, students can study for a professional diploma or undertake a two-year program that prepares them for university studies. Attendance at CÉGEP is obligatory for those hoping to pursue university within Quebec. Bill 96 will cap enrollment at English CÉGEPs, making it more difficult for francophone students interested in pursuing college studies in English to access the limited spots available (Hanes, 2022; McKenna, 2021). This will inevitably disadvantage those looking to attend university in English, either in Canada or abroad (Hopper, 2022). In fact, Oakes (2010) found that 78.2% of young Québécois people surveyed believed that francophones should retain their ability to attend CÉGEP in English, should they so choose.

Legislation like Bills 101 and 96 is tolerated by the Québécois, as many feel that it is the duty of their government to protect the French language (Authier, 2021). The ability to continue to live fully in French is often cast as a right of the Québécois people, one that must always take precedence over an individual's right to operate in their language of choice (McKenna, 2021; Newman, 2022). This seems like an impressive political spin, and yet the bill has been passed, despite some protests earlier this spring (Hanes, 2022).

2.1.3. Attitudes toward English in Quebec

As has already been made clear through the present discussion of language policy, attitudes toward English in Quebec are mixed. Anglo-Quebecers (and anglophones around the world) are often very critical of Quebec's language policies (Oakes, 2015). Some Québécois people are concerned that learning a majority language like English will cause people to stop using

a minority language like French (e.g., Beaulieu, 2008), and believe strongly that English use should be limited to cases where it is a necessity (e.g., Reynolds, 2022). Newspapers are full of complaints about the state of the French language, and diatribes about francophones who opt to use English when their own language would have sufficed, thereby betraying their culture (e.g., Rioux, 2009). Others argue that bilingualism is important for the success of Quebec's youth, who feel that English is part of their cultural identity, even while they appreciate the importance of preserving French (Oakes, 2010).

Investigating this issue, Oakes (2010) conducted a study that looked at opinions about English among Québécois youth. The participants were unsure of how they felt about language laws. Those in Quebec City, a heavily monolingual urban centre and the province's capital, had the most positive attitudes about the future of the French language, and those in more bilingual places had more doubts. Perhaps unsurprisingly, the more strongly a participant identified with being Québécois, the less likely they were to be skilled in and use English and to have positive attitudes toward the language. The opposite trend was found regarding Canadian identity. 54% of participants felt that francophones should be able to send their children to English schools (which is not currently the case), while 76.4% felt a lack of access to English would disadvantage young Québécois looking to succeed at work. Overall, participants felt that English mattered to them and was important in their lives but believed that the language was a danger to French.

These two attitudes toward English can coexist because one is individual and the other societal (Oakes, 2010). As individuals, Québécois people know that English is of use to them and wish to learn it. On a societal scale, however, the general opinion is that allowing English to exist in the same spaces as French does irreversible damage to the French language. Consequently, young Québécois people have a deep affection for French, the language of their society, but also increasingly use English (Oakes, 2010). Oakes' use of a survey to assess attitudes was effective in this context, capturing the duality of language attitudes. However, there exists the possibility that participants provided the answers that they felt were most acceptable, instead of reporting on how they truly felt. Using multiple approaches to the same questions can help in this type of study.

Similar work by Kircher (2014) used a mixed-methods study to explore attitudes toward French and English among anglophone, francophone and allophone CÉGEP students in Montreal. Kircher highlighted the difference between status and solidarity felt toward a

language, where the former represents the language's power in society and the latter the sense of belonging a person feels toward it (Kircher, 2014). As survey results demonstrated, participants felt that English was the language of modern society, and that knowledge of it furthered a person's employability. French was felt to have high status, but less than English. Both anglophones and francophones felt more solidarity towards their first language (L1). A matched guise test, in which participants made judgments on recorded speakers based only on the language they spoke, showed much more positive attitudes towards English than French across all speaker groups (Kircher, 2014). The experimental nature of the matched-guise test allowed Kircher to access participants' beliefs without the filter of social pressure that a survey can provide, painting a clearer picture of attitudes toward English.

2.2. Bilingualism in Contemporary Quebec

Before exploring research into informal language learning, we should first consider the linguistic landscape in Quebec today.

2.2.1. English Language Education in Quebec

All Canadians in public school, whether English or French, receive basic education in the other of the country's official languages. In Quebec, the decisions of how much English to teach and when are strongly affected by concerns about the protection of French (Fallon & Rublik, 2011). 83% of Québécois children attending regular public school take only the core English language courses (Leduc, 2022). These students receive between 600 and 900 hours of instruction by the time they graduate secondary school (Education Act, 2022). As a comparison, students in Ontario, a predominantly anglophone province just adjacent to Quebec, receive at minimum 600 hours of French teaching before they even begin high school (Ontario Ministry of Education, 2013). Ontarians study their L2 at least as much as the Québécois but are far less likely to be bilingual in adulthood (Statistics Canada, 2017c).

Language laws in Quebec have made it increasingly difficult for French speakers to access the English education they desire for themselves and for their children. There exists no proper bilingual education within the French-language school system in Quebec (Balinger et al., 2020), and Bill 101 has prevented French-speaking families from sending their children to English public schools. Some in the province send their children to monolingual

English-language private schools just long enough to meet the requirements of a legal loophole that allows those with prior education in English to transfer into an English public school (Oakes, 2010). As the strict limits on entry to English education do not apply to Canadian anglophones, it is largely francophones who are negatively affected by this policy, and who devise complicated workarounds to access English education for their children.

Some voices in government recognize the issues posed by limited access to education in English. Pauline Marois, the former premier of Quebec, published an opinion piece in French-language newspaper Le Devoir in 2008, in which she called for an increased presence of English in French schools. She argued that a lack of English skills creates a barrier for young Québécois people and suggested that all children in the province should have access to English immersion programs (Marois, 2008), something other premiers have also pushed for (Leduc, 2022). Others, like Rioux (2008), argue that the school system should not need to make students bilingual, any more than it should need to make everyone into an historian or a geographer. He suggests that bilingualism is forced upon the Québécois, as it is forced onto any population that must coexist with a more dominant language next door. Rioux says that Quebec's already high rates of bilingualism are good enough and that schools should focus on other issues. He argues that the Québécois get more exposure to English than anyone else in the world, and that this should suffice.

Because language education at the primary and secondary levels is often insufficient, many young people choose to attend English CÉGEP so that they can improve their language skills enough to eventually study at a university in English Canada or in the United States (Hopper, 2022). The Quebec government sees this as a drop in interest in using French (Oakes, 2010). Until the recent implementation of Bill 96, high school graduates could choose to pursue their CÉGEP studies in English. Only 5 of the 48 CÉGEPs in the province offer programs in English, which might suggest a low demand, but the province plans to cap enrolment at these schools (Bill 96, 2022), indicating a greater demand than the government is willing to supply. 20% of students enrolled in English-language universities in Quebec are francophones (Lamarre, 2012). This number will likely shrink as the next generation of CÉGEP students are required to pursue their studies in French.

Work by Séror and Weinberg (2021) explored the feelings of students in English Canada who were pursuing French immersion at the university level. Regardless of the amount of French instruction these students received in high school, they felt that their

previous learning was insufficient upon entering university (Séror & Weinberg, 2021). The same pattern would likely be found among francophone students learning English. An insufficient level of English language teaching in secondary school might explain the high demand among French students for the opportunity to pursue CÉGEP studies in English.

Belmechri and Hummel (1998) conducted a study that aimed to address the relative roles of instrumental and integrative motivation in English learning among Québécois young people. The reasons for which this population wish to learn English are as complex as their feelings toward it. Participants were presented with a multi-item scale measuring the intensity of their motivation to learn English, and the authors used a multiple regression to determine which factors best predicted motivation. Around 25% of motivation was predicted by interest in using the language for travel, though desire to succeed in school, make friends, better understand the language, and improve one's career prospects also played a role. The authors concluded that young francophones want to speak English well, but do not want to integrate into anglophone culture. This study did not ask participants about their interest in using English on the Internet or listening to song lyrics in the language, though the authors indicate that future work should include these elements, demonstrating their belief that media use should be considered in the study of language learning.

2.2.2. English Proficiency among the Québécois

Bilingualism is quite common in the province of Quebec, with 2016 census data indicating that 44.5% of people spoke both French and English (Statistics Canada, 2017a). English proficiency in Quebec is much higher than French proficiency in the rest of Canada (Christofides & Swidinsky, 2010), which may be attributable to a lack of interest in language learning among English speakers (Sterzuk & Shin, 2021).

As we have seen, previous research has found an appreciation of the value of learning English among Québécois youth (Belmechri & Hummel, 1998; Kircher, 2014; Oakes, 2010). Christofides and Swidinsky (2010) sought to calculate this value using census data. They found that francophone men with English skills earn 27.9% more than their monolingual peers. In Quebec, bilingual men who regularly use English at work make around 20% more than monolingual men. While these data are now 20 years old, they shed

some light on why the Québécois feel that English proficiency is useful. Economic benefits are likely a key motivating factor in the decision to learn English.

Research in Belgium and Finland, two other countries with bilingual profiles, has shown that motivation to learn the second official language of one's country is both integrative and instrumental, and is affected by intergroup relations (Laine, 1995). As one's L1 is closely tied to one's sense of identity (Kircher, 2014; Laine, 1995), it is possible that changing attitudes toward English in Quebec might result in fluctuating interest in learning the language, despite its economic and cultural benefits.

Before moving on to a discussion of informal learning, it is important to note that modern Québécois music often contains English. Singers and rappers frequently code-switch, using borrowed words or entire sentences in their second language (Sarkar & Weiner, 2006). This is representative of the relationship that Québécois youth have with English. It is a tool, a connection to the outside world, something fun to play with, and an integral part of their linguistic identity. Embracing bilingualism in some contexts does not equate to rejecting French. Most Québécois are native French speakers, and this does not appear to be changing quickly (Statistics Canada, 2017a). Increased use of English is not the same as decreased prioritization of French or its status as a common language. It is simply an expression of identity in a bilingual country.

2.2.3. Informal Learning of English in Quebec

It should be noted that informal learning has been an undercurrent running through the present discussion. English media appears time and time again in conversations and opinion pieces about language in Quebec. Journet (2010), for example, suggests that Québécois youth listen to music in English because they prefer English culture to French. Oakes (2010) found that 90.7% of respondents agreed or strongly agreed that English skills allow a learner to engage with the media that is of interest to them. English media is clearly popular; it is also widely available. Beyond the broad array of English-language media that can be found online (Lin & Siyanova-Chanturia, 2014), the Québécois have access to a variety of English-language news media targeted at anglophones in the province (Williams, 2008). English music is also prevalent: a 2009 report found that nearly 60% of albums sold in the province were in English (Institut de la statistique du Québec, 2009).

Balinger et al. (2020) point out the significance of English-language pop culture in the lives of the Québécois. They conducted interviews with parents in 20 bilingual or trilingual households in Quebec, with a variety of linguistic profiles. When describing how the parents ensure their children are exposed to enough of each language, the authors mention a prevalent attitude that children can acquire their English through media: television, YouTube videos, movies, and music. Balinger et al. do not elaborate on this point, demonstrating that it is taken for granted that English is acquired through media in Quebec.

Acheson et al. (1978), writing over 40 years ago, also suggest that those with skills in English might develop them by engaging with media. Even in decades past, media was seen as a potential key to language learning among the Québécois.

Despite the above, there appears to be no research on the informal learning of English in this context. Writings about Quebec never approach a solution to the issue of English learning. A reader is left wondering how the Québécois are proficient enough to use English in their everyday speech, why young people feel drawn to learning the language, and why some authors feel that the Québécois have enough exposure to English to not need proper language education. Engagement with English media might be the answer to these questions.

2.3. Informal Language Learning through Media

Informal language learning constitutes engaging with the target language in a way that is not designed to result in learning, but that nonetheless builds one's knowledge, leading to "changes in the language system of those concerned" (Sockett, 2014, p. 12). This is the case in immersion contexts, where an individual must speak and listen to the language of their surroundings, but the information to which they are exposed is not pedagogically organized. Note that informal learning is not necessarily incidental, where learners are unaware that learning is taking place (Kusyk & Sockett, 2012). As most people cannot often be in an immersion context, they must instead get their target language input from other sources, which are often media. In informal learning, the element of autonomy is key. The learner engages in activities they enjoy, and they happen to pick up language along the way.

People around the world are exposed to media in English every day – TV shows and movies, podcasts, news articles, video games, and much more. English media is likely even more present in the lives of the Québécois, due to their location in a majority anglophone

country, just adjacent to the United States. When asked, a Canadian will typically suggest that this is how the Québécois develop their English skills – through pop culture. One might expect, then, a wealth of research on the phenomenon, but none seems to exist. Surprisingly little work has been done to explore whether languages can be learned through media at all, and existing research is limited.

Milton (2008) describes three small studies investigating informal language learning through reading, listening to music, and watching movies. Each study involved just one participant engaging with a specified book, CD, or movie once per week for many weeks, and completing vocabulary tests before and after the intervention. In all three studies, there was reasonably impressive vocabulary uptake and retention. Milton suggests that this outcome demonstrates that informal language learning could account for a fair amount of vocabulary acquisition. He concludes that learning through movies, music and books can be motivational and potentially an effective tool for speedy vocabulary growth, if sufficient attention is paid to the media. Unfortunately, these are essentially case studies, and a sample of one cannot be extrapolated to the broader population. Survey data would be more useful in this respect if enough participants were recruited.

Arndt (2019) addresses the same question using a diary study, in which participants reflected on individual instances of engagement with English media. She asked participants about their consumption of 13 different sorts of media and measured the change in their English proficiency over 14 weeks. Engagement with media did not affect proficiency as measured by a c-test. However, this finding is counter to the widely held belief among Canadians that the Québécois maintain their English through media – a belief also alluded to by researchers in the area (Acheson et al., 1978; Balinger et al., 2020; Oakes, 2010). A potential explanation for Arndt's (2019) finding is that the timeframe she used (14 weeks) was not long enough for a difference in proficiency scores to emerge.

Sockett's (2014) book on the Online Informal Learning of English (OILE) explores the concept of OILE in general and reports on several studies, some of which are discussed below. He stresses that, when learning through media, each learner's input is unique. This heterogeneity of input may facilitate learning, but it also makes OILE difficult to study. Longitudinal and qualitative designs are best suited to exploring the differences in the quantity and quality of the exposure learners receive and to painting a picture of this diversity (Sockett, 2014).

2.3.1. Informal Learning through Music

There is some existing work on the use of music in learning outside the classroom. Kavanagh (2016) describes his pedagogical approach in a piece on his *Tune into English Roadshow*. This travelling spectacle, aimed at teenage learners of English in Italy, is based around a series of current and classic songs. While not strictly informal learning, the *Roadshow* illustrates the utility of music in language learning contexts.

One of the primary advantages of using music as a medium of informal language learning is that the modern learner has access to an endless supply of material through the internet. The vast array of available music means an individual can perfectly customize their input to suit their tastes. They can also readily access online lyric databases and translation software, so understanding is always within reach. Toffoli and Sockett (2014) reference this accessibility in their discussion of work that looked at the informal learning of English through music among French university students. The researchers collected data via a self-report questionnaire that inquired about music listening practices. Additionally, they asked participants to translate a few lyrics from well-known English songs into French. 100% of students surveyed listened to music in English and nearly half of respondents frequently used lyric websites to understand English songs, which would constitute deep engagement. Frequent listeners were significantly better than infrequent listeners at translating song lyrics, suggesting a relationship between music listening and language learning (Toffoli & Sockett, 2014).

Because of a dearth of similar empirical research, it is helpful to consider what some authors have written about their personal experiences learning through music. Kerekes (2014) talks about her journey learning English through song lyrics. She mentions her initial desire to understand, which is arguably a key component of informal learning through media. Kerekes dabbled in several types of informal learning and found that music was most useful for her, due to her personal attachment to this medium. She recalls translating lyrics and re-listening to difficult passages, both of which constitute deep engagement with the material. Kerekes talks about the importance of contextualizing words that are being learned and says that song lyrics can do this. Additionally, songs can teach a learner about naturalistic speech in the target language, and about the culture that the song comes from. Finally, songs are repetitive and usually move more slowly than speech, which makes them

easier to understand. Kerekes provides no theoretical justification for her approach, which appears to be based on her own intuitions.

Similarly, Kao and Oxford (2014) discuss the first author's experiences learning English through hip hop music. They suggest that music is very motivating for a learner and can serve as a substitute for living in an immersive environment. Kao then breaks down his process for learning through music, which consists of selecting songs, analysing the lyrics, building a personal vocabulary textbook, and researching the cultural context of the song and musician.

This element of engagement and connection to a culture appears elsewhere in the literature. Macintyre et al. (2017) explored musical performance in the heritage language context of Cape Breton, Nova Scotia, Canada, where speakers use the art form to connect with their ancestors' cultural and linguistic habits. They found that engaging with cultural artifacts helps build a connection with the language and keeps it relevant. Perhaps music can play a similar role in the learning of an L2, bringing the learner closer to the culture of the target language and making it less foreign.

2.3.2. Informal Learning through TV and Movies

Other investigations of informal learning have been done in the realm of audiovisual media but have focused more on the potential for vocabulary learning than on measuring the learning that really occurs. For example, Webb and Rodgers (2009) analysed 35 hours of TV programs and found that knowledge of 3,000 word families allowed viewers to understand 95% of the words in American dramas and sitcoms (95% lexical coverage). An additional 1,000 word families were needed to reach similar coverage of news reporting, meaning that this content is more difficult for language learners (Webb & Rodgers, 2009). Webb (2014) suggests that just 2,000 word families may be enough to understand TV. Vocabulary researchers estimate that a learner must have 95% lexical coverage of a text to understand it (Nation, 2006; Horst, 2013) and the remaining words can be guessed from context. Those with the requisite English proficiency should thus be able to learn vocabulary by watching TV.

In a similar vein, the same authors explored the amount of exposure a learner would get to certain vocabulary through watching TV (Rodgers & Webb, 2011). They analysed the scripts of 288 episodes of TV shows. They found that watching many episodes of a single TV

show or of related shows led to more exposures to the same words than watching parts of multiple shows. These repeat exposures could lead to heightened vocabulary learning, as a word must be encountered 8-10 times for learning to occur (Schmitt, 2008). Rodgers and Webb (2011) point out that television is nearly always serial and thus the same themes and characters recur, unlike in some other media (Rodgers & Webb, 2011).

The same potential for vocabulary learning may not be present in movies. Webb (2010) suggests that this form of media does not include as many repetitions of vocabulary as a TV show and may provide more naturalistic dialogue. The study focused on two research questions: (1) How much are low-frequency words encountered in one movie; (2) How much are they encountered across multiple movies? Webb analysed the scripts of a variety of movies in different genres. He found that movies varied greatly in terms of number of word families needed to reach the 95% and 98% thresholds of lexical coverage. Uncommon word families were not usually repeated often enough to be learned (i.e., 8-10 times), even across movies. Watching many movies of the same genre increased exposure to word families that are common in that genre, but a student would need to watch very many movies to make significant gains in vocabulary.

Adding subtitles to TV and movies can aid understanding (Lin & Siyanova-Chanturia, 2014) and might contribute positively to vocabulary gains from watching. A study by Neuman and Koskinen (1992) looked at 129 middle-school students who achieved scores below those expected of children their age and were thus characterised as “at-risk”. The researchers used educational segments from a science TV show for children in three conditions: captioned, uncaptioned, and with separate script. The pre-test had students indicate whether they knew the target words (yes/no) and included distractors. The post-test presented each target word alongside three non-word distractors that resembled the target in length and spelling and required students to identify the word they knew. The researchers also tested students’ knowledge of the material covered in the science lessons. The takeaway from this study was that captioned television allowed students to learn vocabulary better than other types of audiovisual or written input, while television without captions was not as useful. Participants with a higher English level learned more from the intervention than those with a lower level. Perhaps an already high level of comprehension was necessary to facilitate use of the captions. However, the study was conducted in a formal classroom context and students watched very little TV, as compared to what

someone might watch in their free time over a period of months and years. As such, these findings may not apply to informal learning.

Kusyk and Sockett (2012) looked at students at a French university who were intermediate learners of English. Participants were played recordings of sentences in English and asked to rate their comprehension of each using the Vocabulary Knowledge Scale (Kusyk & Sockett, 2012). Where participants indicated that they could provide a translation of a given word, they were asked to do so. They were then asked a series of questions about their engagement with English television; 44% of participants watched English TV regularly, and 24% sometimes. Almost everyone reported that they watched TV with subtitles; one third of those who watched with subtitles choose subtitles in English. Most students felt they learned vocabulary from watching TV in English. Those who watched TV in English regularly felt they understood most of the dialogue – those who watched less often felt they understood less. The former group outperformed the latter on translation items. The authors assume a causal relationship between TV watched and degree of comprehension of phrases, but mention that it is impossible to know with certainty the direction of causation. The relationship is probably complex, as TV viewing improves comprehension, and increased comprehension abilities encourage learners to watch more TV (Kusyk & Sockett, 2012).

Work by Muñoz et al. (2018) found that watching TV had a bigger effect on proficiency than formal instruction. They tested students' receptive grammar skills with the Test for Reception of Grammar (TROG) (Muñoz et al., 2018) and measured how much the students engaged with media (film and TV, videogames, music) via a questionnaire completed by their parents. Frequency of engagement with audiovisual media in English significantly predicted grammar scores, leading the authors to argue that young people do learn English through their internet activities outside of the classroom (Muñoz et al., 2018).

2.3.3. Informal Learning through Reading

Some work has looked at vocabulary acquisition through Extensive Reading. Day and Robb (2014) identify five principles for the use of Extensive Reading outside of the classroom: material must be easy, a student must have access to a wide variety of material, the student must have autonomy in selecting material, they must read as much as possible, and they must read quickly. The authors suggest that a learner must know at least 100 words in the

language before they are able to read. It is unclear how they arrived at this number, and it contrasts with estimates of lexical coverage by vocabulary researchers, as explored above.

Work looking at language learning through reading has usually focused on the utility of books as a pedagogical tool. According to a review conducted by Ewert (2020), ER has been found to boost vocabulary learning. As in the case of Milton (2008), however, existing work has often used case studies. Pigada and Schmitt (2006), for example, tested vocabulary uptake through ER by interviewing a single participant about his word knowledge both before and after a month of reading. The participant demonstrated improved knowledge of around two thirds of the words from pre- to post-test. Vidal (2011) used a sample of 230 students and found that those who read a set of academic texts showed greater vocabulary gains than those who watched a matched set of lectures. Vocabulary learning may indeed be possible in more formal contexts. It is unclear, however, whether ER and other formal classroom reading are similar to casual reading of the sort that young Québécois people might engage in.

Moreover, not all learners are familiar and comfortable with reading for fun, as Day and Robb (2014) claim. Webb (2014) suggests that Canadians read only a fifth as much as they watch TV. One might argue that whichever activity is most natural for the learner – be that music, TV, ER, or videogames – is a good choice for informal learning. As Sockett (2014) says, the learning happens incidentally during the activity.

2.3.4. Informal Learning through other media

There are, of course, many other types of media. Language learners watch videos, play games, read web content, and may even use social media in English (Beatty, 2014). If other, more traditional media have a positive effect on English proficiency, this is likely also to be the case with these more modern sources of content.

Coxhead and Bytheway (2014) discuss the utility of listening to TED talks (video lectures) and playing Massively Multiplayer Online Role-Playing Games (MMORPGs), a type of online fantasy video game, for learning English outside of the classroom. The researchers identify four principles for the effective learning of English through these media: students must receive lots of input, the input must be repetitive, they must produce meaning-focused output, and they must get lots of fluency practice. The issue of volume aligns with Day & Robb's (2014) rules for ER, as discussed earlier. Cox and Bytheway compare listening

to multiple TED talks in one subject area with watching multiple shows with similar contents, as investigated by Rodgers and Webb (2011) (see above). MMORPGs allow for language development in a different way: learners can test out new language forms without fear of judgment, as game users often use non-standard language forms. The authors identify the deep motivation, often a feeling of addiction, that learners feel when engaging with this sort of media (Coxhead & Bytheway, 2014), which will always be unmatched by classroom instruction.

Other research has looked at the language learning potential of video games more broadly. Sundqvist and Wikström (2015) investigated the relationship between digital gameplay and vocabulary, with the hypothesis that playing video games leads to greater success in school language classes. The authors measured vocabulary using the Productive Vocabulary Levels Test and the Vocabulary Levels Test (Laufer & Nation, 1999; Nation, 1983). They additionally looked at participants' success in academic writing, using long, polysyllabic word use as a measure of vocabulary. The participants self-reported their consumption of English media via a journal and a questionnaire. Among boys, increased gameplay was positively correlated with measures related to academic outcomes in English, and frequent gamers performed best on all vocabulary measures. The same pattern was not found for girls, of whom none were classed as frequent gamers. Though these findings are interesting, it is not clear how the researchers determined that the videogames being played were in English; it is possible to imagine that Swedish teenagers playing videogames with their Swedish friends would be interacting in Swedish. This would be a challenge in any study of videogames or other interactive media.

Arndt and Woore (2018) explored the differences in vocabulary uptake from watching YouTube videos and reading blogs. Building on past research into Independent Second Language Learning, the authors presented two groups of L2 learners of English with either vlogs or blog posts containing 6 pseudo-words and 4 rare real word distractors, before testing their learning. The materials were made as naturalistic as possible: the researchers had real vloggers write video scripts into which the pseudo-words were substituted before the videos were recorded. Those who read the texts as blog posts showed slightly greater orthographic gains, but a t-test showed no significant difference in total gains between the two groups. The blog group showed a significantly higher variance in scores. A rather important limitation of this study is that (some) participants noticed the

pseudo-words. This is not surprising, as the participants were selected from the "Nerdfighter" community, the fanbase of Hank and John Green; as John Green is a hugely successful author of young adult fiction and both brothers produce vlog videos every week, it is likely that their fans have a significant amount of experience with reading and watching videos in English, which would give them a large vocabulary and make them skilled at recognizing pseudo-words.

2.4. The Present Study

2.4.1. Aims

While researchers have begun to explore the effects of informal language learning through media, results have been varied and methods diverse. Many studies have shown that vocabulary gains can be made through informal learning, but this effect has not been demonstrated consistently, so more work is needed to assess what can be learned, through which media, and how. Additionally, it seems that no one study has looked at the relative or combined effects of several types of media on vocabulary size. The present study aims to explore this in more detail, by considering a context in which many types of English media are consumed.

For the purposes of the present study, five distinct types of media were selected. Music, print media, and TV and movies constitute traditional forms of media and have received attention in the literature. Each of these was addressed separately. With the aim of including more modern media, a fourth category was added, which included all video-based social media. While written interactions on social media such as Twitter or Facebook could not be considered informal learning through media, many social media platforms, such as Instagram, TikTok and YouTube, consist mostly of video content. This type of audiovisual media was felt to differ from more traditional TV and movies due to both a typically shorter length and a lack of autonomy in choosing the language of the videos watched, or sometimes even in choosing the videos themselves. Additionally, social media users can interact differently with content than with TV and movies, as internet video is rarely subtitled and usually includes a comments section, providing rich opportunities for engagement (Codreanu & Combe, 2020). Auditory, or spoken, media has not been researched thus far (apart from small-scale qualitative work, e.g., Alm, 2013; Andini &

Burhanuddin, 2022), though radio is certainly a traditional form of media and listening to podcasts is a popular pastime. Spoken media formed the fifth category.

While many people play videogames in their second language, it is difficult to determine the distribution of language use in multiplayer games, where the game environment may be in English, but group planning may be done in the L1. Videogames also vary widely in modality of language; that is, whether the text is presented orally or in written form, and in volume of text. For these reasons, videogame use was not included in the present study.

Most studies of informal language learning have been conducted in contexts that are dissimilar to that of Quebec. Quebec presents a unique cultural and linguistic context. This mass of French speakers amidst an otherwise English-speaking continent provides learners with ready access to English media and fluent understanding of its cultural references. Meanwhile, conflicting attitudes toward the English language make for a desire to engage with English media coupled with a general lack of interest in assimilating to anglophone culture. Use of media in this context could therefore be classified as casual, as the media is consumed frequently and without explicit learning goals in mind.

Quebec City was chosen as a research site for the present study primarily because the author has connections to the area. However, because the city has a very small anglophone population of just 1.68% (Statistics Canada, 2017b), it was felt that use of English media here would be representative of its use by francophones more generally. Young people in a more bilingual area of the province might engage with English media more frequently because of an increased presence of the language and thus of available media in it. As discussed above, researchers have suggested that media might play a role in language learning among the Québécois (e.g., Oakes, 2010; Balinger et al., 2020), but to this author's knowledge there has been no work exploring the relationship between media consumption and English proficiency in Quebec.

2.4.2. Research Questions

The research questions are as follows:

1. Does time spent engaging with English media (listening to music, watching TV and movies, reading, engaging with video-based social media, and listening to spoken word media) predict English language proficiency scores in Québécois young adults?
2. Does the depth of engagement with the same English media predict English language proficiency scores in Québécois young adults?

The two key hypotheses associated with the project are as follows:

1. *Frequency of Engagement*

    H1: A significant proportion of variance in English language proficiency scores is predicted by the time spent engaging with English media.

    H0: Frequency of engagement with English media is not a significant predictor of English language proficiency scores.

2. *Depth of Engagement*

    H1: A significant proportion of variance in English language proficiency scores is predicted by the depth of engagement with English media

    H0: Depth of engagement with English media is not a significant predictor of English language proficiency scores.

It is additionally hypothesized that there will be a positive relationship between frequency and depth of media use and English proficiency, and that different media will have different explanatory power.

3. Methodology

3.1. Research Design

This research took the form of an online experimental study, collecting quantitative data about participants' English skills and consumption of English media. The aim of the study was to explore the relationship between participants' English proficiency and their frequency and depth of engagement with English media.

3.2. Participants

3.2.1. Pilot Test 1 - English

Participants for the first round of pilot testing were selected for reasons of convenience and did not represent the target population. This group consisted of five English-speaking adults (2 women), with varying dialects of English and levels of education. These participants completed an English-language version of the tasks. Their role was to trial the study, to test the ease of use of the interface, and to raise any issues they encountered.

3.2.2. Pilot Test 2 - French

In the second pilot, participants were chosen again through convenience sampling. This group more closely resembled the target population and consisted of 9 Québécois adults (4 women). Three participants had completed graduate degrees, two had completed undergraduate degrees, two had completed CÉGEP diplomas, and two had undertaken some studies at the CÉGEP level. The average age of this group was 32.40 years (SD = 12.07), with all but two participants in their 20s. Four participants had previously been enrolled in English immersion programs or had lived in English-speaking environments. One participant was currently studying English. These irregularities in the data were deemed unimportant, as the aim of the second pilot was to trial a French-language version of the study, and to gauge the suitability of the questionnaire items. Participants in this pilot reported satisfaction with the tasks and with the French language used in their descriptions. Further findings from both pilots are detailed below.

3.2.3. Experiment

Participants were recruited through social media, using a poster targeting those based in Quebec City, a monolingual urban centre. Participants were included if they had attended CÉGEP, spoke French as their first language, and were between the ages of 18 and 30. The inclusion criteria were chosen to ensure homogeneity. Efforts were initially made to recruit participants in a narrower age range and all with the same level of education, but a lack of uptake required the broadening of inclusion criteria.

Participants were excluded if they were currently studying English in any formal capacity or had spent more than three months living in an English-speaking environment. These exclusion criteria were chosen as previous work has suggested that students in English language programs consume an unrepresentative quantity of media in English (Kusyk & Sockett, 2012).

As data were collected remotely, it was not possible to ensure that all participants who self-selected did in fact meet these criteria. Once data was collected, anyone that did not meet the study selection criteria, as determined by their answers to the questionnaire, could be excluded from analysis. It is possible that some participants were from parts of the province other than Quebec City. As participants were not asked to provide their place of residence, this could not be controlled for in the analysis.

The sample consisted of 23 participants (11 women), 7 of whom had formed part of the pilot sample. As neither the questionnaire nor the vocabulary test was substantively modified after the completion of pilot testing, and because the initial recruitment criteria were broadened, data from these pilot participants were determined to be sufficiently similar to the newly obtained study data to be included. The average age of participants was 25.43 years (SD = 3.46), with all but one meeting the recruitment criteria (between 18 and 30 years; attended at least some CÉGEP).

3.3. Materials

The present study builds on work by Kusyk & Sockett (2012), who investigated the relationship between English vocabulary and use of media. Like this previous research, the present study comprised a vocabulary test and a questionnaire regarding use of English media. All tasks were administered through Qualtrics, a software that allows participants to complete tasks remotely from their own devices.

3.3.1. Vocabulary Test

There are many vocabulary tests available to researchers looking to measure participants' English proficiency. The Vocabulary Size Test (VST) (Nation & Beglar, 2007) was found to be ideal for the purposes of the present study. The test is freely available online and can be used easily in a digital environment. Learners are tested on a small sample of words at each level of frequency in the English language, with each level constituting one thousand word families. By testing vocabulary in this way, it is possible to derive an estimate of how many words a test-taker knows at each level of frequency.

The VST comprises 140 questions, which represent the most common 14 thousand word families. In each question, test-takers are presented with a word in an example sentence and are asked to choose between four possible definitions with common elements of meaning. This makes the VST more difficult than measures, such as the Vocabulary Levels Test (VLT) (Nation, 1983; Webb et al., 2017), on which test-takers can score highly with only preliminary knowledge of a word (Nation & Beglar, 2007; Schmitt et al., 2001). By testing every level of vocabulary up to 14,000, the VST goes farther than other tests at measuring vocabulary knowledge at a high level (above 10,000) (Webb et al., 2017).

All components of the VST were entered manually into Qualtrics, and some small changes were made to fix typographical errors present in the original. Nation (2012) estimates that the VST takes about 40 minutes to complete, but pilot testing of the present study demonstrated slightly shorter completion times.

Initially, there were plans to include a grammar test in the present study, to measure another element of English proficiency. The decision was eventually made not to include such a test, for both practical and theoretical reasons. Research into language testing did not reveal a readily available, standardized grammar test that could be used in the present study. Devising and trialling a novel grammar test went beyond the scope of the present research. Length of tasks was an additional concern, as the vocabulary test and questionnaire would already require a significant time commitment on the part of participants, and it was felt that adding another component would make the tasks uncomfortably long and reduce participation rates.

The choice not to use a grammar test was not seen to be a great limitation of the present study. Firstly, and most importantly, research into vocabulary testing has demonstrated this sort of measure to be an accurate representation of a test-taker's

language proficiency (Schmitt et al., 2001). In other words, those with a larger vocabulary are generally better speakers of a language. It was felt that if vocabulary was already a good measure, any further information that a grammar test might provide would not be worth the trade-off of a longer set of tasks. Secondly, the present study is investigating a phenomenon about which little research exists. As the present research is not longitudinal and does not include an intervention, it is not possible to claim with any authority that engagement with media causes improvement in English proficiency. Instead, we seek a general understanding of the relationship between proficiency and media use, so the VST was considered well-suited to the present study, both for its length and its rigour. See Appendix A for the full test.

3.3.2. Questionnaire

The questionnaire used here was designed by the researcher to meet the needs of the study following Dörnyei and Taguchi's (2009) guide on questionnaire development. The authors stress the importance of simplicity, particularly when items will be translated, as was the case here. The authors mention the necessity of putting demographic items at the end of the questionnaire, to reduce stress on participants. They suggest a method of effective pilot testing in two rounds: in the first, the tools should be tested on a convenience sample, and when nearly perfected, on a sample that is quite similar to the target population. This approach was used in the present study.

The questionnaire consisted of five sets of questions, each pertaining to a particular sort of media (See Appendix C). For example, on the first screen, participants were asked about their frequency and depth of engagement with music. They were asked to report frequency of engagement in hours spent per week. Depth, meanwhile, was measured on a Likert-type scale, which contained five options ranging from "never" (0) to "very often" (4). Demographic questions appeared at the end of the questionnaire, and included questions about participants' age, gender, and degree of exposure to English through school, work, and living environment. See Appendix B for an English translation of the questionnaire.

3.4. Procedures

3.4.1. Pilot 1

The pilot process used here was modelled after that of Kusyk and Sockett (2012), who piloted their questionnaire on a small group to get feedback on the weaker parts of the tool, so that changes could be made to improve clarity. The participants in Pilot 1 were sent a preliminary English-language version of the test and questionnaire and asked to complete them, taking note of errors, issues, and suggestions for improvement. These participants provided very detailed feedback on the VST and questionnaire. The main issues flagged with the test were typographical.

Some vocabulary questions proved very difficult for these native English speakers. There may be three reasons for this. Firstly, in the VST, the definitions provided for each vocabulary item consist only of vocabulary from that tier of difficulty or below. This serves to make the test accessible to non-native speakers and to ensure validity. English-speaking participants consequently indicated that they found some definitions flawed, where a better definition might employ rarer words. Secondly, a few test items were poorly designed, offering more than one definition that could be correct. These issues could not be accounted for: it was unclear why they were present in the test to begin with. Lastly, and most importantly for the present study, the vocabulary list was drawn from the British National Corpus (BNC), a corpus of written texts in British English. There are certainly discrepancies between written British English and spoken Canadian or American English, with which the participants would be most familiar. Because of this, a few items proved impossible even for the native English speakers in Pilot 1.

These three concerns constitute limitations of the VST, which had been rigorously tested (Nation, 2012) prior to its publication. What appear to be flaws may not have significant bearing on the results of the test and may be simply irritating to the English speakers on which the present study was piloted. Modifying the VST for the purposes of this study would affect its reliability and validity. As such, the decision was made to use this test, despite the issues raised in Pilot 1, with the assumption that the same problems would not arise in Pilot 2, with non-native speakers of English. The introductory text, however, was modified to stress that definitions would be imperfect and that participants should simply select whichever best applied.

More than one participant suggested that most correct answers on the vocabulary test were answers (a) or (d), i.e., the first or last choice. Consequent analysis has shown that options (b) and (c) each account for about 30 of the correct answers, while (a) and (d) each account for closer to 40 of the correct answers. While a difference does exist, it is certainly not the case that most correct answers are (a) or (d). The cause of this pattern is unknown, as Nation (2012) claims that the answers are relatively evenly distributed among the four choices. Once again, the decision was made not to modify the VST for the purposes of the present study.

While it was not possible to modify the VST, the questionnaire underwent many changes before its distribution to the participants in Pilot 2. This French version was far superior to the original. The errors were fixed, the instructions and questionnaire were fully translated, and the questionnaire was made more personal and fun to maintain participants' interest. This was done by adding a narrator character, Mathieu, and providing descriptions of his use of media in each category before participants were asked to report theirs. It was thought that the examples would assist participants in making judgments about their media use and would remind them of types of media they might not have considered. Additionally, questions were added at the end of each section of the questionnaire to ask participants to report their favourite musician, show, podcast, etc. The aim of this question was to keep participants' attention, and to provide colour to the questionnaire.

3.4.2. Pilot 2

The French version of the task was proofread by a native speaker of Québécois French prior to its distribution to the pilot testers, who flagged few additional language errors. Because of the success of Pilot 1, most errors had been fixed, so little feedback was received on Pilot 2. There was positive feedback about the inclusion of Mathieu, and people seemed generally satisfied with the tasks. There were a few requests for increased clarity and for the shortening of the vocabulary test. However, there were no portions of the test with floor or ceiling effects, so the decision was made not to remove any portion of the test. Some participants indicated the desire for an "I don't know" option to be added to each question. However, as Nation (2012) mentions, changing the test in this way makes test-takers less

likely to make an educated guess, thereby not demonstrating their partial knowledge of a word.

Once piloting had begun, it became clear that it would be necessary to include questions about previous education in English. Two questions were added to inquire about English studies in high school and in CÉGEP. As participants were asked to indicate their level of education, and other questions controlled for current English study, no additional items were added to assess English exposure at the university level.

3.4.3. Administration

To launch the study, recruitment emails were distributed to most departments of a university in Quebec City, wherever contact information was available. The email included information on the study, proof of ethics approval, the direction of the research, and the researcher's relationship to the Quebec City context, in hopes of assuaging administrator concerns of an outsider examining their students' habits.

Through these communications, it became clear that the project would need to pass additional ethical clearance through the university before they would agree to distribute recruitment emails. The necessary steps were taken to receive this clearance, but the process was projected to take longer than possible for the present study, so alternate distribution methods were sought. A recruitment poster was distributed through social media (See Appendix C) and participants were recruited in this way.

3.5. Data Analysis

As a review of the literature indicated a possible relationship between media use and English level, and as it was determined that a correlation would not go far enough to exploring this relationship, a more rigorous analysis was used in the present study. Regressions were conducted to investigate the amount of variance in English level that could be predicted by both frequency and depth of engagement with English media, and whether either was a significant predictor. Due to the small sample size, a separate analysis was done for each type of media, as well as one for overall media use. A more detailed description is presented in Chapter 4.

3.6. Ethics

The research project received ethical clearance through the Central University Research Ethics Committee (CUREC). See Appendix D for CUREC approval [CIA-22HT-011].

Before beginning the vocabulary test and questionnaire, participants were presented with a detailed information sheet explaining the reasons for the study and for their recruitment (See Appendix D). They also received contact information for the researcher and for the Central University Research Ethics Committee and were encouraged to send an email with any questions or concerns. Before proceeding to the tasks, participants were asked to indicate that they were over the age of 18 and to consent to their participation and the use, storage, and transfer of their data. All data were anonymized at the source through the Qualtrics software, and no element of the test or questionnaire was considered sensitive, so there were no significant concerns for the welfare of the participants.

Upon completion of the test and questionnaire, participants were given the option to submit their email through a separate form, to enter to win one of four $25 gift cards for Tim Horton's, a popular Canadian coffee chain. As this was done through Google Forms, and not through Qualtrics, participants' emails were not associated with their data in any way.

4. Results

4.1. Descriptive Statistics

4.1.1. Exposure to English

Many of the study participants reported having more current and former exposure to English than had been identified in the study design. Three participants were enrolled in English courses or courses taught in English at the time of the study, and one reported engaging in additional private study of the language. Five indicated regular use of English with friends or family, and six reported regular use of English at work. Four participants had attended English immersion programs as part of their high school studies, though none had attended CÉGEP in English. Finally, five participants indicated having spent three or more months in an immersive English environment, some at the time of data collection. An average of six years had elapsed since participants had last studied English formally.

One participant was 33 years old and had not pursued any studies beyond high school. However, the decision was made to leave this participant in the analysis, as his vocabulary score of 124 put him within one standard deviation of the mean. Remaining participants had a wide variety of education levels, ranging from some CÉGEP studies to a master's degree.

One participant indicated that her first language was not French. However, as the person had been informed a minimum of two times that participants were to be francophone before she agreed to participate in the study, it was determined likely that this participant's primary language is French, and that she may simply have spoken a heritage language at home before learning the French language in Quebec. Even if this participant misinterpreted the instructions and spoke French as a second language, English was clearly not her first language, as her vocabulary score was lower than most in the sample.

Even though a large proportion of participants did not strictly meet the initial recruitment criteria, the small sample size meant that only including participants that met all the inclusion criteria would prevent analysis of the data. As such, all participants were included in the analysis.

4.1.2. Vocabulary Size Test

Participants' average vocabulary score was 115.48 out of 140 (SD = 11.42), representing a knowledge of 11,548 English words. See Appendix F for a histogram of the vocabulary scores.

Questions within the Vocabulary Size Test (VST) were grouped into 14 sections, each containing 10 words. While participants were able to skip entire sections of the test and might have done so should they have become fatigued or felt they had reached the limit of their vocabulary, all participants completed all sections of the test. Participants were advised to give their best guess on every word, but some did choose to skip some questions, especially those near the end of the test, i.e., less common English words, which were more challenging. Participants got an average of 9.6 questions right in the first set of ten questions; the twelfth, thirteenth and fourteenth sets of questions had correct response rates of 6.5, 6.6 and 7.0 words, respectively. The only word that all participants got wrong was #119: Coven. It was made apparent during the pilot phase that the French word *couvent*, which is phonologically similar to "coven", means "convent"; participants overwhelmingly chose the definition that matched this word instead of that of the target.

4.1.3. Frequency and Depth of Engagement

All participants reported that they engaged with media in English in each of the first four categories examined: music, TV/movies, reading, and video. Use of spoken-word media was much less prevalent, with 6 participants reportedly engaging with this type of media for an average of 0 hours per week. This stark difference can be seen in Table 1. Participants spent an average of 58.3 hours per week in total engaging with media in English, suggesting that quite a large portion of the media consumed by these participants was, in fact, in English. It is worth mentioning that 58.3 hours per week represents about half of a person's waking hours, so the totals reported here may be inflated. Alternatively, this may simply demonstrate the omnipresence of media in the lives of these young people.

Table 1

Frequency of engagement with media in English

	Mean (hrs/wk)	SD
Music	12.7	8.5
TV/Movies	11.2	5.9
Reading	15.9	11.1
Video	15.3	10.9
Spoken	3.2	3.7
Overall	58.3	24.3

Participants reported engaging differently with each sort of media, with music and reading receiving the highest depth scores (see Table 2). TV/movie and video consumption involved less deep engagement, with spoken media receiving the least of all. On average, participants reported depth scores of 1.3, representing something between "rarely" and "sometimes" engaging deeply with English media. Standard deviations were quite large, each around 1.0, so depth of engagement may be highly dependent on the individual.

Table 2

Depth of engagement with media in English

	Mean (out of 4)	SD
Music	1.83	0.94
TV/Movies	1.3	1.0
Reading	2.0	1.1
Video	1.0	1.0
Spoken	0.6	1.0
Overall	1.3	0.8

Participants reported a wide variety of favourites for each type of media, demonstrating the diversity of English-language input received by this population.

4.2. Inferential Statistics

Analysis of the data was done through a series of multiple linear regressions. Due to the small sample size of the present dataset, the decision was made to complete a series of regressions, one per type of media, in lieu of a single regression including all types of media as predictors. A final analysis looked at an aggregate of the data to examine the broader relationship between frequency and depth of engagement with media and vocabulary score.

4.2.1. Correlations

A series of correlations was conducted to gain a preliminary understanding of the relationships between all variables. See Table 3 for key (significant) findings, organized by type of variable; full output appears in Appendix A.

Table 3 Key correlations between variables

	Variable 1	Variable 2	Correlation	Significance
Frequency	Reading Frequency	Video Frequency	0.52	.011
Frequency & Depth	Reading Frequency	TV Depth	-0.44	.035
	Reading Frequency	Mean Depth	-0.46	.026
Depth	TV Depth	Reading Depth	0.50	.014
	TV Depth	Video Depth	0.57	.005
	TV Depth	Spoken Depth	0.62	.002
	Video Depth	Reading Depth	0.61	.002
	Video Depth	Spoken Depth	0.74	<.001
Exposure & Depth	Present Exposure	TV Depth	-0.54	.008
	Former Exposure	Video Depth	-0.43	.043
	Former Exposure	Mean Depth	-0.42	.047
Depth & Vocabulary	Music Depth	Vocabulary Score	-0.64	<.001
	Mean Depth	Vocabulary Score	-0.47	.025

Only two predictors were found to significantly correlate with vocabulary score at the 0.05 level: music depth and mean depth. As such, it was not necessary to conduct

regression analyses for the other forms of media. However, it was determined that even though some predictors were not correlated to vocabulary score, they may still have explanatory power. As the study aimed to assess the amount of variance predicted by frequency and depth of engagement, regressions including these predictors were run for each type of media and for overall media use. Apart from the analyses of music and of overall media use, no significant models or variables emerged, as was predicted by the correlations. Tolerance and VIF were within normal range in all analyses. The results of the analyses for TV and movies, reading, video-based social media, and spoken media can be found in Appendix F, along with full output for the two regressions reported here.

There was no relationship between vocabulary score and previous or present exposure to English, or level of education. Age, too, was not a significant factor. However, age can be thought of as a rough measure of cumulative exposure to English throughout a lifetime (Unsworth, 2013), even in the absence of formal schooling or regular use of the language. Participants at the top of the age range were thought to have significantly more cumulative exposure to English than those nearer the bottom of the range, and only age could be used to demonstrate this in the current dataset. As such, age was included as a factor in each regression.

4.2.2. Music

The first regression examined the relative contributions of frequency and depth of engagement with music to vocabulary score. Here, as in all subsequent analyses, the first model included just frequency, the second model additionally included depth, and the third model added age.

In this case, Model 2 was statistically significant, $R^2 = 0.42$, $F(2, 20) = 7.20$, $p = .004$, as was Model 3, $R^2 = 0.45$, $F(3, 19) = 5.08$, $p = .009$. Only depth significantly predicted vocabulary score, $b = -7.52$, $p = .003$. See Table 4 for a full reporting of the coefficients in each of the three models.

Table 4 Linear model of music as a predictor of vocabulary

		b	SE B	β	R^2	F change
Model 1	Frequency	-0.09	0.29	-.06	0.00	.09
Model 2	Frequency	0.11	0.24	.08	0.42	14.27
	Depth	-8.05*	2.13	-.66		
Model 3	Frequency	.08	0.24	.06	0.45	0.90
	Depth	-7.52*	2.21	-.62		
	Age	0.55	0.58	.17		

Note: * $p < .05$

4.2.3. A Fuller Picture

To explore overall effect of use of English media on proficiency, an analysis was performed using aggregate data. Here, the total frequency of use of media was included as a predictor, along with the average depth of engagement. The decision was made to use total and not average frequency as some media were used much more frequently than others, and every additional hour of engagement with media may contribute to proficiency.

Model 3 was superior to the others, and reached significance, $R^2 = 0.36$, $F(3, 19) = 3.58$, $p = .033$. Depth approached significance as a predictor, b = -5.66, $p = .068$, as did age, b = 1.14, $p = .079$. See Table 5 for full results.

Table 5 Linear model of overall English media use as a predictor of vocabulary

		b	SE B	β	R^2	F change
Model 1	Frequency	0.15	0.10	.32	0.10	2.36
Model 2	Frequency	0.08	0.10	.18	0.25	3.81
	Depth	-6.04	3.09	-.40		
Model 3	Frequency	0.11	0.09	.24	0.36	3.45
	Depth	-5.66	2.93	-.38		
	Age	1.14	0.61	.35		

5. Discussion

5.1 Key Findings

The present study sought to explore the relationship between frequency and depth of engagement with five different types of English media and English proficiency, as measured by the Vocabulary Size Test (VST). Analyses investigated five types of media, as well as an overall count for total weekly use of all English media. It was predicted that that those who engaged more frequently and more deeply with media in English would have higher scores on the VST.

Frequency of engagement with English media appeared to play no significant predictive role in vocabulary score in the present study. While depth of engagement was a significant predictor of vocabulary scores in the cases of both engagement with music and overall media use, the relationship was opposite to what was predicted, in that those who engaged more deeply had lower vocabulary scores. The beta value for depth of engagement was negative in all analyses, even where it did not reach significance (See Appendix F). At first blush, this finding seems contradictory, but it could suggest one of two things. It may be the case that those who spend more time looking up words or using subtitles for the media they engage with are paying less attention to the media itself and thus are less able to learn incidentally. A second explanation may be more intuitively true: that the causal relationship moves in the opposite direction, whereby those who speak better English have less need to expend energy on, and to engage deeply with, the media they use. Of course, this finding could also be attributable to limitations of the study. Age was a significant predictor in the analysis of overall media use, indicating that cumulative exposure to English over a lifetime predicts proficiency in the language.

5.2. Interpretation of results

5.2.1. Descriptive statistics

While each of the first four media was used with similar frequency by participants, the standard deviations varied widely, indicating more varied levels of interest in English media of some types (e.g., reading), and more consistent levels of interest for other types (e.g., TV and movies). Spoken media were by far the least popular, with an average frequency of engagement of just 3.2 hours per week (SD = 3.7). Less-frequent use of these English media

may be attributable to a general lack of interest in radio and podcasts, or to a lack of available support for those who struggle to follow audio content in a second language, such as transcripts.

Depth of engagement was more varied, with participants reporting much deeper levels of engagement with some media than with others. Music had the deepest levels of engagement at 1.83 (SD = 0.94), indicating that participants "sometimes" engaged deeply with it, such as by looking up lyrics or translating words. Spoken media, along with being the least frequently used of the media, was also found to have been engaged with the least deeply, with participants giving an average depth score of 0.6 (SD = 1.0), indicating that they engaged deeply with spoken media between "rarely" and "never".

5.2.2. Correlations

Several correlations proved to be significant. There were strong positive correlations (Field, 2013) between mean depth and depth of some individual media (See Appendix F). This is likely attributable to the fact that total frequency and mean depth are composed of each of the individual scores. However, there were also strong positive correlations between depth of engagement with several different types of media, suggesting that some participants simply engage more deeply with media than others. These data could also indicate that some participants consistently overestimate or underestimate their depth of engagement. Interestingly, however, depth of engagement with music did not correlate with that of other media, suggesting that these correlations are not attributable to errors in self-reporting.

Reading frequency was found to correlate strongly with video frequency, $r(21) = 0.52$, $p = .011$, but this relationship was not present among other frequency measures, demonstrating again that participants did not have different habits of over- or under-estimating their engagement with media. Such a tendency would lead to an effect of frequency in the analysis where one does not exist in the population.

There was a very strong negative correlation between age and last year in which the individual studied English, $r(21) = -0.66$, $p < .001$, meaning that the older a participant, the more time had elapsed since they last studied the language. This suggests that people stop studying English at a certain age, presumably when they finish school. Indeed, using responses for these two measures, it can be seen that the average age at which English was last studied was 19.8 years.

There were three negative correlations between exposure to English and depth of engagement. Here, former exposure includes previous immersion experiences, while present exposure includes use at home and at work and classes in or about English. It may be that those who have had more exposure to English are more familiar with it, and feel less need to engage deeply, even though their vocabulary scores may be no higher.

5.2.3. Frequency of engagement

Frequency of engagement did not predict vocabulary scores in this dataset. Based on the available data, there appears to be no relationship between vocabulary score and frequency of engagement with English media. However, what little research exists on informal learning through media supports the existence of a relationship. A lack of relationship also runs counter to the widely held beliefs that learners can and do improve their proficiency by engaging with media in their L2. In fact, even if informal learning through media does not occur, it seems unlikely that there exists no relationship between frequency of engagement with media and vocabulary score. At a minimum, it seems intuitive that those with a greater knowledge of English vocabulary would enjoy English media more and would consequently engage with it more often.

A dearth of previous research in the field meant that the design of the present study could not be built on earlier attempts to measure these relationships. As a result, it is very possible that the methods used were not properly calibrated to measure vocabulary and media use, and thus did not accurately capture the reality of the participants' situation. The questionnaire was intended to measure frequency and depth of engagement with media but may not have done so sufficiently well. Likewise, while the VST has been tested by other researchers and is a good measure of vocabulary size, using just one measure to investigate English proficiency may have limited the results. See Section 5.4 for a more detailed discussion of the limitations of the study.

5.2.4. Depth of engagement

Depth of engagement was a significant negative predictor in one analysis and approached significance in another. In the case of music, the beta score (b = -7.52, p = .003) suggests that each unit of depth of engagement predicted a lower VST score by 7.52, equating to a smaller vocabulary by 752 words. In practical terms, in the present dataset, someone who

reported engaging deeply with English music “often” can be predicted to have a significantly smaller vocabulary than someone who engaged “sometimes”.

Depth approached significance as a predictor in the overall analysis, again demonstrating a negative relationship with vocabulary. Depth had a negative effect in every model, even those that failed to reach significance. This suggests that depth has a negative relationship to vocabulary size, to varying degrees. As mentioned above, it may be the case that those who speak better English have less need for engaging deeply with the media they consume. This finding, while not predicted at the outset, makes intuitive sense, and could represent a pattern in this population.

5.2.5. Age

Age was used as a proxy for cumulative exposure to English, with the assumption that older participants have encountered more English in their lifetimes than younger participants. Age approached significance in the analysis of overall media use, suggesting it had more of an effect than did frequency of engagement. Vocabulary score may thus be more dependent on age than on media use. The older a participant, the more years of exposure they have to English, both through formal and informal learning.

Age may not be a useful proxy for exposure to the L2 in all populations, but as the present study considered the context of Quebec, this trend makes sense. The Québécois people live in a country where English is the most widely spoken language, and in a province where this language has long played a powerful sociopolitical role. While young Québécois people do encounter English through media, the language is also used in school and in other parts of their lives. That most participants had more exposure to English than the study eligibility criteria proposed demonstrates the strong presence of this language in the lives of the Québécois people.

5.3. Implications of the research

This research has built upon the informal language learning literature by attempting to quantify learning through media. Existing work has made use of case studies to complement anecdotal evidence and pedagogical ideation. Limited scientific work in the area has just scratched the surface of how languages might be learned through engagement with media.

To this author's knowledge, no research has yet addressed the role that this form of learning might play in the development of English proficiency among the Québécois.

It cannot be concluded from the present study that either frequency or depth of engagement with media is a significant predictor of English proficiency. There appears to be a relationship between depth of engagement with media and vocabulary scores, but it is likely the case that a large vocabulary results in less deep engagement, and not the other way around. Neither frequency nor depth was found to explain English proficiency. This finding contrasts both with the limited existing research on frequency and depth (e.g., Ewert, 2020; Milton, 2008; Muñoz et al., 2018; Neuman & Koskinen, 1992; Sundqvist & Wikström, 2015), and with the general feeling among authors, educators, and students that learning through media does occur (Coxhead & Bytheway, 2014; Kavanagh, 2016; Kerekes, 2014; Kao & Oxford, 2014; Lin & Siyanova-Chanturia, 2014; Ludke, 2020; Oakes, 2010; Sockett, 2014). Work on vocabulary has additionally suggested that media should have potential as a source of informal language learning, at least if engaged with sufficiently frequently (Rodgers & Webb, 2011; Webb, 2010).

The present study most closely resembles work by Kusyk and Sockett (2012), Toffoli and Sockett (2014), Arndt (2019), and Arndt and Woore (2018). Kusyk and Sockett (2012) found that those who were self-reported frequent watchers of English TV were more skilled at translation activities, suggesting a positive relationship between frequency of engagement and English proficiency. Toffoli and Sockett (2014) found a similar result for music listening.

Work by Arndt (2019) took a similar approach to that employed here, measuring English proficiency and engagement with media. Arndt also found that engagement with media did not predict proficiency, even though she used a longitudinal design to measure change in proficiency. There was similarly no effect in the Arndt and Woore (2018) study, which considered vocabulary learning via blog posts and YouTube videos. Lack of effect in these studies can be attributed to limitations of their methodology (see Section 2.3.4), and the same may be said of the current study. It is clearly difficult to measure engagement with media, which might explain the paucity of research on this type of language learning. Perhaps Sockett (2014) is right in suggesting that informal learning is difficult to study because it is so individualized.

However, it may also be the case that there is no direct relationship between vocabulary and media use. Media may not provide learners with sufficient repeated exposure to a given word for it to be learned (Schmitt, 2008; Webb, 2010). Perhaps the social power and presence of English in Canada is enough for the Québécois to learn the language. Media might contribute to language learning indirectly in this context and others, helping learners improve their comprehension and pronunciation abilities, providing them with a degree of cultural fluency, and motivating or empowering them by making learning fun (e.g., Chik, 2014; Kerekes, 2014; Kao & Oxford, 2014; Macintyre et al., 2017). More research is needed to explore these relationships, and a mixed-methods approach could help capture the complexity of multiple overlapping predictors and outcomes.

While it did not generate any significant findings, the present research has looked at the roles of several distinct types of media, and of media overall, something not previously attempted in the literature. As such, the current research has served to demonstrate how research into informal language learning might be conducted, and has identified media that might be explored, as well as challenges that must be overcome.

It has been suggested that English language media is a key source of language learning among the Québécois (e.g., Acheson et al., 1978; Balinger et al., 2020; Rioux, 2008). As the present study cannot explain the relationship between engagement with media and English proficiency, more remains to be done to understand how the Québécois are able to develop their English skills far more successfully than anglophone Canadians develop their French (Statistics Canada, 2017a).

5.4. Limitations of the present study

Some limitations of the present study were a result of its online, remote nature. It was not possible to guarantee that participants responded truthfully or self-selected appropriately. It was also not possible to ensure they did not search up words in the vocabulary test to score more highly. However, every effort was made to discourage this behaviour, and to explain that a higher score was not desirable to the researcher. At the end of the study, participants were asked to indicate that they did not use any tools to assist them with the test. This was thought to encourage compliance with the rules of the task and to instill a feeling of accountability.

It was difficult for participants to estimate the amount of time they spent engaging with media, as evidenced by the supposed average of 58.3 hours per week. While participants might be thought to under-report media usage due to negative attitudes toward English in Quebec, the opposite appears to be true. Self-report measures will always be imperfect, but a questionnaire like this, or a more detailed diary study, may be the only way to measure informal learning habits. The questionnaire did not inquire about participants' attitudes or ask any sensitive questions, so any errors caused by self-report are likely attributable to human error, and not to deliberate attempts to hide the truth. It is also possible that those who participated in the present study were unrepresentative of the population. Those willing to spend 45 minutes on a vocabulary test and questionnaire may have above-average interest in English media and in the language itself, resulting in a high frequency of engagement.

As mentioned in Section 3.4.1 above, the VST is modelled on the British National Corpus, which represents a slightly different set of words than those that might be encountered by Québécois people through exposure to Canadian English in daily life and to American English through pop culture. This caused some issues for the English speakers in Pilot 1 and may also have affected results in the main study. As the aim of the study was to compare individuals, and all participants can be assumed to have exposure to similar sorts of English media, it was thought unlikely that the British English VST would advantage some participants over others.

The choice was made to use just one measure of English proficiency. The VST, while superior to other tests considered, is also an imperfect measure of English proficiency. The test gives a slightly inflated estimate of vocabulary size, as it allows for impartial knowledge of a word and uses a 1:100 ratio of questions to vocabulary known, introducing an element of randomness. Additionally, though vocabulary tests are generally an effective tool for comparing proficiency across a group of participants (Stoeckel et al., 2021), a single test cannot necessarily be used to obtain a full picture of someone's language skills, especially one that measures only receptive, and not productive, knowledge of vocabulary. Triangulating results between two or more measures may be a more robust approach, yielding more accurate results. However, there are limits on the amount of time participants are willing to engage in an online study, and the VST alone took participants between 30 and 45 minutes. Future research could measure proficiency in a more holistic way.

The questionnaire devised for the present study was developed with little prior theoretical guidance, due to a dearth of research into informal language learning through media. As such, there may be more efficient and accurate ways to access constructs of frequency and depth than through the questions used here. Pilot testing found that participants were able to answer the questions with little difficulty, but there may be room for improvement. Future work should consider alternate ways of measuring frequency and depth, and of obtaining data for them.

The present study also had several limitations that restricted the robustness of the statistical analysis and that would limit the extrapolation of any findings to other samples. Of primary concern was the small sample size. Despite many attempts at recruiting participants, both through Québécois universities and through social media, very few people were reached, resulting in a sample size of only 23. It would likely be possible to recruit more participants through the universities in Quebec, but the length and arduousness of the ethical clearance procedure prevented this option in the current time frame.

The power analysis using GPower (Faul et al., 2007) was conducted before the study was launched and it indicated that 48 participants would be needed for the type of analysis that was planned. Even after including some pilot participants in the analysis, only about half of this number was reached. Thus, the study was under-powered, which had negative effects in two ways. Firstly, effects that may exist in the population have likely been obscured by noise in the data. Secondly, effects that emerged in the data may not exist in the population. For example, depth of engagement may not always have a negative relationship with vocabulary.

Those who did participate had a greater diversity of profiles and more English exposure than was specified in the design. The original age limits of 18 and 25 had to be broadened to find more participants and the upper limit was eventually set at 30, with the aim of keeping the sample as homogenous as possible. Even so, participants were not alike, reporting varying degrees and types of exposure to English, including spending time in an anglophone environment, and using the language frequently at work. Those who use English regularly may of course be learning through this exposure, and not from the media they consume. The analysis suggested that there was no relationship between English

exposure and proficiency, but age was found to be a powerful factor, and this may be mediated by exposure.

Despite these limitations, the present study served to illustrate a possible relationship between media use and language learning in the Québécois context, and to demonstrate how work in this area could be approached in future. The relationship between media use and proficiency may work in three ways: those who consume more media speak better English; those who speak better English consume more media; those who speak better English are better able to learn from the media they consume. Much more research is needed to explain this relationship. No pedagogical or policy suggestions can be made based on the work that has thus far been conducted in this area of study.

There are several areas that future work might seek to address. It was beyond the scope of the current research to investigate the role of videogames in language learning, though if a relationship exists between media and proficiency, videogames may well play a role. There may be other forms of media not considered here, and yet more may develop in the coming years. Different media may also relate differently to proficiency. Lund's (1991) work considers this issue, finding that readers remember more details from a text, while listeners better understand the big picture. Research using different proficiency measures could compare media in this way. Arndt (2019) attempted to measure change in proficiency over time and to relate this to media use. As the time frame of her study was too short, no relationship was found, but a more longitudinal design stretching over several months or years might better explore this question.

Continuing the present research and increasing the number of participants would allow for a more robust analysis and conclusions about the relationships at play. More decisive claims could then be made about whether a relationship exists, and how it works. The limitations of the sample size from the present study make it impossible to know whether any relationships exist. It would also be interesting to explore other populations, including those learning a language other than English. The materials and design of the present study could be adapted to make this research possible. Future work could also explore how media affects learning in less quantifiable ways, e.g., through increased motivation or cultural fluency.

Finally, the research literature has given little to no consideration to how the Québécois people use English media, or to how they might learn English informally in other

ways. Qualitative work, including interviews, would be a good place to start this investigation. Work like this could develop the bodies of knowledge on informal learning, on media use, and on Québécois attitudes toward English, and could serve as a more solid base upon which future quantitative work such as that presented here could be based.

6. Conclusion

6.1. Main outcomes

The present study sought to explore the relationships between frequency and depth of engagement with different types of media and English proficiency, as measured by the Vocabulary Size Test (VST). It was hypothesized that both depth and frequency of engagement would have positive relationships with scores on the VST, and that each would be a significant predictor of vocabulary size, for each type of media and for overall media use. Analysis of data from 23 participants revealed no significant relationships between vocabulary and frequency of use of any type of media. Depth had a significant negative relationship in the cases of both music listening and overall media use, the opposite of what was predicted. It may be that those with higher vocabulary scores engage less deeply with music and with media overall. In general, the present data do not support either hypothesis.

Previous work has found that informal learning through media is possible (Ewert, 2020; Kusyk & Sockett, 2012; Milton, 2008; Muñoz et al., 2018; Neuman & Koskinen, 1992; Sundqvist & Wikström, 2015; Toffoli & Sockett, 2014), but media use may not explain proficiency in the Québécois context. More research is needed, addressing the limitations of the present study, to shed light on the relationship between media use and English proficiency in Quebec.

6.2. Reflections

The approach taken in this research was selected as it approximated that taken in previous work by Kusyk and Sockett (2012), and by Toffoli and Sockett (2014), both of which found a significant effect of media use. It was predicted that the present study would yield similar results, but this was not the case, perhaps due to the choice of tools used.

The present study employed the VST as a proxy for English proficiency and a previously unvalidated media use questionnaire. The selection of these measures was based on length limitations for the tasks and on the availability of existing measures. As no published work has yet considered the roles of different types of media on an individual's English learning, it was necessary to develop a questionnaire for the purposes of the present study. Future work could consider other or additional measures of proficiency and could undertake an in-depth process to develop an effective questionnaire. The lack of a

relationship between amount and depth of exposure to English media and vocabulary may be attributable to limitations of the methodology and the tools employed.

New questions emerged during data analysis. The results were not significant, as was the case in Arndt (2019) and Arndt and Woore (2018); despite some previous findings to the contrary, there may be no direct relationship between media use and English language proficiency. It remains unclear how and why the Québécois learn English to the extent that 44.5% of the province identifies as bilingual (Statistics Canada, 2017a). Perhaps English media plays an indirect role in language learning, by making anglophone culture more attractive and accessible, and by motivating young people to learn the language. Maybe media boosts comprehension abilities, making it easier to acquire English through consequent exposure. If media is at all related to proficiency, more work is needed to discover the extent of the relationship and to explore the variety of ways in which people engage with media in their target language.

The primary aim of the present study was to bring attention to the issue of informal language learning through engagement with media in the target language, particularly in the Québécois context. The work investigated what had been done previously in this area and identified the gaps that remain to be filled. As such, though the research questions cannot be decisively answered, the present study has served its main purpose and has demonstrated how future work might explore the relationship between media and proficiency.

6.3. Recommendations

As the results of the present analysis do not indicate the presence of a relationship between media use and proficiency, there can be no pedagogical implications. That is, it is not possible to advise teachers or learners of English on the use of media as a learning tool. If media makes learning more fun and can serve as a source of motivation, then its employment in a classroom context or in private study may be warranted. However, the present research did not explore the motivational aspects of media use.

It may be the case that vocabulary learning could be optimized by using the same material repeatedly, thereby ensuring sufficient repeat exposure to the same words (Schmitt, 2008). The diversity of media used by participants in the present study likely reduced the frequency of repeat exposures to the same words. Attempts to regulate input

in this way would constitute more formal learning, which was not the focus of this text. Work considering the use of media as a pedagogical tool would be better suited to addressing this issue.

However, it is possible to make some recommendations for researchers interested in pursuing further work in this area. Due to the diversity of media consumed by participants, researchers might be best advised to recruit a much larger sample than the current study. Apart from the improved statistical power that a larger sample would provide, considering the media use of hundreds of participants – and inquiring about the specific TV shows, music, books, videos, and podcasts they engage with – would allow researchers to compare participants who enjoy the same types of media. Controlling for this variety might allow effects to appear more clearly, if they do exist in the population.

Researchers can be further advised to exercise caution when investigating areas about which they hold biases, like the belief among Canadians that the Québécois learn English through media. Setting aside biases of this sort can be difficult but can help researchers to approach a research question with more caution, and to design a study that provides interesting outcomes, even if they do not align with the researchers' bias.

Informal language learning through media has not received due consideration in the literature. The present study has sought to rectify this issue and has contributed to the discussion of informal learning. Many questions are left unanswered. It is the hope of this author that future work will continue to explore these issues and will seek an understanding of the potential language learning benefits of the omnipresence of media in our lives.

References

Acheson, P., d'Anglejan, A., de Bagheera, J., & Tucker, R. (1978). English as the second language in Quebec: a teacher profile. *McGill Journal of Education*, *13*(2). https://mje.mcgill.ca/article/view/7206

Alm, A. (2013). Extensive listening 2.0 with foreign language podcasts. *Innovation in Language Learning and Teaching*, *7*(3), 266–280. https://doi.org/10.1080/17501229.2013.836207

Andini, I. A., & Burhanuddin, A. (2022). Indonesian and Thai EFL Learners' Extensive Listening through Podcasts: A Self-Directed English Learning. *Language Circle (Semarang)*, *16*(2), 332–347. https://doi.org/10.15294/lc.v16i2.35719

Arndt, H. L. (2019). *Informal Second Language Learning: The Role of Engagement, Proficiency, Attitudes, and Motivation* (28126961). [Doctoral thesis, University of Oxford]. ProQuest Dissertations Publishing.

Arndt, H. L., & Woore, R. (2018). Vocabulary learning from watching YouTube videos and reading blog posts. *Language Learning & Technology, 22*(3), 124-142. https://doi.org/10125/44660

Authier, P. (2021, March 14). French in Quebec: "It's nothing against the English Quebecers," Legault says of new bill. *Montreal Gazette*. https://montrealgazette.com/news/quebec/caq-government-introduces-complaint-system-for-lack-of-french-in-stores

Balinger, S., Brouillard, M., Ahooja, A., Kircher, R., Polka, L., & Byers-Heinlein, K. (2020). Intersections of official and family language policy in Quebec. *Journal of Multilingual and Multicultural Development,* 1-15. https://doi.org/10.1080/01434632.2020.1752699

Barreto, A. (1998). *Language, elites, and the state: Nationalism in Puerto Rico and Quebec*. Westport, Conn.; London: Praeger.

Beatty, K. (2014). Essentially social: online language learning with social networks. In D. Nunan & J. C. Richards (Eds.), *Language learning beyond the classroom* (pp. 95–104). Routledge.

Beaulieu, V.-L. (2008, February 12). La traîtise de Pauline Marois. *Le Devoir.* https://www.ledevoir.com/opinion/libre-opinion/175740/la-traitrise-de-pauline-marois

Belmechri, F., & Hummel, K. (1998). Orientations and motivation in the acquisition of English as a second language among high school students in Quebec City. *Language learning*, *48*(2), 219-244. https://doi.org/10.1111/1467-9922.00040

Bill 96, *An Act respecting French, the official and common language of Québec*. (2022). 42nd Legislature, 2nd Session. http://www.assnat.qc.ca/en/travaux-parlementaires/projets-loi/projet-loi-96-42-1.html

Boileau, J. (2010, April 12). Francisation - Courte vue. *Le Devoir*. https://www.ledevoir.com/opinion/editoriaux/286776/francisation-courte-vue

Cardinal, L. (2015). State Tradition and Language Regime in Canada. In L. Cardinal & S. K. Sonntag (Eds.), *State traditions and language regimes* (pp. 29–43). McGill-Queen's University Press.

Cardinal, L., & Léger, R. (2018). The politics of multilingualism in Canada: a neo-institutional approach. In P. A. Kraus & F. Grin (Eds.), *The politics of multilingualism: Europeanisation, globalisation and linguistic governance* (pp. 19–38). John Benjamins Publishing Company.

Cartwright, D. (1987). Accommodation among the anglophone minority in Quebec to official language policy: a shift in traditional patterns of language contact. In G. mac Eoin, A. Ahlqvist, & D. Ó hAodha (Eds.), *Third International Conference on Minority Languages. General papers* (pp. 187–212). Multilingual Matters.

Chik, A. (2014). "I Don't Know How to Talk Basketball Before Playing NBA 2K10": Using Digital Games for Out-of-Class Language Learning. In D. Nunan & J. C. Richards (Eds.), *Language learning beyond the classroom* (pp. 75–84). Routledge.

Christofides, L. N., & Swidinsky, R. (2010). The economic returns to the knowledge and use of a second official language: English in Quebec and French in the rest-of-Canada. *Canadian Public Policy, 36*(2), 137-158. https://doi.org/10.3138/cpp.36.2.137

Churchill, S. (1998). *Official languages in Canada: Changing the language landscape.* Ottawa: Canadian Heritage.

Codreanu, T., & Combe, C. (2020). Vlogs, Video Publishing, and Informal Language Learning. In R. W. Sadler & M. Dressman (Eds.), *The handbook of informal language learning* (pp. 153–168). Wiley-Blackwell.

Conrick, M., & Regan, V. (2007). *French in Canada: language issues*. Peter Lang.

Coxhead, A., & Bytheway, J. (2014). Learning vocabulary using two massive online resources: you will not blink. In D. Nunan & J. C. Richards (Eds.), *Language learning beyond the classroom* (pp. 65–74). Routledge.

Davaille, F. (2008). Quand une langue dominée tente de devenir dominante : la question du joual au Québec dans les années 1960-1970. In G. Dallez, L. Villard, & N. Ballier (Eds.), *Langues dominantes, langues dominées : à la mémoire de Gérard Dallez* (pp. 397–410). Publications des universités de Rouen et du Havre.

Day, R., & Robb, T. (2014). Extensive Reading. In D. Nunan & J. C. Richards (Eds.), *Language learning beyond the classroom* (pp. 3–12). Routledge.

Dörnyei, Z., & Taguchi, T. (2009). *Questionnaires in second language research: Construction, administration, and processing* (2nd ed., Second language acquisition research. Monographs on research methodology).

Education Act, Revised Statutes of Quebec (2022, c I-13.3). https://www.legisquebec.gouv.qc.ca/en/document/cs/I-13.3%20/

Ewert, D. E. (2020). Extensive Reading for Statistical Learning. In R. W. Sadler & M. Dressman (Eds.), *The handbook of informal language learning* (pp. 395–404). Wiley-Blackwell.

Fallon, G., & Rublik, N. (2011). Second-Language Education Policy in Quebec: A Critical Analysis of the Policy of English as a Compulsory Subject at the Early Primary Level in Quebec. *TESL Canada Journal*, *28*(2), 90. https://doi.org/10.18806/tesl.v28i2.1074

Faul, F., Erdfelder, E., Lang, A-G., & Buchner, A. (2007). GPower 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39*(2), 175-191.

Field, A. P. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). SAGE.

Government of Canada. (2018). *Investing in Our Future: Action Plan for Official Languages*. https://www.canada.ca/en/canadian-heritage/services/official-languages-bilingualism/official-languages-action-plan/2018-2023.html

Hanes, A. (2022, May 10). Hanes: Last chance to speak out against Bill 96. *Montreal Gazette*. https://montrealgazette.com/opinion/columnists/allison-hanes-time-for-anglophones-to-come-together?comments=&__vfz=medium%3Dstandalone_content_recirculation_with_ads

Hopper, T. (2022, May 11). FIRST READING: Quebec to pass unbelievably onerous language law. *National Post*. https://nationalpost.com/news/canada/first-reading-quebec-to-pass-unbelievably-onerous-language-law

Horst, M. (2013). Mainstreaming second language vocabulary acquisition. *Canadian Journal of Applied Linguistics*, *16*(1), 171–188. https://journals.lib.unb.ca/index.php/CJAL/article/view/21299

Institut de la statistique du Québec. (2009). *Statistiques principales de la culture et des communications au Québec*. https://bdso.gouv.qc.ca/docs-ken/multimedia/PB01691FR_culturecommunication2009A00F01.pdf

Journet, Paul. 2010. Le français? Bof ... *La Presse*, 13 March. https://www.lapresse.ca/arts/dossiers/les-jeunes-et-la-culture/201003/11/01-4259646-le-francais-bof.php

Kao, Tung-an, & Oxford, Rebecca L. (2014). Learning language through music: A strategy for building inspiration and motivation. *System (Linköping),* 43(1), 114-120. https://doi.org/10.1016/j.system.2014.01.003

Kavanagh, F. (2016). A—B—C, it's easy as do—re—mi! Notes from the *Tune into English Roadshow*, a touring didactic sing-along show. In Fonseca-Mora, M., & Gant, M. (Eds.), *Melodies, rhythm and cognition in foreign language learning* (pp. 174-185). Newcastle upon Tyne, England: Cambridge Scholars Publishing.

Kerekes, E. (2014). Using songs and lyrics in out-of-class learning. In D. Nunan & J. C. Richards (Eds.), *Language learning beyond the classroom* (pp. 33–42). Routledge.

Kircher, R. (2014). Thirty Years After Bill 101: A Contemporary Perspective on Attitudes Towards English and French in Montreal. *Canadian Journal of Applied Linguistics*, *17*(1), 20–50.

Kusyk, M. (2020). Informal English Learning in France. In R. W. Sadler & M. Dressman (Eds.), *The handbook of informal language learning* (pp. 333–348). Wiley-Blackwell.

Kusyk, M., & Sockett, G. (2012). From informal resource usage to incidental language acquisition: language uptake from online television viewing in English. *Groupe d'étude et de Recherche En Anglais de Spécialité*, *62*(62), 45–65. https://doi.org/10.4000/asp.3104

Laine, E. J. (1995). *Learning second national languages: a research report*. P. Lang.

Lamarre, P. (2012). English education in Quebec: Issues and challenges. *Ottawa: Canadian Heritage*, 175-214.

Laufer, B., & Nation, P. (1999). A vocabulary-size test of controlled productive ability. *Language Testing*, *16*(1), 36–55. https://doi.org/10.1191/026553299672614616

Leduc, L. (2022, April 28). Vers un programme optionnel d'anglais enrichi en 6e année. *La Presse*. https://www.lapresse.ca/actualites/education/2022-04-28/enseignement-de-la-langue-seconde/vers-un-programme-optionnel-d-anglais-enrichi-en-6e-annee.php

Levitt, J. (1970). *Henri bourassa on imperialism and biculturalism, 1900-1918*. Copp Clark Pub.

Lin, P. M. S., & Siyanova-Chanturia, A. (2014). Internet television for L2 vocabulary learning. In D. Nunan & J. C. Richards (Eds.), *Language learning beyond the classroom* (pp. 149–158). Routledge.

Ludke, K. M. (2020). Songs and Music. In R. W. Sadler & M. Dressman (Eds.), *The handbook of informal language learning* (pp. 203–214). Wiley-Blackwell.

Lund, R. J. (1991). A comparison of second language listening and reading comprehension. *The Modern Language Journal (Boulder, Colo.), 75*(2), 196-204. https://doi.org/10.1111/j.1540-4781.1991.tb05350.x

Macintyre, P. D., Baker, S. C., & Sparling, H. (2017). Heritage Passions, Heritage Convictions, and the Rooted L2 Self: Music and Gaelic Language Learning in Cape Breton, Nova Scotia. *The Modern Language Journal (Boulder, Colo.), 101*(3), 501-516. https://doi.org/10.1111/modl.12417

Marois, P. (2008, February 13). Non à un Québec bilingue. *Le Devoir*. https://www.ledevoir.com/non-classe/175865/non-a-un-quebec-bilingue

McKenna, K. (2021, May 13). Quebec seeks to change Canadian Constitution, make sweeping changes to language laws with new bill. *CBC News*. https://www.cbc.ca/amp/1.6023532

Milton, J. (2008). Vocabulary uptake from informal learning tasks. *Language Learning Journal, 36*(2), 227-237. https://doi.org/10.1080/09571730802390742

Muñoz, C., Cadierno, T., & Casas, I. (2018). Different Starting Points for English Language Learning: A Comparative Study of Danish and Spanish Young Learners. *Language Learning*, *68*(4), 1076–1109. https://doi.org/10.1111/lang.12309

Nation, I. S. P. (1983). Testing and teaching vocabulary. *Guidelines*, *5*(1), 12–25.

Nation, I. S. P. (2006). How large a vocabulary is needed for reading and listening? *Canadian Modern Language Review*, *63*(1), 59–82. https://doi.org/10.3138/cmlr.63.1.59

Nation, P. (2012). *The Vocabulary Size Test*. https://www.wgtn.ac.nz/lals/resources/paul-nations-resources/vocabulary-tests

Nation, I. S. P., & Beglar, D. (2007). A vocabulary size test. *The Language Teacher*, 31(7), 9–13. https://www.wgtn.ac.nz/lals/resources/paul-nations-resources/paul-nations-publications/publications/documents/2007-Beglar-TLT.pdf

Neuman, S. B., & Koskinen, P. (1992). Captioned Television as Comprehensible Input - Effects of Incidental Word Learning from Context for Language Minority Students. *Reading Research Quarterly, 27*(1), 94–106. https://doi.org/10.2307/747835

Newman, T. L. (2022, April 28). Terry L. Newman: Bilingualism for me, but not for thee, "Father Legault" tells Quebec's youth. *National Post*. https://nationalpost.com/opinion/terry-l-newman-bilingualism-for-me-but-not-for-thee-father-legault-tells-quebecs-youth

Oakes, L. (2010). Lambs to the slaughter? Young francophones and the role of English in Quebec today. *Multilingua - Journal of Cross-Cultural and Interlanguage Communication, 29*(3–4), 265–288. https://doi.org/10.1515/mult.2010.013

Oakes, L. (2015). *Parrots, pasta and the politics of language: Making the ethical case for language policy in Quebec* (Plenary lecture (David and Mary Eccles Centre for American Studies); 9th). London.

Ontario Ministry of Education. (2013). *The Ontario Curriculum, French as a Second Language* [Program of studies]. http://www.edu.gov.on.ca/eng/curriculum/elementary/fsl18-2013curr.pdf

Pigada, M., & Schmitt, N. (2006). Vocabulary Acquisition from Extensive Reading: A Case Study. *Reading in a Foreign Language*, *18*(1), 1–28.

Reynolds, C. (2022, May 8). Les entreprises craignent les effets du projet de loi sur la langue. *Le Soleil.* https://www.lesoleil.com/2022/05/08/les-entreprises-craignent-les-effets-du-projet-de-loi-sur-la-langue-3235d7c47a6cb2e852cad04129b0a741

Rioux, Christian. 2008. Full bilingue! *Le Devoir*, 15 February. https://www.ledevoir.com/opinion/chroniques/176220/full-bilingue

Rioux, Christian. 2009. Full bilingue. *Le Devoir*, 3 July. https://www.ledevoir.com/opinion/chroniques/257630/full-bilingue

Rodgers, M. P. H., & Webb, S. (2011). Narrow Viewing: The Vocabulary in Related Television Programs. *TESOL Quarterly, 45*(4), 689–717. https://doi.org/10.5054/tq.2011.268062

Sarkar, M., & Weiner, L. (2006). Multilingual Codeswitching in Quebec Rap: Poetry, Pragmatics and Performativity. *International Journal of Multilingualism*, *3*(3), 173–192. https://doi.org/10.2167/ijm030.0

Schmitt, N. (2008). Review article: Instructed second language vocabulary learning. In *Language Teaching Research* (Vol. 12, Issue 3, pp. 329–363). https://doi.org/10.1177/1362168808089921

Schmitt, N., Schmitt, D., & Clapham, C. (2001). Developing and exploring the behaviour of two new versions of the Vocabulary Levels Test. *Language Testing*, *18*(1), 55–88.

Séror, J., & Weinberg, A. (2021). Students' transition from secondary school French programs into university level French immersion. *Canadian Journal of Applied Linguistics, 24*(1), 159-180. https://doi.org/10.37213/cjal.2021.29533

Sockett, G. (2014). *The online informal learning of English*. Basingstoke: Palgrave Macmillan.

Spolsky, B. (2004). *Language policy*. Cambridge University Press.

Statistics Canada. (2017a). *An increasingly diverse linguistic profile: Corrected data from the 2016 Census*. https://www150.statcan.gc.ca/n1/daily-quotidien/170817/dq170817a-eng.htm?indid=17282-1&indgeo=0

Statistics Canada. (2017b). *Québec, V [Census subdivision], Quebec and Quebec [Province]* (table). *Census Profile*. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E

Statistics Canada. (2017c). *Ontario [Province] and Canada [Country]* (table). *Census Profile*. 2016 Census. Statistics Canada Catalogue no. 98-316-X2016001. https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/index.cfm?Lang=E

Sterzuk, A., & Shin, H. (2021). English monolingualism in canada: A critical analysis of language ideologies. In Lanvers, U., Thompson, A., & East, M. (Eds.), *Language learning in anglophone countries* (pp. 53-70). Cham, Switzerland: Palgrave MacMillan. https://doi.org/10.1007/978-3-030-56654-8_4

Stoeckel, T., McLean, S., & Nation, P. (2021). Limitations of Size and Levels Tests of Written Receptive Vocabulary Knowledge. *Studies in Second Language Acquisition*, *43*(1), 181–203. https://doi.org/10.1017/S027226312000025X

Sundqvist, P., & Wikström, P. (2015). Out-of-school digital gameplay and in-school L2 English vocabulary outcomes. *System (Linköping)*, *51*, 65–76. https://doi.org/10.1016/j.system.2015.04.001

The Canadian Encyclopedia. (2022). Notwithstanding Clause (Plain-Language Summary). In *The Canadian Encyclopedia*. https://www.thecanadianencyclopedia.ca/en/article/notwithstanding-clause-plain-language-summary

Toffoli, D., & Sockett, G. (2014). English language music: Does it help with learning? *Recherche et Pratiques Pédagogiques En Langues de Spécialité*, *XXXIII* (Vol. XXXIII N° 2), 192–209. https://doi.org/10.4000/apliut.4450

Unsworth, S. (2013). Assessing the role of current and cumulative exposure in simultaneous bilingual acquisition: The case of Dutch gender. *Bilingualism (Cambridge, England)*, *16*(1), 86–110. https://doi.org/10.1017/S1366728912000284

Vidal, K. (2011). A Comparison of the Effects of Reading and Listening on Incidental Vocabulary Acquisition. *Language Learning*, *61*(1), 219–258. https://doi.org/10.1111/j.1467-9922.2010.00593.x

Webb, S. (2010). A corpus driven study of the potential for vocabulary learning through watching movies. *International Journal of Corpus Linguistics, 15*(4), 497-519. https://doi.org/10.1075/ijcl.15.4.03web

Webb, S. (2014). Extensive viewing: language learning through watching television. In D. Nunan & J. C. Richards (Eds.), *Language learning beyond the classroom* (pp. 159–168). Routledge.

Webb, S., & Rodgers, M. P. H. (2009). Vocabulary Demands of Television Programs. Language Learning, 59(2), 335–366. https://doi.org/10.1111/j.1467-9922.2009.00509.x

Webb, S., Sasao, Y., & Ballance, O. (2017). The updated Vocabulary Levels Test: Developing and validating two new forms of the VLT. *ITL - International Journal of Applied Linguistics, 168*(1), 34-70. https://doi.org/10.1075/itl.168.1.02web

Williams, C. H. (2008). *Linguistic Minorities in Democratic Context*. Palgrave Macmillan.

Appendix A

Vocabulary Size Test

SEE: They saw it.
- cut
- waited for
- looked at
- started

TIME: They have a lot of time.
- money
- food
- hours
- friends

PERIOD: It was a difficult period.
- question
- time
- thing to do
- book

FIGURE: Is this the right figure?
- answer
- place
- time
- number

POOR: We are poor.
- have no money
- feel happy
- are very interested
- do not like to work hard

DRIVE: He drives fast.
- swims
- learns
- throws balls
- uses a car

JUMP: She tried to jump.
- lie on top of the water
- get off the ground suddenly
- stop the car at the edge of the road
- move very fast

SHOE: Where is your shoe?
- the person who looks after you
- the thing you keep your money in
- the thing you use for writing
- the thing you wear on your foot

STANDARD: Her standards are very high.
- the bits at the back under her shoes
- the marks she gets in school
- the money she asks for
- the levels she reaches in everything

BASIS: This was used as the basis.
- answer
- place to take a rest
- next step
- main part

MAINTAIN: Can they maintain it?
- keep it as it is
- make it larger
- get a better one than it
- get it

STONE: He sat on a stone.
- hard thing
- kind of chair
- soft thing on the floor
- part of a tree

UPSET: I am upset.
- tired
- famous
- rich
- unhappy

DRAWER: The drawer was empty.
- sliding box
- place where cars are kept
- cupboard to keep things cold
- animal house

PATIENCE: He has no patience.
- will not wait happily
- has no free time
- has no faith
- does not know what is fair

NIL: His mark for that question was nil.
- very bad
- nothing
- very good
- in the middle

PUB: They went to the pub.
- place where people drink and talk
- place that looks after money
- large building with many shops
- building for swimming

CIRCLE: Make a circle.
- rough picture
- space with nothing in it
- round shape
- large hole

MICROPHONE: Please use the microphone.
- machine for making food hot
- machine that makes sounds louder
- machine that makes things look bigger
- small telephone that can be carried around

PRO: He's a pro.
- someone who is employed to find out important secrets
- a stupid person
- someone who writes for a newspaper
- someone who is paid for playing sport etc.

SOLDIER: He is a soldier.
- person in a business
- student
- person who uses metal
- person in the army

RESTORE: It has been restored.
- said again
- given to a different person
- given a lower price
- made like new again

JUG: He was holding a jug.
- a container for pouring liquids
- an informal discussion
- a soft cap
- a weapon that explodes

SCRUB: He is scrubbing it.
- cutting shallow lines into it
- repairing it
- rubbing it hard to clean it
- drawing simple pictures of it

DINOSAUR: The children were pretending to be dinosaurs.
- robbers who work at sea
- very small creatures with human form but with wings
- large creatures with wings that breathe fire
- animals that lived a long time ago

STRAP: He broke the strap.
- promise
- top cover
- shallow dish for food
- strip of material for holding things together

PAVE: It was paved.
- prevented from going through
- divided
- given gold edges
- covered with a hard surface

DASH: They dashed over it.
- moved quickly
- moved slowly
- fought
- looked quickly

ROVE: He couldn't stop roving.
- getting drunk
- travelling around
- making a musical sound through closed lips
- working hard

LONESOME: He felt lonesome.
- ungrateful
- very tired
- lonely
- full of energy

COMPOUND: They made a new compound.
- agreement
- thing made of two or more parts
- group of people forming a business
- guess based on past experience

LATTER: I agree with the latter.
- man from the church
- reason given
- last one
- answer

CANDID: Please be candid.
- be careful
- show sympathy
- show fairness to both sides
- say what you really think

TUMMY: Look at my tummy.
- cloth to cover the head
- stomach
- small furry animal
- thumb

QUIZ: We made a quiz.
- thing to hold arrows
- serious mistake
- set of questions
- box for birds to nest in

INPUT: We need more input
- information, power, etc. put into something
- workers
- artificial filling for a hole in wood
- money

CRAB: Do you like crabs?
- sea creatures that walk sideways
- very thin small cakes
- tight, hard collars
- large black insects that sing at night

VOCABULARY: You will need more vocabulary.
- words
- skill
- money
- guns

REMEDY: We found a good remedy.
- way to fix a problem
- place to eat in public
- way to prepare food
- rule about numbers

ALLEGE: They alleged it.
- claimed it without proof
- stole the ideas for it from someone else
- provided facts to prove it
- argued against the facts that supported it

DEFICIT: The company had a large deficit.
- spent a lot more money than it earned
- went down a lot in value
- had a plan for its spending that used a lot of money
- had a lot of money in the bank

WEEP: He wept.
- finished his course
- cried
- died
- worried

NUN: We saw a nun.
- long thin creature that lives in the earth
- terrible accident
- woman following a strict religious life
- unexplained bright light in the sky

HAUNT: The house is haunted.
- full of ornaments
- rented
- empty
- full of ghosts

COMPOST: We need some compost.
- strong support
- help to feel better
- hard stuff made of stones and sand stuck together
- rotted plant material

CUBE: I need one more cube.
- sharp thing used for joining things
- solid square block
- tall cup with no saucer
- piece of stiff paper folded in half

MINIATURE: It is a miniature.
- a very small thing of its kind
- an instrument to look at small objects
- a very small living creature
- a small line to join letters in handwriting

PEEL: Shall I peel it?
- let it sit in water for a long time
- take the skin off it
- make it white
- cut it into thin pieces

FRACTURE: They found a fracture.
- break
- small piece
- short coat
- rare jewel

BACTERIUM: They didn't find a single bacterium.
- small living thing causing disease
- plant with red or orange flowers
- animal that carries water on its back
- thing that has been stolen and sold to a shop

DEVIOUS: Your plans are devious.
- tricky
- well-developed
- not well thought out
- more expensive than necessary

PREMIER: The premier spoke for an hour.
- person who works in a law court
- university teacher
- adventurer
- head of the government

BUTLER: They have a butler.
- man servant
- machine for cutting up trees
- private teacher
- cool dark room under the house

ACCESSORY: They gave us some accessories.
- papers allowing us to enter a country
- official orders
- ideas to choose between
- extra pieces

THRESHOLD: They raised the threshold.
- flag
- point or line where something changes
- roof inside a building
- cost of borrowing money

THESIS: She has completed her thesis.
- long written report of study carried out for a university degree
- talk given by a judge at the end of a trial
- first year of employment after becoming a teacher
- extended course of hospital treatment

STRANGLE: He strangled her.
- killed her by pressing her throat
- gave her all the things she wanted
- took her away by force
- admired her greatly

CAVALIER: He treated her in a cavalier manner.
- without care
- politely
- awkwardly
- as a brother would

MALIGN: His malign influence is still felt.
- evil
- good
- very important
- secret

VEER: The car veered.
- went suddenly in another direction
- moved shakily
- made a very loud noise
- slid sideways without the wheels turning

OLIVE: We bought olives.
- oily fruit
- scented pink or red flowers
- men's clothes for swimming
- tools for digging up weeds

QUILT: They made a quilt.
- statement about who should get their property when they die
- firm agreement
- thick warm cover for a bed
- feather pen

STEALTH: They did it by stealth.
- spending a large amount of money
- hurting someone so much that they agreed to their demands
- moving secretly with extreme care and quietness
- taking no notice of problems they met

SHUDDER: The boy shuddered.
- spoke with a low voice
- almost fell
- shook
- called out loudly

BRISTLE: The bristles are too hard.
- questions
- short stiff hairs
- folding beds
- bottoms of the shoes

BLOC: They have joined this bloc.
- musical group
- band of thieves
- small group of soldiers who are sent ahead of others
- group of countries sharing a purpose

DEMOGRAPHY: This book is about demography.
- the study of patterns of land use
- the study of the use of pictures to show facts about numbers
- the study of the movement of water
- the study of population

GIMMICK: That's a good gimmick.
- thing for standing on to work high above the ground
- small thing with pockets to hold money
- attention-getting action or thing
- clever plan or trick

AZALEA: This azalea is very pretty.
- small tree with many flowers growing in groups
- light material made from natural threads
- long piece of material worn by women in India
- sea shell shaped like a fan

YOGHURT: This yoghurt is disgusting.
- grey mud found at the bottom of rivers
- unhealthy, open sore
- thick, soured milk, often with sugar and flavouring
- large purple fruit with soft flesh

ERRATIC: He was erratic.
- without fault
- very bad
- very polite
- unsteady

PALETTE: He lost his palette.
- basket for carrying fish
- wish to eat food
- young female companion
- artist's board for mixing paints

NULL: His influence was null.
- had good results
- was unhelpful
- had no effect
- was long-lasting

KINDERGARTEN: This is a good kindergarten.
- activity that allows you to forget your worries
- place of learning for children too young for school
- strong, deep bag carried on the back
- place where you may borrow books

ECLIPSE: There was an eclipse.
- a strong wind
- a loud noise of something hitting the water
- The killing of a large number of people
- The sun hidden by a planet

MARROW: This is the marrow.
- symbol that brings good luck to a team
- soft centre of a bone
- control for guiding a plane
- increase in salary

LOCUST: There were hundreds of locusts.
- insects with wings
- unpaid helpers
- people who do not eat meat
- brightly coloured wild flowers

AUTHENTIC: It is authentic.
- real
- very noisy
- old
- like a desert

CABARET: We saw the cabaret.
- painting covering a whole wall
- song and dance performance
- small crawling insect
- person who is half fish, half woman

MUMBLE: He started to mumble.
- think deeply
- shake uncontrollably
- stay further behind the others
- speak in an unclear way

HALLMARK: Does it have a hallmark?
- stamp to show when to use it by
- stamp to show the quality
- mark to show it is approved by the royal family
- mark or stain to prevent copying

PURITAN: He is a puritan.
- person who likes attention
- person with strict morals
- person with a moving home
- person who hates spending money

MONOLOGUE: Now he has a monologue.
- single piece of glass to hold over his eye to help him to see better
- long turn at talking without being interrupted
- position with all the power
- picture made by joining letters together in interesting ways

WEIR: We looked at the weir.
- person who behaves strangely
- wet, muddy place with water plants
- old metal musical instrument played by blowing
- thing built across a river to control the water

WHIM: He had lots of whims.
- old gold coins
- female horses
- strange ideas with no motive
- sore red lumps

PERTURB: I was perturbed.
- made to agree
- worried
- very puzzled
- very wet

REGENT: They chose a regent.
- an irresponsible person
- a person to run a meeting for a time
- a ruler acting in place of the king
- a person to represent them

OCTOPUS: They saw an octopus.
- a large bird that hunts at night
- a ship that can go under water
- a machine that flies by means of turning blades
- a sea creature with eight legs

FEN: The story is set in the fens.
- low land partly covered by water
- a piece of high land with few trees
- a block of poor-quality houses in a city
- a time long ago

LINTEL: He painted the lintel.
- beam over the top of a door or window
- small boat used for getting to land from a big boat
- beautiful tree with spreading branches and green fruit
- board showing the scene in a theatre

AWE: They looked at the mountain with awe.
- worry
- interest
- wonder
- respect

PEASANTRY: He did a lot for the peasantry.
- local people
- place of worship
- businessmen's club
- poor farmers

EGALITARIAN: This organization is egalitarian.
- does not provide much information about itself to the public
- dislikes change
- frequently asks a court of law for a judgement
- treats everyone who works for it as if they are equal

MYSTIQUE: He has lost his mystique.
- his healthy body
- the secret way he makes other people think he has special power or skill
- the woman who has been his lover while he is married to someone else
- the hair on his top lip

UPBEAT: I'm feeling really upbeat about it.
- upset
- good
- hurt
- confused

CRANNY: We found it in the cranny!
- sale of unwanted objects
- narrow opening
- space for storing things under the roof of a house
- large wooden box

PIGTAIL: Does she have a pigtail?
- a rope of hair made by twisting bits together
- a lot of cloth hanging behind a dress
- a plant with pale pink flowers that hang down in short bunches
- a lover

CROWBAR: He used a crowbar.
- heavy iron pole with a curved end
- false name
- sharp tool for making holes in leather
- light metal walking stick

RUCK: He got hurt in the ruck.
- hollow between the stomach and the top of the leg
- pushing and shoving
- group of players gathered round the ball in some ball games
- race across a field of snow

LECTERN: He stood at the lectern.
- desk to hold a book at a height for reading
- table or block used for church sacrifices
- place where you buy drinks
- very edge

EXCRETE: This was excreted recently.
- pushed or sent out
- made clear
- discovered by a science experiment
- put on a list of illegal things

MUSSEL: They bought mussels.
- small glass balls for playing a game
- shellfish
- large purple fruits
- pieces of soft paper to keep the clothes clean when eating

YOGA: She has started yoga.
- handwork done by knotting thread
- a form of exercise for body and mind
- a game where a cork stuck with feathers is hit between two players
- a type of dance from eastern countries

COUNTERCLAIM: They made a counterclaim.
- a demand made by one side in a law case to match the other side's demand
- a request for a shop to take back things with faults
- an agreement between two companies to exchange work
- a top cover for a bed

PUMA: They saw a puma.
- small house made of mud bricks
- tree from hot, dry countries
- very strong wind that sucks up anything in its path
- large wild cat

PALLOR: His pallor caused them concern.
- his unusually high temperature
- his lack of interest in anything
- his group of friends
- the paleness of his skin

APERITIF: She had an aperitif.
- a long chair for lying on with just one place to rest an arm
- a private singing teacher
- a large hat with tall feathers
- a drink taken before a meal

HUTCH: Please clean the hutch.
- thing with metal bars to keep dirt out of water pipes
- space in the back of a car for bags
- metal piece in the middle of a bicycle wheel
- cage for small animals

EMIR: We saw the emir.
- bird with long curved tail feathers
- woman who cares for other people's children in Eastern countries
- Middle Eastern chief with power in his land
- house made from blocks of ice

HESSIAN: She bought some hessian.
- oily pinkish fish
- stuff producing a happy state of mind
- coarse cloth
- strong-tasting root for flavouring food

HAZE: We looked through the haze.
- small round window in a ship
- unclear air
- strips of wood or plastic to cover a window
- list of names

SPLEEN: His spleen was damaged.
- knee bone
- organ found near the stomach
- pipe taking waste water from a house
- respect for himself

SOLILOQUY: That was an excellent soliloquy!
- song for six people
- short clever saying with a deep meaning
- entertainment using lights and music
- speech in the theatre by a character who is alone

REPTILE: She looked at the reptile.
- old hand-written book
- animal with cold blood and a hard outside
- person who sells things by knocking on doors
- picture made by sticking many small pieces of different colours together

ALUM: This contains alum.
- a poisonous substance from a common plant
- a soft material made of artificial threads
- a tobacco powder once put in the nose
- a chemical compound usually involving aluminium

REFECTORY: We met in the refectory.
- room for eating
- office where legal papers can be signed
- room for several people to sleep in
- dome with glass walls for growing plants

CAFFEINE: This contains a lot of caffeine.
- a substance that makes you sleepy
- threads from very tough leaves
- ideas that are not correct
- a substance that makes you excited

IMPALE: He nearly got impaled.
- charged with a serious offence
- put in prison
- stuck through with a sharp instrument
- involved in a dispute

COVEN: She is the leader of a coven.
- a small singing group
- a business that is owned by the workers
- a secret society
- a group of church women who follow a strict religious life

TRILL: He practised the trill.
- ornament in a piece of music
- type of stringed instrument
- way of throwing a ball
- dance step of turning round very fast on the toes

UBIQUITOUS: Many weeds are ubiquitous.
- are difficult to get rid of
- have long, strong roots
- are found in most countries
- die away in the winter

TALON: Just look at those talons!
- high points of mountains
- sharp hooks on the feet of a hunting bird
- heavy metal coats to protect against weapons
- people who make fools of themselves without realizing it

ROUBLE: He had a lot of roubles.
- very precious red stones
- distant members of his family
- Russian money
- moral or other difficulties in the mind

JOVIAL: He was very jovial.
- low on the social scale
- likely to criticize others
- full of fun
- friendly

COMMUNIQUE: I saw their communiqué .
- critical report about an organization
- garden owned by many members of a community
- printed material used for advertising
- official announcement

PLANKTON: We saw a lot of plankton.
- poisonous weeds that spread very quickly
- very small plants or animals found in water
- trees producing hard wood
- grey clay that often causes land to slip

SKYLARK: We watched a skylark.
- show with aeroplanes flying in patterns
- man-made object going round the earth
- person who does funny tricks
- small bird that flies high as it sings

BEAGLE: He owns two beagles.
- fast cars with roofs that fold down
- large guns that can shoot many people quickly
- small dogs with long ears
- houses built at holiday places

ATOLL: The atoll was beautiful.
- low island made of coral round a sea-water lake
- work of art created by weaving pictures from fine thread
- small crown with many precious jewels worn in the evening by women
- place where a river flows through a narrow place full of large rocks

DIDACTIC: The story is very didactic.
- tries hard to teach something
- is very difficult to believe
- deals with exciting actions
- is written in a way which makes the reader unsure of the meaning

---

CANONICAL: These are canonical examples.
- examples which break the usual rules
- examples taken from a religious book
- regular and widely accepted examples
- examples discovered very recently

ATOP: He was atop the hill.
- at the bottom of
- at the top of
- on this side of
- on the far side of

MARSUPIAL: It is a marsupial.
- an animal with hard feet
- a plant that grows for several years
- a plant with flowers that turn to face the sun
- an animal with a pocket for babies

AUGUR: It augured well.
- promised good things for the future
- agreed well with what was expected
- had a colour that looked good with something else
- rang with a clear, beautiful sound

BAWDY: It was very bawdy.
- unpredictable
- enjoyable
- rushed
- rude

GAUCHE: He was gauche.
- talkative
- flexible
- awkward
- determined

THESAURUS: She used a thesaurus.
- a kind of dictionary
- a chemical compound
- a special way of speaking
- an injection just under the skin

ERYTHROCYTE: It is an erythrocyte.
- a medicine to reduce pain
- a red part of the blood
- a reddish white metal
- a member of the whale family

CORDILLERA: They were stopped by the cordillera.

- a special law
- an armed ship
- a line of mountains
- the eldest son of the king

LIMPID: He looked into her limpid eyes.

- clear
- tearful
- deep brown
- beautiful

Appendix B

Media Engagement Questionnaire

The following questionnaire has been translated from the French version used in the present study.

Now we would like to ask you a few questions about your media consumption. We would like to know how much English media you consume and what efforts you make to understand them. Please indicate how many hours you spend engaging in each activity in an average week. If you find this difficult, it may help to consider what you have done in the past week. If you do not engage in an activity, please write "0" in the box provided.

Next, let us know how you engage in each activity, keeping in mind the descriptions provided. We recognize that it may be difficult to answer these questions, but please do your best.

Here is Mathieu. He likes English media. At the beginning of each section, we will give you a description of which media Mathieu engages with, and in what way. We hope that this will help you to respond to the questions more easily.

Part I: Music

First, we would like to know about how you listen to music in English. This includes music you stream, listen to on a CD or record, or hear at a concert or other event. If you listen to music in the background while doing something else, like working, cleaning, or taking the bus, please also include this in your calculation.

Mathieu listens to music for 45 minutes every morning and evening during his commute. He often listens to music in the background while he works, for around 4 hours per day. He also goes to a concert around once a month. Around half of his favourite music is in English. In total, Mathieu listens to music in English for around 20 hours per week.

I listen to music in English for _____ hours per week.

Sometimes, when people listen to music, they look up and learn the lyrics, look up words they don't know, or rewind to listen to the same passage again so they can better understand it.

When I listen to music in English, I do activities like these

- Never
- Rarely
- Sometimes
- Often
- Very often

My favourite English band/singer is _____

Part II: TV and movies

Next, we would like to know about how you watch TV shows and movies in English. This includes those that you watch on television, on a streaming platform, or at the theatre. This does not include YouTube or other social media.

Mathieu watches TV for two hours every evening. He watches shows in English around two evenings per week. Some weeks, he goes to the theatre. He prefers watching movies in the original language, so he often sees movies in English. In total, Mathieu watches TV and films in English for around 5 hours per week.

I watch TV in English for _____ hours per week.

I watch movies in English for _____ hours per week.

Sometimes, when people watch TV and movies, they read the subtitles, look up words they don't know, or watch the same passage multiple times so they can better understand it.

Quand je regarde la télévision et les films en anglais, j'ai des habitudes comme celles-ci

- Never
- Rarely
- Sometimes
- Often
- Very often

Some people like to turn on subtitles when they watch TV or movies in English.

When I watch TV or movies in English, I put on French subtitles

- Never
- Rarely
- Sometimes
- Usually
- Always
- Not applicable

When I watch TV or movies in English, I put on English subtitles

- Never
- Rarely
- Sometimes
- Usually
- Always
- Not applicable

My favourite TV show or film in English is _____

Part III: Reading

Next, we would like to know about your reading habits in English. You may read books, newspapers, or magazines. You may also read online on blogs and websites such as Wikipedia, text within online games, or text-based social media, such as Twitter. Video-based social media, such as Instagram, YouTube, and TikTok, will be included in another section.

Mathieu regularly reads news articles in English on his phone. He consults websites in English at work and at home for pleasure, when French is not available. He does not read books in English. In total, Mathieu reads in English for around 10 hours per week.

I read books in English for _____ hours per week.

I read newspapers, magazines, or periodicals (printed or digital) in English for _____ hours per week.

I read blogs, websites, text within online games, or text-based social media in English for _____ hours per week.

I read other writing in English for _____ hours per week.

Sometimes, when people read, they look up words they do not know or reread the same passages to better understand the writer's meaning.
When I read in English, I do activities like these

- Never
- Rarely
- Sometimes
- Often
- Very often

My favourite thing to read in English is _____

Part IV: Video-based social media

In this section, we would like to know about how you watch videos in English on social media. This includes Youtube, Instagram reels, TikToks, and videos on other platforms. This also includes live streaming.

Mathieu spends half an hour on social media every morning and evening. A large portion of content is in English. He also likes watching videos about science and world history on popular American YouTube channels. He does this for a few hours each week. In total, Mathieu watches videos in English on social media for about 6.5 hours per week.

I watch or stream videos on Youtube in English for _____ hours per week.

I watch or stream videos on Instagram in English for _____ hours per week.

I watch or stream videos on TikTok in English for _____ hours per week.

I play video games with English audio for _____ hours per week.

I watch or stream videos in English on other social media platforms for _____ hours per week.

Sometimes, when people watch or stream videos, they read the subtitles, look up words they don't know, or read the comments section to better understand the content.

When I watch or stream videos in English on social media, I do activities like these

- Never
- Rarely
- Sometimes
- Often
- Very often

My favourite social media account (e.g., YouTube channel) in English is

_____

Part V: Spoken-word media

Finally, we would like to know about how you listen to spoken media in English, including podcasts, audiobooks, and radio programs. This does not include music that you might hear on the radio.

Mathieu listens to podcasts while he cooks and cleans. He generally listens to podcasts in French. From time to time, he listens to a podcast in English. In total, Mathieu listens to spoken-word media in English for about one hour per week.

I listen to podcasts in English for _____ hours per week.

I listen to audiobooks in English for _____ hours per week.

I listen to the radio in English for _____ hours per week.

I listen to other spoken media in English for _____ hours per week.

Sometimes, when people listen to spoken media, they read the subtitles, look up words they don't know, or listen to the same passage multiple times so they can better understand it.

When I listen to spoken media in English, I do activities like these

- Never
- Rarely
- Sometimes
- Often
- Very often

My favourite podcast, audiobook or radio program in English is _____

Part VI: Demographic data

The last few questions are demographic and should be answered Yes/No or by filling in the blank.

1. I am currently enrolled in an English language or literature course at school, at work, or privately.
   - Yes
   - No

2. I am currently enrolled in a course that is taught in English.
   - Yes
   - No

3. I am currently studying English independently.
   - Yes
   - No

4. I have spent three or more months living in an English-speaking environment.
   - Yes
   - No

4. b. If you responded “Yes” to question 4, please specify: _____

5. I speak English regularly with my friends or family.
   - Yes
   - No

6. I speak English regularly in my workplace.
   - Yes
   - No
   - Not applicable

7. I attended an English immersion program (or similar) during secondary school.
   - Yes
   - No

8. I attended CÉGEP in English.
   - Yes
   - No

9. My first language is French.
   - Yes
   - No

10. Please indicate the calendar year in which you last formally studied English (i.e. in school, CÉGEP or university, at work, or elsewhere): _____

11. Please indicate which CÉGEP(s) and/or university(ies) you have attended:
_____

12. Please indicate the highest level of education you have completed.
_____

13. What is your age in years? _____

14. What is your gender?
   - Man
   - Woman
   - Non-binary/third gender
   - Je préfère ne pas le dire

Appendix C

Recruitment Poster

Vous êtes jeune adulte québécois ?
Vous consommez des médias en anglais ?
Participez à notre étude !

Des chercheurs de l'Université d'Oxford mènent une étude sur l'utilisation des médias en anglais (p. ex., télévision, musique, livres) par les jeunes adultes québécois. Comme de nombreux jeunes québécois consomment des médias anglophones, il s'agit d'un domaine de recherche très intéressant qui permettra de mieux comprendre comment les francophones améliorent ou maintiennent leur niveau d'anglais à l'extérieur du contexte scolaire.

Nous recherchons des volontaires francophones âgés de 18 à 30 ans qui fréquentent présentement ou ont précédemment fréquenté un cégep et/ou une université au Québec pour remplir un court test linguistique et un questionnaire sur l'utilisation des médias. Les tâches seront effectuées entièrement en ligne et dureront entre 30 et 45 minutes. Aucune connaissance de base n'est requise. Les participants auront la chance de gagner l'une des quatre cartes-cadeaux Tim Horton's de 25 $.

Vous **ne devez pas participer à cette étude** si vous étudiez présentement l'anglais ou si vous avez passé plus de 3 mois à vivre dans un environnement anglophone.

Si vous avez des questions à propos de cette étude, veuillez envoyer un courriel à emma.lawrence@education.ox.ac.uk.

Si vous souhaitez participer, veuillez scanner le code QR ou suivre ce lien : https://oxfordeducation.eu.qualtrics.com/jfe/form/SV_e2R9dDB4FrFnTPU.

Appendix D

Participant Information Sheet

UNIVERSITY OF OXFORD
DEPARTMENT OF EDUCATION
15 Norham Gardens, Oxford, OX2 6PY
Tel: (+44)(0)1865274024 Fax: (+44)(0)1865274027
general.enquiries@education.ox.ac.uk
www.education.ox.ac.uk

Maintien de l'anglais comme langue seconde par l'apprentissage informel chez les jeunes adultes québécois

Maintenance of L2 English through Informal Language Learning in Québécois Young Adults
CIA-22HT-011
Informations pour les participants

Informations générales

L'objectif de cette étude est d'examiner la relation entre le niveau d'anglais des jeunes adultes québécois et leur consommation de médias en anglais.

Nous apprécions votre intérêt à participer à cette tâche et à ce questionnaire en ligne. Vous avez été invité à participer car vous avez entre 18 et 25 ans, votre langue maternelle est le français, vous n'avez pas passé plus de trois mois dans un environnement anglophone et vous n'étudiez pas l'anglais de manière formelle. Veuillez lire les informations suivantes avant d'accepter de participer (si vous le souhaitez) en sélectionnant "oui" ci-dessous. Tout participant aura la possibilité de participer au tirage d'une carte-cadeau Tim Horton's.

Pour toutes questions, veuillez contacter la chercheuse (coordonnées ci-dessous). La chercheuse principale est Emma Lawrence, qui est rattachée au département d'éducation de l'université d'Oxford. Ce projet est réalisé sous la supervision de la docteur Faidra Faitaki.

Dans le cadre de cette étude, il vous sera demandé de remplir un court test de vocabulaire anglais, puis de répondre à une série de questions sur votre consommation de médias anglophones (télévision, musique, livres, etc.). Cela devrait prendre environ 45 minutes au total.

Suis-je obligé de participer ?

Non. Veuillez noter que la participation est volontaire. Si vous décidez de participer, vous pouvez vous retirer à tout moment, pour quelque raison que ce soit, avant de soumettre vos réponses, en fermant l'onglet de votre navigateur. Une fois que vous aurez soumis vos réponses au test et au questionnaire, il ne sera plus possible de vous retirer, car les données sont rendues anonymes au moment où vous les soumettez. Toutes les questions sont facultatives ou contiennent une option "préférer ne pas dire".

Seuls les participants qui auront répondu à toutes les parties de l'étude auront la possibilité de participer au tirage d'une carte-cadeau Tim Horton's.

Comment mes données seront-elles utilisées ?

Nous ne collecterons aucune donnée susceptible de vous identifier directement. Votre adresse IP ne sera pas stockée. Le logiciel avec lequel vous interagirez, Qualtrics, anonymise vos données avant de les envoyer au chercheur. Nous connaîtrons vos scores aux tests de vocabulaire et de grammaire, mais nous ne saurons pas qu'ils vous appartiennent. Seules Emma Lawrence et la docteur Faidra Faitaki auront accès à ces données anonymes.

Les réponses que vous fournirez seront stockées dans un fichier électronique protégé par un mot de passe sur les serveurs sécurisés de l'Université d'Oxford et seront principalement utilisées pour la thèse de maîtrise d'Emma Lawrence. Une fois la thèse soumise avec succès, elle sera déposée sur papier et en ligne dans les archives de l'Université d'Oxford. Les données peuvent également être utilisées dans des publications universitaires ou des présentations de conférences. Les données de recherche seront conservées pendant 3 ans après la publication ou la diffusion publique du travail.

Les données que nous recueillons auprès de vous seront transférées, stockées et/ou traitées au Royaume-Uni et au Canada. En soumettant vos données personnelles, vous acceptez ce transfert, ce stockage ou ce traitement.

Qui a examiné cette étude ?

Ce projet a été examiné par un sous-comité du comité central d'éthique de la recherche de l'université d'Oxford, qui lui a donné son accord éthique [CIA-22HT-011].

Qui dois-je contacter si j'ai un problème ou si je souhaite porter plainte ?

Si vous avez un problème concernant un aspect quelconque de cette étude, veuillez contacter Emma Lawrence ou sa superviseure, la docteur Faidra Faitaki, et nous ferons de notre mieux pour répondre à votre demande. Nous accuserons réception de votre problème dans les 10 jours ouvrables et vous indiquerons comment il sera traité.

Emma Lawrence
Étudiante en MSc en linguistique appliquée
Worcester College, Walton St, Oxford, OX1 2HB
Email: emma.lawrence@education.ox.ac.uk

Dr Faidra Faitaki
Chargée de cours en linguistique appliquée
Dept of Education, 15 Norham Gardens
Oxford, OX2 6PY
Email: faidra.faitaki@education.ox.ac.uk

Si vous n'êtes toujours pas satisfait ou si vous souhaitez déposer une plainte officielle, veuillez contacter le président du comité d'éthique de la recherche de l'université d'Oxford, qui s'efforcera de résoudre le problème dans les meilleurs délais :

Comité interdivisionnaire d'éthique de la recherche en sciences sociales et humaines
Social Sciences & Humanities Interdivisional Research Ethics Committee
Research Services, University of Oxford, Boundary Brook House, Churchill Drive
Headington, Oxford, OX3 7GB
Email: ethics@socsci.ox.ac.uk

Appendix E

CUREC Ethics Approval

From: Katharina Ereky-Stevens katharina.ereky@education.ox.ac.uk

Re: MSc Applied Linguistics for Second Language Acquisition/Applied Linguistics for Language Teaching CUREC application for Emma Lawrence.

Dear Emma,

Maintenance of L2 English through Informal Language Learning in French Canadian Young Adults

The above application has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to DREC, the proposed research has been judged as meeting appropriate ethical standards. Accordingly, approval has been granted.

Please note that any data collection involving in-person interactions with participants must have an up-to-date COVID-19 fieldwork risk assessment in place. Please refer to the current guidance issued by CUREC during the pandemic, notably COVID-19: CUREC guidance on research involving human participants, https://researchsupport.admin.ox.ac.uk/governance/ethics/coronavirus.

If relevant please also check the CUREC website for their best practice research guides, https://researchsupport.admin.ox.ac.uk/governance/ethics/resources/bpg

Good luck with your research study,

Keep well and safe,

All good wishes,

Katharina

Member, DREC

Appendix F

SPSS Output

Figure A1 Histogram of vocabulary scores

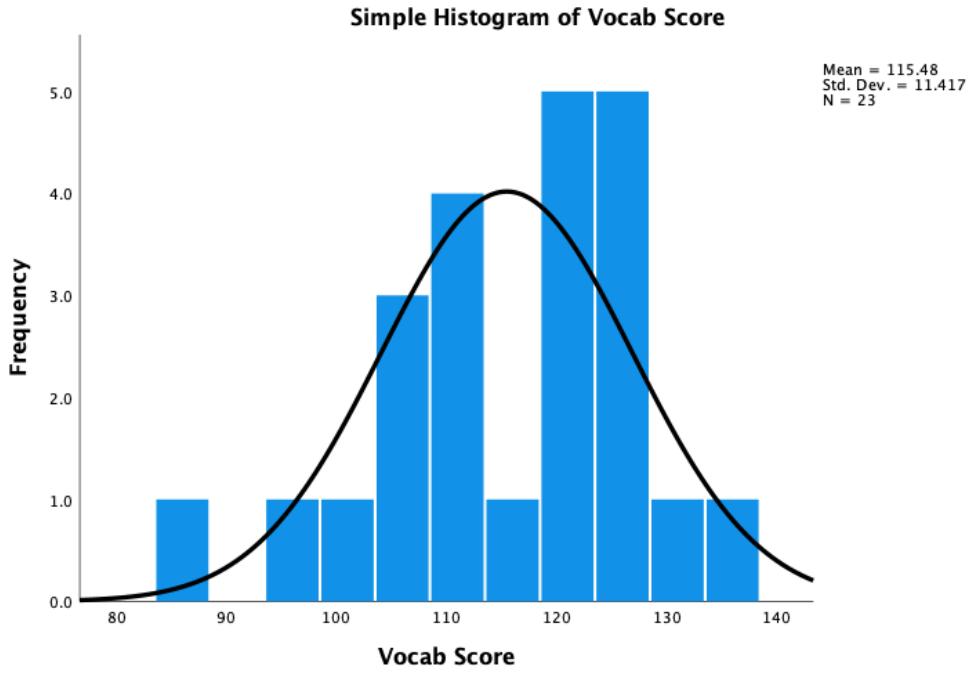


Table A1 Correlations between all variables

Correlations

		Vocab Score	Music Frequency	Music Depth	TV Frequency	TV Depth	Reading Frequency	Reading Depth
Vocab Score	Pearson Correlation	--						
	N	23						
Music Frequency	Pearson Correlation	-.064	--					
	Sig. (2-tailed)	.773						
	N	23	23					
Music Depth	Pearson Correlation	-.642**	.220	--				
	Sig. (2-tailed)	<.001	.312					
	N	23	23	23				
TV Frequency	Pearson Correlation	-.001	.166	-.009	--			
	Sig. (2-tailed)	.996	.448	.969				
	N	23	23	23	23			
TV Depth	Pearson Correlation	-.247	-.166	.254	.181	--		
	Sig. (2-tailed)	.255	.449	.242	.408			
	N	23	23	23	23	23		
Reading Frequency	Pearson Correlation	.353	.228	-.308	.099	-.442*	--	
	Sig. (2-tailed)	.099	.294	.152	.652	.035		
	N	23	23	23	23	23	23	
Reading Depth	Pearson Correlation	-.304	-.099	.373	.072	.504*	-.316	--
	Sig. (2-tailed)	.159	.652	.079	.743	.014	.142	
	N	23	23	23	23	23	23	23
Video Frequency	Pearson Correlation	.320	.263	.030	-.228	-.237	.518*	.005
	Sig. (2-tailed)	.136	.225	.893	.296	.277	.011	.983
	N	23	23	23	23	23	23	23
Video Depth	Pearson Correlation	-.312	-.381	.357	-.049	.567**	-.356	.611**
	Sig. (2-tailed)	.147	.073	.095	.823	.005	.096	.002
	N	23	23	23	23	23	23	23
Spoken Frequency	Pearson Correlation	.232	.047	-.212	.253	-.081	.074	-.191
	Sig. (2-tailed)	.286	.830	.332	.244	.715	.736	.383
	N	23	23	23	23	23	23	23
Spoken Depth	Pearson Correlation	-.277	-.358	.199	-.131	.619**	-.330	.365
	Sig. (2-tailed)	.200	.093	.362	.550	.002	.124	.086
	N	23	23	23	23	23	23	23
Total Frequency	Pearson Correlation	.318	.621**	-.084	.282	-.335	.805**	-.188
	Sig. (2-tailed)	.139	.002	.702	.193	.119	<.001	.390
	N	23	23	23	23	23	23	23
Mean Depth	Pearson Correlation	-.466*	-.212	.566**	.017	.779**	-.462*	.774**
	Sig. (2-tailed)	.025	.331	.005	.939	<.001	.026	<.001
	N	23	23	23	23	23	23	23
Present Exposure	Pearson Correlation	.201	-.117	-.388	-.153	-.542**	.292	-.273
	Sig. (2-tailed)	.359	.595	.067	.485	.008	.177	.207
	N	23	23	23	23	23	23	23
Former Exposure	Pearson Correlation	.310	-.086	-.287	-.167	-.183	.030	-.395
	Sig. (2-tailed)	.150	.697	.184	.446	.403	.891	.062
	N	23	23	23	23	23	23	23
L1 French?	Pearson Correlation	-.143	-.068	.273	.139	-.059	-.275	.388
	Sig. (2-tailed)	.516	.758	.207	.526	.789	.204	.067
	N	23	23	23	23	23	23	23
Last Studied English	Pearson Correlation	-.050	-.190	.147	.113	-.104	.249	-.088
	Sig. (2-tailed)	.820	.385	.503	.607	.636	.252	.690
	N	23	23	23	23	23	23	23
Education	Pearson Correlation	.042	.010	.291	.212	.065	.055	.244
	Sig. (2-tailed)	.849	.964	.178	.333	.767	.802	.262
	N	23	23	23	23	23	23	23
Age	Pearson Correlation	.313	.078	-.228	-.028	.114	-.225	.200
	Sig. (2-tailed)	.146	.724	.296	.900	.603	.301	.361
	N	23	23	23	23	23	23	23
Gender	Pearson Correlation	-.298	-.075	.087	.263	.012	-.030	.037
	Sig. (2-tailed)	.167	.734	.694	.225	.957	.890	.867
	N	23	23	23	23	23	23	23

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Continued onto following page

Video Frequency	Video Depth	Spoken Frequency	Spoken Depth	Total Frequency	Mean Depth	Present Exposure	Former Exposure	L1 French?	Last Studied English	Education	Age
--											
23											
-.153	--										
.487											
23	23										
-.137	.035	--									
.532	.874										
23	23	23									
-.132	.738**	.251	--								
.548	<.001	.247									
23	23	23	23								
.703**	-.371	.202	-.329	--							
<.001	.081	.355	.125								
23	23	23	23	23							
-.126	.870**	-.052	.775**	-.346	--						
.567	<.001	.812	<.001	.106							
23	23	23	23	23	23						
.229	-.317	.135	-.019	.179	-.400	--					
.293	.140	.539	.933	.415	.059						
23	23	23	23	23	23	23					
-.041	-.426*	-.301	-.275	-.121	-.419*	.123	--				
.853	.043	.162	.203	.582	.047	.575					
23	23	23	23	23	23	23	23				
-.196	.214	-.131	-.119	-.223	.191	-.204	-.141	--			
.371	.328	.552	.589	.306	.383	.350	.521				
23	23	23	23	23	23	23	23	23			
.270	.212	-.002	.220	.196	.097	.242	.021	.066	--		
.212	.331	.992	.313	.371	.659	.267	.923	.763			
23	23	23	23	23	23	23	23	23	23		
.068	-.088	-.058	-.008	.102	.136	-.010	-.049	-.066	.111	--	
.759	.688	.793	.971	.644	.535	.963	.824	.766	.613		
23	23	23	23	23	23	23	23	23	23	23	
-.287	-.127	.380	-.046	-.154	-.012	-.097	.110	-.090	-.660**	.212	--
.184	.564	.074	.834	.484	.956	.659	.616	.682	<.001	.331	
23	23	23	23	23	23	23	23	23	23	23	23
-.373	.048	-.154	.067	-.168	.066	-.045	.123	.223	.374	.179	-.329
.079	.829	.483	.761	.443	.765	.837	.575	.307	.079	.413	.126
23	23	23	23	23	23	23	23	23	23	23	23

Linear model of music as a predictor of vocabulary

Table A2 Model Summary for music

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin–Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.064[a]	.004	-.043	11.662	.004	.086	1	21	.773	
2	.647[b]	.419	.361	9.130	.415	14.265	1	20	.001	
3	.667[c]	.445	.357	9.153	.026	.898	1	19	.355	2.159

a. Predictors: (Constant), Music Frequency

b. Predictors: (Constant), Music Frequency, Music Depth

c. Predictors: (Constant), Music Frequency, Music Depth, Age

d. Dependent Variable: Vocab Score

Table A3 ANOVA for music

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.654	1	11.654	.086	.773[b]
	Residual	2856.086	21	136.004		
	Total	2867.739	22			
2	Regression	1200.694	2	600.347	7.203	.004[c]
	Residual	1667.045	20	83.352		
	Total	2867.739	22			
3	Regression	1275.898	3	425.299	5.076	.009[d]
	Residual	1591.841	19	83.781		
	Total	2867.739	22			

a. Dependent Variable: Vocab Score

b. Predictors: (Constant), Music Frequency

c. Predictors: (Constant), Music Frequency, Music Depth

d. Predictors: (Constant), Music Frequency, Music Depth, Age

Table A4 Coefficients for music

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	116.561	4.427		26.332	<.001	107.355	125.767					
	Music Frequency	-.086	.292	-.064	-.293	.773	-.694	.522	-.064	-.064	-.064	1.000	1.000
2	(Constant)	128.783	4.741		27.161	<.001	118.893	138.674					
	Music Frequency	.110	.235	.082	.467	.645	-.380	.599	-.064	.104	.080	.951	1.051
	Music Depth	-8.046	2.130	-.660	-3.777	.001	-12.490	-3.602	-.642	-.645	-.644	.951	1.051
3	(Constant)	114.125	16.186		7.051	<.001	80.248	148.002					
	Music Frequency	.079	.237	.059	.334	.742	-.418	.576	-.064	.076	.057	.934	1.070
	Music Depth	-7.519	2.207	-.617	-3.407	.003	-12.138	-2.900	-.642	-.616	-.582	.891	1.122
	Age	.554	.584	.168	.947	.355	-.669	1.777	.313	.212	.162	.931	1.074

a. Dependent Variable: Vocab Score

Linear model of TV and movies as a predictor of vocabulary

Table A5 Model Summary for TV and movies

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin–Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.001[a]	.000	-.048	11.686	.000	.000	1	21	.996	
2	.251[b]	.063	-.031	11.590	.063	1.348	1	20	.259	
3	.428[c]	.183	.054	11.105	.120	2.788	1	19	.111	2.148

a. Predictors: (Constant), TV Frequency

b. Predictors: (Constant), TV Frequency, TV Depth

c. Predictors: (Constant), TV Frequency, TV Depth, Age

d. Dependent Variable: Vocab Score

Table A6 ANOVA for TV and movies

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.003	1	.003	.000	.996[b]
	Residual	2867.736	21	136.559		
	Total	2867.739	22			
2	Regression	181.062	2	90.531	.674	.521[c]
	Residual	2686.677	20	134.334		
	Total	2867.739	22			
3	Regression	524.798	3	174.933	1.419	.268[d]
	Residual	2342.941	19	123.313		
	Total	2867.739	22			

a. Dependent Variable: Vocab Score

b. Predictors: (Constant), TV Frequency

c. Predictors: (Constant), TV Frequency, TV Depth

d. Predictors: (Constant), TV Frequency, TV Depth, Age

Table A7 Coefficients for TV and movies

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	115.502	5.351		21.584	<.001	104.374	126.631					
	TV Frequency	-.002	.424	-.001	-.005	.996	-.884	.879	-.001	-.001	-.001	1.000	1.000
2	(Constant)	118.309	5.832		20.286	<.001	106.143	130.474					
	TV Frequency	.088	.428	.045	.205	.839	-.804	.979	-.001	.046	.044	.967	1.034
	TV Depth	-3.027	2.607	-.255	-1.161	.259	-8.465	2.412	-.247	-.251	-.251	.967	1.034
3	(Constant)	89.301	18.250		4.893	<.001	51.102	127.500					
	TV Frequency	.122	.410	.063	.297	.770	-.737	.980	-.001	.068	.062	.965	1.036
	TV Depth	-3.537	2.516	-.299	-1.405	.176	-8.804	1.730	-.247	-.307	-.291	.953	1.049
	Age	1.151	.689	.349	1.670	.111	-.292	2.593	.313	.358	.346	.985	1.016

a. Dependent Variable: Vocab Score

Linear model of reading as a predictor of vocabulary

Table A8 Model Summary for reading

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.353[a]	.124	.083	10.934	.124	2.986	1	21	.099	
2	.407[b]	.166	.082	10.938	.041	.985	1	20	.333	
3	.596[c]	.355	.253	9.866	.190	5.585	1	19	.029	2.067

a. Predictors: (Constant), Reading Frequency

b. Predictors: (Constant), Reading Frequency, Reading Depth

c. Predictors: (Constant), Reading Frequency, Reading Depth, Age

d. Dependent Variable: Vocab Score

Table A9 ANOVA for reading

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	356.999	1	356.999	2.986	.099[b]
	Residual	2510.740	21	119.559		
	Total	2867.739	22			
2	Regression	474.852	2	237.426	1.984	.164[c]
	Residual	2392.887	20	119.644		
	Total	2867.739	22			
3	Regression	1018.418	3	339.473	3.488	.036[d]
	Residual	1849.321	19	97.333		
	Total	2867.739	22			

a. Dependent Variable: Vocab Score

b. Predictors: (Constant), Reading Frequency

c. Predictors: (Constant), Reading Frequency, Reading Depth

d. Predictors: (Constant), Reading Frequency, Reading Depth, Age

Table A10 Coefficients for reading

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	109.672	4.061		27.008	<.001	101.227	118.117					
	Reading Frequency	.364	.211	.353	1.728	.099	-.074	.803	.353	.353	.353	1.000	1.000
2	(Constant)	114.941	6.685		17.194	<.001	100.996	128.886					
	Reading Frequency	.295	.222	.285	1.326	.200	-.169	.758	.353	.284	.271	.900	1.111
	Reading Depth	-2.126	2.142	-.214	-.992	.333	-6.595	2.342	-.304	-.217	-.203	.900	1.111
3	(Constant)	77.001	17.150		4.490	<.001	41.106	112.896					
	Reading Frequency	.379	.204	.367	1.860	.078	-.047	.805	.353	.393	.343	.873	1.146
	Reading Depth	-2.766	1.951	-.278	-1.418	.172	-6.850	1.317	-.304	-.309	-.261	.883	1.132
	Age	1.488	.630	.451	2.363	.029	.170	2.806	.313	.477	.435	.931	1.074

a. Dependent Variable: Vocab Score

Linear model of video-based social media as a predictor of vocabulary

Table A11 Model Summary for video-based social media

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin–Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.320[a]	.103	.060	11.071	.103	2.399	1	21	.136	
2	.416[b]	.173	.091	10.887	.071	1.715	1	20	.205	
3	.564[c]	.319	.211	10.141	.145	4.048	1	19	.059	2.317

a. Predictors: (Constant), Video Frequency

b. Predictors: (Constant), Video Frequency, Video Depth

c. Predictors: (Constant), Video Frequency, Video Depth, Age

d. Dependent Variable: Vocab Score

Table A12 ANOVA for video-based social media

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	294.008	1	294.008	2.399	.136[b]
	Residual	2573.731	21	122.559		
	Total	2867.739	22			
2	Regression	497.284	2	248.642	2.098	.149[c]
	Residual	2370.455	20	118.523		
	Total	2867.739	22			
3	Regression	913.643	3	304.548	2.961	.058[d]
	Residual	1954.096	19	102.847		
	Total	2867.739	22			

a. Dependent Variable: Vocab Score

b. Predictors: (Constant), Video Frequency

c. Predictors: (Constant), Video Frequency, Video Depth

d. Predictors: (Constant), Video Frequency, Video Depth, Age

Table A13 Coefficients for video-based social media

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	110.360	4.031		27.379	<.001	101.977	118.743					
	Video Frequency	.334	.216	.320	1.549	.136	-.115	.783	.320	.320	.320	1.000	1.000
2	(Constant)	114.305	4.979		22.958	<.001	103.920	124.691					
	Video Frequency	.292	.215	.279	1.357	.190	-.157	.740	.320	.290	.276	.977	1.024
	Video Depth	-3.151	2.406	-.269	-1.310	.205	-8.171	1.868	-.312	-.281	-.266	.977	1.024
3	(Constant)	77.490	18.876		4.105	<.001	37.981	116.998					
	Video Frequency	.424	.211	.406	2.013	.059	-.017	.865	.320	.419	.381	.881	1.135
	Video Depth	-2.324	2.279	-.199	-1.020	.321	-7.094	2.445	-.312	-.228	-.193	.945	1.058
	Age	1.334	.663	.404	2.012	.059	-.054	2.721	.313	.419	.381	.888	1.126

a. Dependent Variable: Vocab Score

Linear model spoken-word media of as a predictor of vocabulary

Table A14 Model Summary for spoken-word media

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin–Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.232[a]	.054	.009	11.366	.054	1.200	1	21	.286	
2	.418[b]	.174	.092	10.880	.120	2.915	1	20	.103	
3	.459[c]	.211	.086	10.915	.036	.873	1	19	.362	2.060

a. Predictors: (Constant), Spoken Frequency

b. Predictors: (Constant), Spoken Frequency, Spoken Depth

c. Predictors: (Constant), Spoken Frequency, Spoken Depth, Age

d. Dependent Variable: Vocab Score

Table A15 ANOVA for spoken-word media

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	155.002	1	155.002	1.200	.286[b]
	Residual	2712.737	21	129.178		
	Total	2867.739	22			
2	Regression	500.064	2	250.032	2.112	.147[c]
	Residual	2367.675	20	118.384		
	Total	2867.739	22			
3	Regression	604.066	3	201.355	1.690	.203[d]
	Residual	2263.673	19	119.141		
	Total	2867.739	22			

a. Dependent Variable: Vocab Score

b. Predictors: (Constant), Spoken Frequency

c. Predictors: (Constant), Spoken Frequency, Spoken Depth

d. Predictors: (Constant), Spoken Frequency, Spoken Depth, Age

Table A16 Coefficients for spoken-word media

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	113.165	3.174		35.652	<.001	106.564	119.766					
	Spoken Frequency	.719	.656	.232	1.095	.286	-.646	2.084	.232	.232	.232	1.000	1.000
2	(Constant)	114.499	3.137		36.494	<.001	107.955	121.044					
	Spoken Frequency	.998	.649	.323	1.537	.140	-.357	2.352	.232	.325	.312	.937	1.067
	Spoken Depth	-3.946	2.311	-.358	-1.707	.103	-8.768	.875	-.277	-.357	-.347	.937	1.067
3	(Constant)	97.680	18.275		5.345	<.001	59.430	135.930					
	Spoken Frequency	.728	.712	.235	1.022	.319	-.763	2.219	.232	.228	.208	.783	1.277
	Spoken Depth	-3.599	2.348	-.327	-1.532	.142	-8.514	1.316	-.277	-.332	-.312	.913	1.095
	Age	.688	.736	.209	.934	.362	-.853	2.228	.313	.210	.190	.834	1.199

a. Dependent Variable: Vocab Score

Linear model of overall English media use as a predictor of vocabulary

Table A17 Model Summary for overall English media use

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin–Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.318[a]	.101	.058	11.080	.101	2.360	1	21	.139	
2	.495[b]	.245	.170	10.405	.144	3.814	1	20	.065	
3	.601[c]	.361	.260	9.822	.116	3.445	1	19	.079	1.931

a. Predictors: (Constant), Total Frequency

b. Predictors: (Constant), Total Frequency, Mean Depth

c. Predictors: (Constant), Total Frequency, Mean Depth, Age

d. Dependent Variable: Vocab Score

Table A18 ANOVA for overall English media use

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	289.681	1	289.681	2.360	.139[b]
	Residual	2578.058	21	122.765		
	Total	2867.739	22			
2	Regression	702.616	2	351.308	3.245	.060[c]
	Residual	2165.124	20	108.256		
	Total	2867.739	22			
3	Regression	1034.944	3	344.981	3.576	.033[d]
	Residual	1832.795	19	96.463		
	Total	2867.739	22			

a. Dependent Variable: Vocab Score

b. Predictors: (Constant), Total Frequency

c. Predictors: (Constant), Total Frequency, Mean Depth

d. Predictors: (Constant), Total Frequency, Mean Depth, Age

Table A19 Coefficients for overall English media use

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	106.751	6.133		17.405	<.001	93.996	119.506					
	Total Frequency	.150	.097	.318	1.536	.139	-.053	.352	.318	.318	.318	1.000	1.000
2	(Constant)	118.625	8.375		14.165	<.001	101.156	136.095					
	Total Frequency	.084	.097	.178	.860	.400	-.119	.287	.318	.189	.167	.881	1.136
	Mean Depth	-6.041	3.093	-.404	-1.953	.065	-12.494	.411	-.466	-.400	-.379	.881	1.136
3	(Constant)	87.446	18.566		4.710	<.001	48.587	126.304					
	Total Frequency	.113	.093	.240	1.211	.241	-.082	.308	.318	.268	.222	.856	1.169
	Mean Depth	-5.659	2.927	-.379	-1.933	.068	-11.786	.467	-.466	-.405	-.355	.876	1.141
	Age	1.139	.614	.345	1.856	.079	-.145	2.423	.313	.392	.340	.972	1.029

a. Dependent Variable: Vocab Score