LANGUAGE IDEOLOGIES OF MULTILINGUAL YOUNG ADULTS WHO KNOW FRENCH, A MINORITY OFFICIAL LANGUAGE IN OTTAWA

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Legend

Language Ideology Constructs

MvM:	Monolingualism vs. Multilingualism
LDFS:	Language as a decontextualized formal system
LT:	Language as a Tool
LVCS:	Language as a Valuable Complex Skill
LNU:	Language as a National Unifier
LMI:	Language as a Marker of Intelligence
LP:	Language as a Privilege

Participation Materials

LBQ:	Language Background Questionnaire
Mini-AMTB:	Mini-Attitude/Motivation Test Battery
LIS:	Language Ideology Survey
SIR:	Social Identity Ranking
LDT:	Lexical Decision Task
SSI:	Semi-Structured Interview

Abstract

This simultaneous mixed-methods thesis explores the language ideologies of young adult multilinguals in Ottawa, Ontario, Canada, who know French and at least one other language. Its three primary goals are to explore what language ideologies exist within this population, to identify any relationships between those language ideologies and their individual characteristics and experiences, and to better understand how those language ideologies inform their investment (Darvin & Norton, 2015) into French – Ottawa's minority official language.

Individual characteristics and experiences employed as independent variables in this thesis include self-reported total number of languages and their relative strength, proficiency, exposure, schooling, attitudes and motivation, relative importance of language-related social affiliations to identity, and lexical processing. Part 1 of the study involved 111 undergraduate students completing asynchronous online questionnaires and quantitative tasks, including a language ideology survey. Of those, 20 participants also volunteered for Part 2 of the study, subsequently completing a synchronous online semi-structured interview. In-depth deductive and inductive content analysis was conducted on 8 of those interviews, chosen for their representativeness of a wide range of individual characteristics and experiences related to language and multilingualism.

These multilingual young adults held a wide range of language ideologies but had a tendency to believe in languages being skilled assets that are actively learned and being important for social and material gains. Language ideology has some association with attitudes and motivation and with French proficiency, whereas no statistically significant association with other individual characteristics and experiences were found. Meaningful investment into French was observed, although the degree of investment varied along with the relative contribution of its three

components: ideology, capital, and identity. This thesis showcases the suitability of Darvin and Norton's Investment Model for exploring the complexities of the multilingual young adult's commitment to language learning and use.

Keywords: French-as-a-minority-language, investment, language ideology, multilingualism

Résumé

Cette thèse, guidée par méthodes mixtes simultanées, explore les idéologies langagières de jeunes adultes multilingues à Ottawa, en Ontario, au Canada, qui connaissent le français et au moins une autre langue. Ses trois principaux objectifs sont d'explorer les idéologies langagières présentes au sein de cette population, d'identifier les liens entre ces idéologies et les caractéristiques et expériences individuelles des participants, et de mieux comprendre comment ces idéologies influencent leur investissement dans le français, langue officielle minoritaire d'Ottawa.

Les caractéristiques et expériences individuelles des participants utilisés comme variables indépendantes dans cette thèse comprennent le nombre total de langues connues (autodéclarées) et la force de l'association relative aux compétences langagière, l'exposition, le programme d'étude, les attitudes et la motivation, l'importance relative des affiliations sociales liées à la langue pour l'identité, et le traitement lexical. La première partie de l'étude a porté sur 111 étudiants de premier cycle remplissant des questionnaires en ligne de façon asynchrone et suivant des tâches quantitatives, dont un sondage sur les idéologies langagières. Parmi ceux-ci, 20 participants se sont également portés volontaires pour la deuxième partie de l'étude, complétant ensuite une entrevue semi-structurée en ligne de façon synchrone. Une analyse de contenu déductive et inductive approfondie a été menée sur 8 de ces entretiens, choisis pour leur représentativité d'un large éventail de caractéristiques et d'expériences individuelles liées à la langue et au multilinguisme.

Ces jeunes adultes multilingues partageaient des idéologies linguistiques variées, et avaient tendance à croire en les langues étant des atouts adroits qui sont appris activement et qui

contribuent à des gains sociaux et matériels. L'idéologie linguistique est quelque peu associée à une mesure d'attitudes et de motivation, ainsi qu'aux compétences en français, tandis qu'aucune association statistiquement significative n'a été constatée avec les autres caractéristiques et expériences individuelles. Un investissement significatif dans le français a été observé, bien que son degré varie selon la contribution relative de ses trois composantes : l'idéologie, le capital et l'identité. Cette thèse démontre la pertinence du modèle d'investissement de Norton pour explorer les complexités de l'investissement des jeunes adultes multilingues envers l'apprentissage et l'utilisation du langage.

Mots-clés : français langue minoritaire, investissement, idéologie linguistique, multilinguisme

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Chapter 1: INTRODUCTION

Language ideologies are beliefs about languages as they are used in the social world (Darvin & Norton, 2015). They tend to be shared by a population and to be generally regarded as 'correct' by those within it (Irvine & Gal, 2000; Norton, 2015). Past research on language ideologies suggests that these beliefs can be passed through communities both explicitly and implicitly (Woolard & Schieffelin, 1994). Research methods such as document or media analysis can highlight both explicit and implicit ideological messages about language that have been communicated with the population through various channels over time (see Vessey, 2016 or 2017 for extensive analyses of Canadian legacy and social media).

Sociolinguistic researchers are interested in language ideologies because they offer clues about how societies think about language and how language contributes to the world around us (Irvine & Gal, 2000). Furthermore, they offer clues about how societies view and value *particular* languages, such as which languages are legitimized or delegitimized and which languages therefore hold power (Vessey, 2017). Research on language ideology has played a particularly important role in the growing literature on minority language revitalization in Canada and around the world (King, 2000; Leedom Shaul, 2014; Showstack, Pascual y Cabo, & Vergara Wilson, 2024). Research at the population level can provide insight into pervasive beliefs that may support or undermine the minority language's prospects for preservation and growth, recognizing that not everyone will know the minority language or engage with members of that language group. Language ideologies are demonstrated subtly in the ways that money is spent, including in the types of programming available and in approaches to service provision and implementation (Rivera Pagán, 2021). As such, ideologies can influence the spaces,

programs, and opportunities afforded to certain linguistic sub-groups, including multilingual and multicultural groups (Rivera Pagán, 2021). Especially in the educational sphere, when language ideologies and language policies are reproduced structurally, these views and values can be passed on to the younger generation (Hornberger, 2005).

While language ideologies are tied to the greater culture and while it is true that there is some general agreement (conscious or subconscious) about the language ideologies shared by the population as a whole, there also exists variation in terms of what has been internalized and what rings true for smaller geographic, cultural, and social communities and the individuals who make them up (Feng, et al., 2024). Some research on language ideologies has approached the topic from this more localized perspective, examining individuals and groups of individuals to uncover which language ideologies they hold and have informed their beliefs. This approach usually involves methods such as observation, interviews, or analysis of more personal documents such as journal entries (Séror & Gentil, 2020).

Canada has two official languages: English and French. Just like language ideologies, official language status at the federal level differs from status at the provincial/territorial and municipal levels, as they are free to assign official status to English, French, or Indigenous languages (Haque & Patrick, 2015). This again is separate from the reality of language use in certain communities and neighbourhoods. Across most of Canada, with the exception of Quebec, English is the majority language and French operates as a minority language. Still, millions of people in Canada have some knowledge of French, as many provinces mandate or encourage French-as-an-additional language instruction in Anglophone schools (explained in detail further down). According to Statistics Canada (2021), approximately 29% of the Canadian population can carry on a conversation in French – equivalent to 10.7 million people. This percentage has

been decreasing steadily since the 1986 Census, which reported that the same group made up 32% of the Canadian population at that time (Statistics Canada, 2017). French speakers in Canada come from a wide range of individual experiences and represent a wide range of individual characteristics. A better understanding of their language ideologies would begin to illuminate aspects of their investment into knowing French as a minority language: why these Canadians learn and maintain French, why they engage with French language and culture, why they use French and see themselves using French in the future.

As the literature on language ideologies continues to evolve in response to changes in linguistic and cultural diversity, localized research, focused on one particular region, is best suited to increase our understanding of the complexities between the regional context and the individual characteristics and experiences of these young multilingual Canadians. This approach to unravelling the factors that may be impacting the multilingual development of these diverse young people stays true to complexity of the individual interacting with and taking part in a dynamic social world. As Canada's national capital region, characterized by substantial cultural and linguistic diversity and significant socioeconomic incentives for learning French as an official minority language, Ottawa is an interesting case.

In general, research into language ideologies is critical to ongoing efforts to better understand why young people are invested in knowing French and to meet their needs and expectations in support of it – whether that be in school, in recreation, in the community, in the digital or non-digital media, or in an early employment setting. A mixed-methods study will capture the experiences of many multilingual young adults while also capturing key insights through the voices of a few. Crucially, this group is capable enough to comment on these topics without being so far removed from the educational systems that are known to reflect and

reproduce language ideologies via educators and educational policies while they are also forward-looking as young adults (Hornberger, 2005).

Consequently, this concurrent mixed-methods thesis seeks to explore the language ideologies of multilingual young adults who know French, the minority official language, in Ottawa. The target participants were recent graduates of the secondary school systems in the Ottawa area (both Francophone and Anglophone systems), but otherwise, they represent a diverse set of individual characteristics and experiences related to language. They know French to varying degrees (the same can be said about their parents, caregivers, and members of their households); they have had different amounts of exposure to French; they have also accessed different types and amounts of French education within Canada and abroad. As a result, this thesis also seeks to examine how language ideologies differ depending on these and other individual characteristics and experiences, which are known to influence other aspects of multilingualism. Lastly, this thesis seeks to offer insights into young multilinguals' sense of investment into knowing French utilizing the Investment Model (Darvin & Norton, 2015) as the theoretical framework and its own quantitative and qualitative findings on language ideology.

Key Terminology

This thesis rests on the concept of "knowing French", which is used deliberately to mean having the self-determined competency to engage with French, whether expressively (speaking or writing) or receptively (listening or reading), by choice or when deemed necessary by the individual. It is used in contrast to "speaking French", which is not necessarily the case for many Canadians who know French. In a review of the literature on Canadians who knew English and who were learning French, Juan-Gareau & Lyster (2018) found that some multilingual adolescents and young adults were hesitant to speak French for a number of reasons, including

feeling dissatisfied with their proficiency in French, lacking confidence in their French abilities, or feeling a sense of anxiety surrounding the use of French. These findings are not unique to Canada; they can be seen replicated in other parts of the world with other languages (see Teimouri, Goetze, & Plonsky, 2019, for a meta-analysis of multilinguals from 23 countries learning languages including Japanese, French, English, German, and Spanish). Whether in an additional language or a first language, a long line of psycholinguistic research on (un)willingness to communicate, dating back to the mid 20th century, demonstrates that speaking requires a readiness that is informed by a wide range of personality traits and the situational conditions, and that is, at best, loosely related to actual knowledge of the language (MacIntyre, Dörnyei, Clément, & Noels, 1998). The concept of knowing French is also consistent with notion of young adults' agency and choice in language use (Taylor, 2013).

Throughout this thesis, the term "multilingualism" will be used to mean the knowledge of more than one language, and "multilingual", to refer to individuals who know more than one language. The terms "bilingualism" and "official language bilingualism" will be used interchangeably and will be used only in reference to Canadian programs and policies surrounding English and French, its two official languages. The only exceptions to these conventions occur in the review of the literature and in the direct quotes from participants, whose use of these and related terms reflect their own personal definitions.

While these terms are used in the thesis manuscript, it is important to note that "multilingual", "bilingual", "francophone", "anglophone", and other language-specific labels did not feature in any recruitment or participation materials. This thesis recognizes identity-based designations rather than ascribing scholarly-determined designations to the participants. This is because there is considerable variation in terms of the individual characteristics and experiences

that inform multilinguals' linguistic identities. For instance, whether young adults identify as bilingual or multilingual is likely to vary. The term "bilingual" used in the Canadian context, and particularly in the region of Ottawa, tends to imply "official language bilingual", meaning a person who knows English and French. Someone with those two languages might identify more readily with that label, while those who know one official language and another heritage language may hesitate to identify as "bilingual". In common parlance, typically only a person who knows three or more languages would identify as "multilingual" in Ontario.

Individual variation is also recognized in the potential to identify with the labels "Anglophone" and "Francophone". When French language education was guaranteed in Section 23 of the Canadian Charter of Rights and Freedoms in 1982, regulations were set in place to designate French-language rights holders whose children could access these publicly-funded resources. In Ontario, a French-language rights holder must be a Canadian citizen and (a) have French as a first language, (b) have attended a French-language elementary school in Canada, or (c) already have a child who attends or attended a French-language elementary or secondary school in Canada (Province of Ontario, 2025). As such, language of schooling for Ontario children was generally one and the same as parents' language of schooling or parents' first language, which was, in turn, generally the child's first language since it would have been used in the home. Nowadays, with more discretionary admissions to non-rights holders and especially to those who speak a wide variety of other languages, a more diverse group of youth are accessing French language and cultural education, which can increase their sense of belonging to the Francophone community – even if French is not their first language, their parents' first language, or even a language that their parents know (Gérin-Lajoie, 2020; Lamoureux, 2012). On the other hand, when it comes to English-language schooling, all Ontario youth would

generally have unrestricted access. This includes those whose first language is French, or whose parents' first language is French, who may prefer to attend English-language education by choice. This increased contact with Anglophone culture and English can also increase their sense of belonging to the Anglophone community.

Moreover, labels such as "Anglophone" and "Francophone" could seem to some to index one's ability in only one language. As such, they may be less preferred, less appropriate, or even contentious for multilingual Canadians whose identities might reflect multiple languages. A growing number of young Canadians know one or more languages other than English or French (Statistics Canada, 2023) – especially those with recent immigration experience (Ministry of Education, 2022). Approximately 23% of Ottawa residents report a first language other than English or French, and 12% report a language other than English or French as the one spoken most often at home (Statistics Canada, 2021). Therefore, "Anglophone" and "Francophone" are not inclusive of all Canadian youth.

Summary Review of Literature

Changing Canadian Ideologies

The current study was conducted in Ottawa, Ontario, Canada. Its linguistic landscape is one of a bilingual city with English as the majority official language and French as the minority official language (Langlois, 1986). Ottawa sits on the border with Gatineau, Quebec. Before they were two distinct cities, the whole region was simply part of the Algonquin territories, including the Kitchissippi (what is now the Ottawa river). Anglophones and Francophones have a long history in this region. There have been changing dynamics and tensions between these two groups over the years, reflective of shifts in power (Bonin, 2022; Gaffield, 1991). A brief outline of national and regional historical language change is presented below.

The French were the first colonists to arrive in Canada in the 16th century but Great Britain seized control in the late 18th century. The portion of la Nouvelle-France along the St. Lawrence River was then renamed the Province of Quebec, and three decades later, split into a French colony (Lower Canada; modern-day Quebec and home to primarily Francophones) and an English colony (Upper Canada; modern-day Ontario and home to primarily Anglophones) which would specifically accommodate the influx of settlers from Britain and British loyalists from the newly independent New England colonies (Hillinger, 2019; Landry & Forgues, 2007). Nearing the mid 19th century, in an attempt to force Francophones to adopt both British culture and the English language, these two colonies were merged to form the Province of Canada and a mandate was implemented so that all government proceedings would take place in English only (Haque, Multiculturalism Within a Bilingual Framework: Language, Race, and Belonging in Canada, 2012). Language ideologies at the time reflected this Anglophone centrality; as such, this was a period of intense pressure on the French language (Austin, 2010). Its maintenance was

made possible by leaders and activists who refused to use English (Hillinger, 2019). Geographic separation of the two groups was finally cemented by the establishment of Ontario and Quebec at the time of Confederation in 1867 – the provinces as they now stand as part of the country of Canada. The provincial border that was (re-)established effectively cut what had been one integrated region in two (again) (Hillinger, 2019). From then on, provincially regulated entities, including ministries of education for instance, were governed by provincial bodies with different official languages and corresponding language policies (Landry & Forgues, 2007).

Since Confederation was framed as a partnership between the two "founding races", it codified a dualistic ideology when it came to language and culture (Haque, Multiculturalism Within a Bilingual Framework: Language, Race, and Belonging in Canada, 2012). This attitude purposefully erased the reality that Indigenous peoples' occupation and stewardship of the country we call Canada predated the "founding races" by tens of thousands of years (Austin, 2010). This dualistic ideology persisted for almost a century, during which time other heritage languages were discouraged; assimilation was encouraged for settlers from countries such as Ireland, Ukraine, Germany (Austin, 2010). Indigenous languages and cultures, above all, were especially targeted for systematic erasure through the residential school system, which was introduced in the 1880's under Canada's first Prime Minister, Sir John A. Macdonald (Haque, Multiculturalism Within a Bilingual Framework: Language, Race, and Belonging in Canada, 2012).

By the 1960's, the Royal Commission on Bilingualism and Biculturalism was established by then Prime Minister Lester B. Pearson in response to a growing national crisis regarding Canada's dual identity. The Commission sought a solution to ease tensions between Anglophones (particularly those of British descent and/or loyalty) and Francophones (particularly the Quebec

separatists vying to found their own country) due to the persistent underlying hierarchy that afforded Anglophones more power and privilege (Landry & Forgues, 2007). As a strategic compromise, the Official Languages Act of 1969 established English and French as the official languages of Canada and gave them equal status in federal institutions (Haque, Multiculturalism Within a Bilingual Framework: Language, Race, and Belonging in Canada, 2012). This ushered in an ideology of official language bilingualism that prioritized the "founding" European languages over all others.

By this time, Canada had become a culturally and linguistically diverse nation but, despite the contributions of other ethnic groups to Canada's cultural enrichment, they did not see themselves represented in such a strict duality. In response to the Official Languages Act, and building on the work of his predecessor, then Prime Minister Pierre Elliott Trudeau adopted a more inclusive policy – "multiculturalism within a bilingual framework" – in 1971 (Haque, Multiculturalism Within a Bilingual Framework: Language, Race, and Belonging in Canada, 2012). Said policy was the basis of the eventual Multiculturalism Act, which then Prime Minister Brian Mulroney formally enacted in 1988, and which explicitly recognized the importance of preserving languages other than English and French (Landry & Forgues, 2007). Also in 1988, the Official Languages Act was updated and expanded to better delineate the rights of Canadians (Théberge, 2021).

The ultimate result of this shift in perception, which emphasized the economic advantages of diversity in the Canadian workforce, is that Canada has slowly rebranded its ideology of multilingualism through the 1990's and 2000's to one that treats language as a skilled commodity for economic utility (Haque, Multiculturalism Within a Bilingual Framework: Language, Race, and Belonging in Canada, 2012). Where the idea of multiculturalism would

have once been seen as important for personal, social, and cultural development and well-being, English, French, and other languages were now framed as human capital for which value was derived from this neoliberal ideology that commodifies language, culture, and diversity using economic market logic (Del Percio & Wong, 2019).

French as a Minority Official Language in Ottawa

According to the most recent statistics, approximately 36% of Ottawa residents are official language bilinguals, meaning that they know both English and French (Statistics Canada, 2021). For comparison, Ontario, as a whole, is comprised of about 11% official language bilinguals (Statistics Canada, 2021), meaning that Ottawa and the surrounding region feature a greater rate of bilingualism than other areas of the province. This is attributable in some part to its geographical contact with Quebec (where French is the official language) and to the relatively large, vibrant, and active *Franco-Ontarien* community who live in Ottawa (Bonin, 2022; Mougeon & Heller, 1986). Approximately 14% of Ottawa residents report French as their first language and another 3% report French and English as simultaneous first languages (Statistics Canada, 2021). For comparison, Ontario, as a whole, is comprised of about 3% Francophones, the third highest percentage after Quebec, with 82% Francophones, and New Brunswick, with 30% Francophones – the two provinces with French as the/an official language (Statistics Canada, 2021).

It has long been documented that the Francophone community in Ottawa is diverse, including people from numerous ethnic and cultural backgrounds and featuring many varieties of French (Mougeon & Heller, 1986). During the time of the merged Province of Canada, in the mid-19th century, Ottawa's transition from a frontier town driven by the timber trade to a formal seat of government invited considerable urban development, which pushed Francophones and

Anglophones apart into separate neighbourhoods surrounding the city centre; these language communities continue to persist with more Anglophone neighbourhoods to the southwest and more Francophone neighbourhoods to the northeast (Ray & Gilbert, 2020). Nowadays, there are many institutions in the Ottawa area that operate in either French or in both official languages, therefore attracting Francophones from across Canada and from abroad, keeping its Francophone community in a steady state of revitalization (Mougeon & Heller, 1986). Overall, settlement in Ottawa by non-European immigrants has accelerated since the 1990s and includes a contingency of immigrants from Francophone African nations such as Cameroon, Ivory Coast, and the Democratic Republic of the Congo (Ray & Gilbert, 2020; Veronis & McLeman, 2014).

In Ottawa, it has been documented that knowledge of both English and French represents a competitive advantage in many professions (Flynn, 2018; Turcotte, 2019). The federal legislature of Canada is seated in Ottawa and its mandate that English and French have an equal status in the provision of federal services and the conducting of federal business is widely reproduced at the provincial and municipal levels throughout Ontario in accordance with the French Language Services Act (Government of Ontario, 2024). Therefore, many service-related professions in the public service require some level of proficiency in both official languages.

Young Ottawans would be exposed to both official languages to some degree, although their contact with each in their daily lives would vary depending on the language(s) used in their family, their cultural community, and their neighbourhood, as well as their educational choices (Gordon, Demers, Chehayeb, & MacLeod, 2022; Pesco, et al., 2016). Since an increasing proportion of young Ottawans are developing their multilingualism with the influence of a wide range of individual characteristics and experiences, this thesis will explore how these factors

impact their investment into French as a minority official language – specifically pertaining to language ideology.

Theoretical Framework

This thesis draws on the Investment Model (Darvin & Norton, 2015) to explore language ideologies and investment in multilingual young adults in the Ottawa region. The Investment Model positions the sociological construct of investment as a complement to the psychological notion of motivation in discussions of an individual's commitment to learning or using an additional language (Darvin & Norton, 2015). Investment is defined as a commitment to language learning and language use that integrates an understanding of the complex social history of the language learning (Norton Peirce, 1995). More common in sociolinguistics than in multilingualism research, this constructivist paradigm draws on ideology, capital, and identity as components that capture the relationship between the language learner and the target language within a dynamic social world (Darvin & Norton, 2015).

Identity, Capital, and Ideology

Darvin & Norton's Investment Model was born out of decades of theoretical and qualitative research by Bonny Norton beginning in the 1990's. In her seminal article, Norton (1995) proposed that race, ethnicity, gender, sexual orientation, and social class were crucial identity markers that ought to be considered in research on second language acquisition, because they interact with dynamics of power in the social world and make it more or less possible for multilinguals to use a new language in certain contexts. She investigated mainly immigrant women in Canada, originating from countries all over the world (e.g., Vietnam, Poland, Peru, then Czechoslovakia), who were very motivated to learn the majority language in order to access employment, attend school and/or support their children's education, and otherwise assimilate. Nonetheless, she recognized that their "right to speak" was not a given and was not equal to that

of native speakers, leading them to avoid interactions with native speakers in many instances. These dynamics of power were found to reproduce inequitable social structures that are present at a larger scale in society (Norton, 2018).

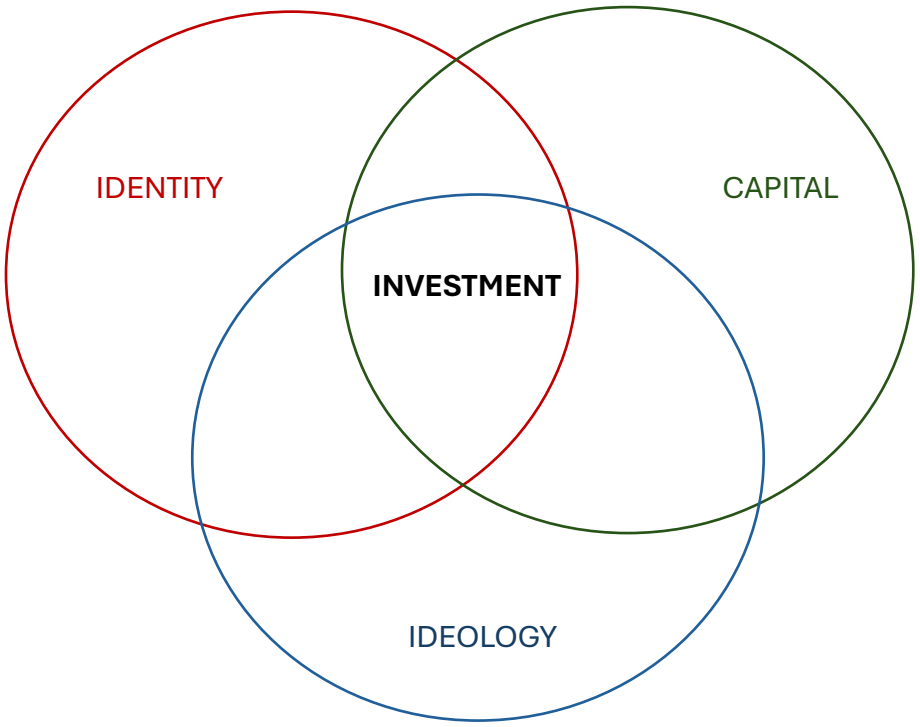
Crucial to Norton's earliest research on the topic was the idea that additional language learners acquire new languages not only for the most obvious reason – to communicate – but also to gain capital. This concept of capital draws on the work of Pierre Bourdieu from the late 1980's. According to Norton (1995), when a person decides to invest effort into language learning, they must weigh behavioural, institutional, and ideational considerations with the potential to achieve a return in the form of economic, social, and/or cultural capital. Examples of economic forms of capital include increased earning power and employment opportunities; examples of social forms of capital include greater social connections and status; examples of cultural forms of capital include appreciating customs and rituals (Bourdieu, 1979; Bourdieu, 1980; Huang, 2019). Each linguistic skill acquired by an individual, such as improved language fluency in a first or additional language, adds to the capital that they possess, which contributes to their relative power in society and feeds greater value back into their identities (Darvin & Norton, 2015). Bourdieu's capital proved so critical that it would eventually join identity as one of three components of the Investment Model which would be conceptualized with Darvin and published in 2015 (see Figure 1).

The focus of this thesis is the ideology component of the Investment Model. Darvin and Norton (2015) argue that ideology is the force that establishes and underpins what a society values about languages. After all, the economic, social, and/or cultural gains that arise from being able to communicate in a given language are subject to the legitimacy that that language is afforded by society (Darvin & Norton, 2015). The same is true for the cultural gains that arise

from being multilingual; for the investment to pay off, multilingualism must be valued in that society. As such, the three components are intertwined.

Figure 1

Darvin and Norton's 2015 Model of Investment



The Investment Model was chosen as the framework for this research because of the careful recognition of a constructed personal identity and the rejection of dichotomous personal characterizations (e.g., introverted vs. extraverted) makes it ideal for research with older adolescents and young adults (Norton Peirce, 1995). Another strength of the Investment Model is that the individual is understood to have agency in language engagement and commitment, which is in line with increased engagement with educational decision-making as adolescents

conclude high school and move into the workforce or onto postsecondary studies as young adults (Darvin & Norton, 2017; Flynn, 2018; Marshall & Bokhorst-Heng, Canadian Immersion Students' Investment in French, 2020). Agency includes choosing when, where, and with whom to use one's languages, as well as choosing to *avoid* the use of a language (Mitchell, Myles, & Marsden, 2019). Whether it is ambivalence or avoidance, changes in language preference have been observed regularly in the case of young multilinguals (Caldas & Caron-Caldas, 2002; Ecke, 2004; Tarazi-Sahab & Moro, 2013). With the acknowledgement of differences in power at play in every communicative exchange which impacts multilinguals' right to speak, the Investment Model is also appropriate given this thesis' attention to the terminology of "knowing French" rather than "speaking French".

The Investment Model has provided the theoretical framework for many studies in the field of multilingualism in the last decade. Research on the identities and investment of young immigrants has come out of the United States (Haneda, 2005; McKay & Wong, 1996) and the United Kingdom (Hajar, 2018). Further research on young domestic multilinguals has come out of countries such as Brazil (Anya, 2017), Iran (Soltanian, Ghapanchi, Rezaei, & Pishghadam, 2018), and Mexico (Sayer & Ban, 2019). These and other similar studies support the theory of the additional language learner as a complex social agent whose investment into multilingualism is deeply tied to their sense of identity.

Most of the empirical studies using the Investment Model focus on the identity component over ideology and capital, likely explained by its centrality in Norton's earliest work. Few, if any, studies on investment up to this point have been conducted among young adults and more established multilinguals who are decades into their journey of knowing multiple languages. However, a study by Flynn (2018) is particularly relevant to the current study. Flynn

employed the full Investment Model with all three components and participants who are established young adult multilinguals who were located in Ottawa, Ontario Canada.

Participants had graduated from an Ontario high school and were attending the French Immersion program offered at the University of Ottawa. In this program, French-as-an-additional-language students take content courses in French, doing so alongside students who are studying in French as their strongest language. They are therefore afforded additional supports by the university (University of Ottawa, 2025). The study took place longitudinally, over the course of four years. The French Immersion program and the overall experience at a bilingual university were shown to have strengthened the participants' investment into French by tapping into identity (e.g., greater identification with French Canadian culture), ideology (e.g., greater endorsement of official-language bilingual rights), and capital (e.g., greater appreciation of the value of bilingualism). Flynn (2018) documented more changes related to ideology and identity, begging the question of whether capital was already playing a larger role in their investment at the outset; the literature demonstrating the potential for an overemphasis on capital in French Immersion students is presented below in the Hypotheses section. The findings informed recommendations for the use of French language skills in authentic communicative situations and authentic praise and support of French language skills by educators to encourage investment. It is important to recognize that the participants in this study were predisposed towards being more invested into French than the average bilingual young adult, since they had voluntarily enrolled in this postsecondary French Immersion program. Furthermore, said participants reflected only French Immersion, Extended French, and Core French programs. The current study builds upon this meaningful research by expanding the diversity and recruiting the

participants from the whole University of Ottawa community who attended any bilingual education program (including French language schooling).

The Investment Model is expected to capture rich insights about the ideologies and investment of multilingual young adults into French, a minority official language in Ottawa. Young adulthood offers a unique snapshot of investment, as ideologies are being influenced by peers and from the impending adult world, identities are ever-changing, and appreciation of capital may be developing as they emerge into adulthood (Norton Peirce, 1995). The most relevant earlier research reveals that their sense of who they could become, as multilinguals in the world, played the dual role of informing and being informed by their beliefs (Chen, Zhao, & Tao, 2020; Flynn, 2018).

Current Study

This thesis aims to contribute to the literature about multilingualism in young adults, which is a fascinating but understudied period of development and self-discovery. During this time, adept language skills are required to navigate a variety of new or changing social relationships, and many layers of socio-emotional information can be interwoven with the concrete message to be communicated (Hill, Claessen, Whitworth, & Boyes, 2020). Therefore, depending on their level of proficiency, multilingual young adults may be applying these age-appropriate adaptive skills while refining their skills in several languages or while acquiring a new language (Uptin, 2022). For instance, becoming responsible for adjusting their content or style based on their interlocuter(s) (Nippold, 2016), calling on maturing skills such as nonverbal comprehension and perspective taking (Reed & Brammall, 2006). Meanwhile, vocabulary in all languages and how to convey words in a meaningful way continues to expand into adulthood as the need to cover a wider range of communicative topics with more sophistication increases

(Smith, 2015). Socially, young adults use more figurative language as they get older, a style that features lexical items that reflect shared interests, such as references to popular culture, and serves as a signal of in-group identification and belonging (Nippold, 2016; Smith, 2015). In general, young adults demonstrate a greater awareness of and concern with the acceptance of their peers, while at the same time disengaging from parents, teachings, and other adult authority figures (Caldas & Caron-Caldas, 2002; Eckert, 2003).

Often, young multilinguals will switch back and forth between languages as a strategy for negotiating various relationships (Brisson, 2021; Cutler & Røyneland, 2018). When young adults know multiple languages, they must consider their lived experience, contextual cues, and even societal factors when deciding whether, when, or with whom to use a particular language (De Houwer, 2015; De Houwer & Ortega, 2018). For instance, an individual learning a minority language in school may associate it with an overly academic and prescriptive situation, detracting from its appeal or its validity as a language for socialization with peers (Tarone & Swain, 1995; Taylor, 2013). Similarly, parental strategies to encourage the use of a particular language may be viewed as overly dominant and can have the opposite effect (Caldas & Caron-Caldas, 2002). Strong avoidance of a particular language in certain settings, or with certain people, may be interpreted as an act of creating linguistic distance that helps to demarcate important aspects of the individual's identity (Ochs, 1993). As agents of their own multilingualism, young people make a myriad of conscious and subconscious decisions about their languages in their lives; as such, they employ various strategies to find a sense of linguistic belonging as they form their own identity in relation to the identities of others around them (Taylor, 2013).

There is limited research addressing the young adult experience of more established multilinguals – meaning, individuals who are in the intermediate to later stages of language acquisition. It will be interesting to explore multilingualism at a time when the first adult-oriented educational and employment decisions are being made – especially in Ottawa, Canada where there are two official languages, English and French, and knowledge of both can be advantageous in these domains. The age of the participants in this thesis is also a reflection of almost two decades of individual experiences throughout the infancy, childhood, and adolescence; this thesis will provide information about not only this snapshot in time, but also hopefully provide some retrospective insights about the evolution of their investment into French as well.

Capitalizing on this ever more diverse group of multilingual young adults in Ottawa, this thesis will also consider and investigate their individual characteristics and experiences. While some will be held constant across the participants in this study, such as age and some knowledge of French, other individual characteristics and experiences are expected to vary considerably between individuals and will therefore provide interesting points of reference as to the differences in language ideology and investment. This study will explore five categories of individual characteristics and experiences, which are detailed below.

Individual Characteristics and Experiences

Proficiency. Proficiency was one of the first outcome measures of interest to multilingualism researchers **(Jacobsen & Imhoof, 1974; Perani, et al., 1998; Verhoeven, 1992)**. Questions abounded regarding the multilingual's proficiency in each of their languages, usually as compared to the proficiency of monolingual native speakers as the ideal **(Juan-Gareau & Lyster, 2018)**. With a growing resistance to this idea of multiple monolingualism, researchers have uncovered many interesting facts about the proficiency of multilinguals as a distinct population **(Verhallen & Schoonen, 1993)**.

For instance, multilinguals often have different levels of proficiency in their different languages at different times in their lives (Dewaele, Housen, & Wei, 2003). Likewise, within one language, there may be differences between either receptive and expressive language abilities or written and spoken language abilities (Bonnesen, 2009; Meir, 2018). Overwhelmingly, multilingual proficiency is understood to include two distinct sets of language-dependent knowledge and some language-independent knowledge that is shared; some of the transfer can be attributed to the extent to which the languages overlap, but there is ample experimental evidence for cross-linguistic skills transfer between languages that are spoken and signed, or from different language families, with different scripts and grammatical structures (Masilamani, 2019; Tolchinsky, Aparici, & Vilar, 2022).

Language Exposure. Language exposure is a necessary input for language learning, but the amount of possible exposure necessarily decreases as more languages are added to the person's repertoire **(Farabolini, Taboh, Ceravolo, & Guerra, 2023)**. Beyond that, variability of input is reduced in some cases, as it becomes more difficult to obtain exposure in a variety of supportive language learning settings that showcase different vocabulary with different interlocuters **(Hoff, et al., 2012; MacDonald, et al., 2018)**. Even when amount of language exposure is similar, multilingualism may manifest differently based on other related individual experiences such as the age at which the exposure began and ended, or the amount of temporal overlap in the learning processes for each language **(Peñaloza, Grasemann, Dekhtyar, Miikkulainen, & Kiran, 2019)**. Amount of exposure to each language plays a role in improving proficiency although the relationship between the two is not linear **(Deanda, Arias-Trejo, Poulin-Dubois, Zesiger, & Friend, 2015)**.

Language exposure takes many forms for multilinguals. Data is usually collected retrospectively, as is the case with this thesis, so to get the clearest representation over time, it is imperative to consider exposure to each language across many contexts: in the home, with friends, via the media, at extracurricular activities, in the community, and at school (Cohen, Demazel, & Witko, 2024; Gullifer & Titone, 2021).

Schooling. Schooling refers to time spent in school and represents a large proportion of children's and adolescents' overall exposure to languages. When considering schooling in more than one language, questions extend beyond the relative amount of exposure to both languages. Schooling might impact the quality of exposure, the focus and modality of language instruction, the types of interlocuters available in each language, and even the language ideologies that are transmitted explicitly or implicitly **(Fuller, 2018; Martin-Beltran, Sierra, & Cataneo, 2025)**.

Since the most recent update of the Official Languages Act, in 1988, Canadians have had access to education in both official languages (Government of Canada, 2012). Across Canada, the rights of minority official language speakers are protected such that minority official language communities are guaranteed access to schooling in their first language (Haque, Multiculturalism Within a Bilingual Framework: Language, Race, and Belonging in Canada, 2012). Beyond that, language education options across Canada are dictated by geography in so much as education is a provincial responsibility. Access to bilingual programming (i.e., French-as-an-additional-language in English schools or English-as-an-additional-language in French schools) is provincially governed (Cummins, 2014). Some provinces, such as Alberta, Saskatchewan, and Manitoba, do not mandate bilingual education, leaving it to the discretion of regional school boards. Other provinces mandate bilingual education for all students for a designated period of time. In Ontario, the policy is the same for both official languages: school boards are required to offer bilingual programming from grade 4 to grade 9 inclusively (Ministry of Education, 2022). In the Ottawa region, however, all English public school students receive FSL programming from kindergarten to grade 9 inclusively (Ottawa-Carleton District School Board, n.d.; Ottawa Catholic School Board, n.d.). This is distinct from French public school students, who receive ESL programming from grade 4 to grade 12 inclusively (Government of

Ontario, 2024). This thesis will examine four educational programs that promote official language bilingualism in Ottawa, with varying focuses and to varying degrees.

Core French is available throughout primary and secondary school and offers a minimum proportion of instruction in French – one French language arts class (Ottawa-Carleton District School Board, n.d.). *Extended French* is available to some in grades 1 to 3 and offers a slightly higher proportion of instruction in French – one French language arts class and one class of curricular content learning in French (Ottawa Catholic School Board, n.d.). After grade 3, those in Extended French would feed into Core French or French Immersion. *French Immersion* is available throughout primary and secondary school and offers a higher proportion of instruction in French – one French language arts class and several classes of curricular content learning in French (Ottawa-Carleton District School Board, n.d.; Ottawa Catholic School Board, n.d.). In Ottawa, there are two entry points to *French Immersion*; while some Ottawa students would enter at grade 4, which is deemed "Middle French Immersion", others enter at grade 1, which is deemed "Early French Immersion" (Ottawa-Carleton District School Board, n.d.; Ottawa Catholic School Board, n.d.). *French schooling* is also available throughout primary and secondary school and offers the highest proportion of instruction in French – virtually all curricular content learning in French and the introduction of one English language arts class from grade 4 onwards (Government of Ontario, n.d.; Conseil des écoles catholiques du Centre-Est, n.d.). See Appendix A for a detailed breakdown of Ottawa school boards, primary educational programs, their official language implications, and the proportion of instruction time in each language. Language programs in high school are not structured as firmly as in earlier grades; students are encouraged to choose the academic trajectory that suits them best (Ottawa Catholic School Board, n.d.).

Motivation and Attitudes. Motivation has been linked to success in learning an additional language **(Bialystok & Frohlich, 1978; Masgoret & Gardner, 2003; Van Marsenille, 2015)**. The psychological construct of motivation has been integrated into this thesis as a comparator to the Investment Model and its components. While investment is a sociological construct that considers the dynamic social world around the multilingual individual, motivation is a psychological construct – an affective trait and internal process to language learning (Norton Peirce, 1995). There are several theoretical frameworks for language learning motivation but Gardner's is among the most researched and the most discussed, including in Norton's (1995) seminal piece about identity and investment. In the 1980's, Gardner published a seminal study that classified an individual's motivation to learn an additional language as instrumental (driven by its perceived utility) or integrative (driven by a desire to communication and identify with another community). Gardner defined motivation as an eagerness to progress language learning (Gardner, 1985; Teimouri, Goetze, & Plonsky, 2019) and since then, researchers have demonstrated how motivation is interrelated with language learning attitudes, anxiety, and other characteristics **(Masgoret & Gardner, 2003)**. What Gardner described as attitudes certainly interrelates conceptually with language ideologies, as defined in the Investment Model. This is evidenced by certain items in the full version of the Attitude/Motivation Test Battery (AMTB; discussed in-depth below) such as "Native English speakers have much to be proud about because they have given the world much of value." Therefore, it will be interesting to examine this theory of motivation alongside the Investment Model.

Lexical Processing. Lexical processing ability refers to efficacy in the processing of lexical items in all their languages. It is an inherently complex task, known to be influenced by many individual characteristics and experiences (de Groot et al., 2002; Sabourin et al., 2016). For instance, lexical processing is thought to evolve with proficiency in a given language, as is lexical knowledge **(Reiser-Bello Zago & Berthele, 2024; Zareva, Schwanenflugel, & Nikolova, 2005)**. The characteristics of words also have an impact on word learning and processing. Words of higher frequency (whether exposure to the word occurs often), vagueness (whether the word is broad and encompasses more specific words), concreteness (whether the word refers to things, usually in the here-and-now), and imageability (whether the word triggers a mental image) are usually learned earlier and processed more efficaciously **(Crossley, Salsbury, & McNamara, 2011; Hudson & Bergman, 1985; Reiser-Bello Zago & Berthele, 2024)**. As such, varying these characteristics among the stimuli used in a lexical processing task can provide objective insight into an individual's lexical processing abilities and lexical knowledge **(Mainz, Shao, Brysbaert, & Meyer, 2017)**. It is also common to vary the status of words (whether the word truly exists) in these tasks as a tool to investigate lexical processing, therefore requiring participants to rule out any matches in the target lexicon rather than identifying one **(Gao, et al., 2022)**.

Research Questions

RQ1: What language ideologies do Ottawa's multilingual young adults who know French hold?

RQ2: What are the associations between the language ideologies of Ottawa's multilingual young adults who know French and their individual characteristics and experiences?

RQ3: To what degree are these multilingual young adults in Ottawa invested into knowing French?

Hypotheses

RQ1: What language ideologies do Ottawa's multilingual young adults who know French hold?

Hypotheses have been elaborated based on the results of existing research from different regions or with different age groups and are presented below.

H1a: It is hypothesized that these multilingual young adults may hold ideologies that ascribe value to multilingualism and that connect multilingualism with a Canadian nationalism. This hypothesis is based on Canada having two official languages and a self-concept as a 'mosaic' of different cultures rather than a 'melting pot' like our neighbours to the south (Maeder & McManus, 2022; Skerrett, 2008). This is particularly relevant in Ottawa, on the border with Gatineau, Quebec, where official language bilingualism is more common than in most Canadian cities, as elaborated in the Introduction (Turcotte, 2019). However, these results would stand in contrast to the evidence from recent studies of Canadian discourse in traditional and social media, expressing overwhelming English monolingual ideologies (Vessey R. , 2016; Vessey R. , 2020).

H1b: It is also hypothesized that participants may hold ideologies that position multilingualism as a tool for career possibilities and advancement. This hypothesis is reflective of their age and life stage as young adults pursuing university education; they may be especially focused on their employment future when compared to other times in their lives. It also arises from an earlier study that found that Francophones employed professionally in Ottawa's public service held a strong belief in official language bilingualism as a mechanism for upward economic and social mobility (McLaughlin, 2024), and these participants all know French as one of at least two languages.

H1c: Lastly, it is hypothesized that participants may hold ideologies that separate language skills or adherence to language standards from intelligence. This hypothesis arises from a recent study that found that monolinguals were more likely to be oriented towards strict language standards – and to make judgments about intelligence or academic success based on language skills (Valentin-Rosas, 2023).

H1d: There remains the possibility of uncovering language ideologies not predicted here, which would be interesting since they would be a direct expression of this particular group of young multilingual Canadians living in Ottawa.

RQ2: What are the associations between the language ideologies of Ottawa's multilingual young adults who know French and their individual characteristics and experiences?

Language ideologies are, in part, shared by large communities as part of societal tendencies, but also likely reinforced by individual characteristics and experiences (Valentin-Rosas, 2023). For predicting the outcomes of RQ2, a starting point would be any information that we have on specific language ideologies and the characteristics of the people who hold them.

H2a: It is therefore hypothesized that there may be an association between language ideologies that examine Canadian nationalism and linguistic rights and individual characteristics such as official language dominance, French proficiency, or French lexical processing. These three individual characteristics describe the participants' relationship to and knowledge of the French language, measured both objectively and subjectively, dichotomously and continuously. This hypothesis is justified by the well-documented differences in culture between Francophone and Anglophone Canadians (Landry & Forgues, 2007), as well as the French minority language

community's longstanding quest to defend their linguistic rights (Grin, 2005; May, 2005; Scott, Straker, & Katz, 2008).

H2b: It is also hypothesized that there may be an association between language ideologies related to the utility of language and individual characteristics, such as having an instrumental or integrative orientation towards French, and experiences such as schooling (especially if education was pursued in one school program from start to finish). This hypothesis arises from a study of French Immersion students in New Brunswick, Canada's only officially bilingual province, whose investment was driven by an ideology of "linguistic instrumentalism", defined as seeing French language learning as a means to increase economic opportunity, thought to have been informed by broader neoliberal ideologies in Canada (Marshall & Bokhorst-Heng, Canadian Immersion Students' Investment in French, 2020).

H2c: Lastly, as an extension to H2b, it is hypothesized that there may be an association between language ideologies that formalize language and individual characteristics such as how closely language education program is related to sense of identity. This hypothesis is theoretically reasonable since participants may have internalized different messaging about language being the domain of formal institutions versus being a more informal, culturally responsive phenomenon.

All in all, there is not enough existing evidence to know whether the effects of these individual characteristics and experiences will be strong enough to demonstrate statistically significant associations with language ideologies using the planned analyses. This is the first study to have as one of its primary goals to uncover potential associations between language ideologies and a wide range of individual characteristics and experiences. Taking any one individual characteristic or experience in isolation still leaves a great diversity between

participants when it comes to the others. The multiple regression is the likeliest analysis to uncover statistically significant results, as all the individual characteristics and experiences will be considered at once in the model.

RQ3: To what degree are these multilingual young adults in Ottawa invested into knowing French?

Hypotheses related to capital and identity have been developed based on earlier work using the Investment Model as a theoretical framework.

H3a: In addition to the hypotheses related to language ideology, the quantitative and qualitative analyses related to RQ3 are hypothesized to uncover a range of investment realities, explained by variation in what language ideologies are held, where value is ascribed to certain types of capital, and how identity is constructed. This hypothesis is theoretically reasonable due to the diversity of the participants in this thesis.

H3b: It is expected that, because of the neoliberal ideologies of the day, investment will be driven by economic capital more than the other forms of capital, perhaps with a narrow focus on employment prospects in Ottawa (Byrd Clark, 2008; Marshall & Bokhorst-Heng, Canadian Immersion Students' Investment in French, 2020).

Contribution to the Advancement of Knowledge

This thesis is intended to contribute to the ongoing positioning of the Investment Model amongst more popular theoretical frameworks in multilingualism research, if it is well-suited to capturing the complexities of the multilingual experience. Out of the three components of investment, ideology is the least explored in the existing literature, making it the best component for the focus of this thesis. Along with qualitative methods of inquiry which are more common in research using the Investment Model, this study will also utilize an adapted quantitative measure

of language ideology in what may be the first, or an early, application of quantitative measurement of language ideology in Canada. The findings will provide insights into its broader applicability in the Canadian context.

Additionally, in recognition of the intersection between the multilingual individual and the dynamic social world surrounding them, this thesis is important in that it will describe the investment of a diverse but specific group: young adults in Ottawa – a bilingual Canadian city with English as a majority language and French as a minority language (and both as official languages) – who know French as one of at least two languages. As such, this thesis stands to illuminate the general tendencies in beliefs of the whole group while also capturing the perspective of diverse individuals whose beliefs are likely dually informed by population-level language ideologies and by their individual characteristics and experiences. This particular focal group will make an important contribution to the literature on multilingualism because they are understudied, firstly, as young adults, and secondly, as more established multilinguals who are not necessarily new learners.

Chapter 2: METHODOLOGY

Design

This exploratory study follows a descriptive concurrent mixed methods design in two parts: Part 1, questionnaires and quantitative tasks, and Part 2, a semi-structured interview (SSI). In order to address RQ1, explicit and implicit language ideologies were examined quantitatively with a language ideology survey (LIS) and qualitatively with semi-structured interviews. In order to address RQ2, statistically significant differences in LIS responses were explored in relation to a number of other measures (detailed below). Along with the examination of language ideologies for RQ1, in order to address RQ3, the two other components of investment (capital and identity) were explored individually and then in conjunction; identity was examined quantitatively with a social identity ranking (SIR) and both were examined qualitatively in the SSIs. To deepen our understanding of this diverse group of multilingual young adults, information about their individual characteristics and experiences were gathered with tools specific to the characteristics of interest. All of the measures and tools that were utilized in this thesis are discussed below in the Procedures section.

Mixed-Methodology

Past research has examined investment using case studies (Lee, 2014), multiple case studies (Flynn, 2018; Marshall & Bokhorst-Heng, Canadian Immersion Students' Investment in French, 2020), small focal group studies (Ballinger, 2017), and qualitative studies of moderate size (Chen, Zhao, & Tao, 2020; Harbon & Fielding, 2022). There is evidence to suggest that a mixed-methods approach to research on investment tends to enrich the findings beyond quantitative or qualitative methods alone, especially as it pertains to disentangling the ways that ideology, capital, and identity may be interrelated and may overlap with one another (Danzak,

2011). Quantitative tasks have been identified to measure ideology and created to measure identity; all three components will be explored qualitatively as well.

When it comes to the qualitative and mixed-methods analyses in particular, this thesis is reflexive in recognizing the subjectivity of the researcher operating in a dynamic social world. Reflexivity is knowing that the social researcher is not immune from and contributes to the constructed social reality in which the participants find themselves (Mauthner & Doucet, 2003). Moreover, any interpretation by the researcher contains an element of self-interpretation (Dodgson, 2019; Koch & Harrington, 1998). In this case, the researcher is an English-dominant multilingual who was first exposed to French in kindergarten, who developed competency in French through schooling, and who began undergraduate studies at the University of Ottawa in 2009 as someone highly invested in knowing and using French. As much as possible, the researcher examines positionality as well as preconceived ideas and assumptions during the interpretation so that they can be reduced, and what remains can be held constant across all participants and ultimately reported to the reader for reasons of transparency. In this thesis, assertions made based on the content analysis of the qualitative data (detailed further in the Analysis section, below) are supported by evidence as assessed by the researcher within their subjective perspective.

Participants

The participants were a total of 111 undergraduate students at the University of Ottawa who met two inclusion criteria. Firstly, participants had to have graduated from an Ontario high school in the Ottawa area within 12 months prior to participation. The linguistic landscape contextualized in the summary of the literature should stand to justify limiting recruitment to participants who graduated from an Ontario high school in the Ottawa region given that the

language ideologies of young multilinguals from the province adjacent, Quebec, or from regions further from Quebec within Ontario, may differ. Secondly, participants had to know French as one of at least two languages. For the purposes of this thesis, participants were eligible if they self-identified as knowing French (as defined in the introduction) to any degree. Recruitment materials explicitly indicated that fluency was not required. This inclusion criterion was intentionally set to promote the recruitment of individuals who spanned the full range of French knowledge, from low to expert self-rated proficiency. Recruitment was not limited by the status of French as either first language or additional language; in fact, these language-related definers and labels were purposefully avoided in the recruitment phase to avoid imposing on the identities of the participants, which were to be explored later in the research.

Recruitment was conducted through the University of Ottawa Integrated System of Participation in Research (ISPR) student pool – a program that offers undergraduate students credits in exchange for participation in research. Pre-screening questions ensured that only eligible students would have the option of registering for this thesis. Those who registered were accepted on a first come first served basis. Participants were free to begin Part 1 at any time, asynchronously. Participants were invited to register for Part 2 and select a time to meet virtually with the researcher. Those who registered were once again accepted on a first come first served basis. All participants read and provided informed consent before beginning the questionnaires and tasks. University of Ottawa ethics guidelines consider all university students capable of providing informed consent to participate in research, including those below the age of majority.

All participants (n = 111) completed Part 1 of the study (asynchronous online questionnaires and quantitative tasks). Participants ranged from 17 to 24 years of age (mean = 18.06, sd = .916). Of the group, 34% were women, 8% were men, 4% were gender diverse, and

the remaining 54% chose not to disclose their gender. With regards to race, 28% of the whole group were people of colour, 17% were white, 1% were Indigenous, and the remaining 54% chose not to disclose their race. Information regarding age, gender, and race was collected for demographic purposes and was not used in any analyses.

A subset of participants (n = 20) who completed Part 1 of the study also completed Part 2 (a synchronous semi-structured interview). Of those who completed Part 2 of the study, a smaller sub-group of participants (n = 8) were selected for in-depth qualitative analysis for the purposes of this thesis. They were selected for representing the diversity of individual characteristics and experiences of the whole group, including but not limited to knowing from two to five languages or having a self-reported overall French proficiency score from 2 to 4, spanning the full range in both cases. An overview of these participant characteristics can be found in Table 1. More extensive language profiles for each of these eight participants can be found in Appendix B.

Table 1

Semi-Structured Interview (SSI) Sub-Group Participant Characteristics

	French Strength Order	Total Languages	Official Language Dominance	Early French Exposure	French Proficiency	Schooling	Exposure Contexts Cumulative	Exposure Contexts Amount	AMI	Language Knowledge Identity Rank	Language Program Identity Rank
Abdullah	3	3	English	0%	2.6	M	32	910	39	2	6
Amélie	2	2	English	100%	3	F	20	1335	15	1	3
Bahar	3	3	English	0%	2	M	11	150	17	3	6
Dawn	2	2	English	25%	2	FI	10	154	37	5	3
Holly	2	2	English	0%	2.6	FI	15	334	12	5	6

John	1	3	French	50%	3.4	F	34	1696	29	2	1
Julianne	2	2	English	60%	3.2	F	33	2153	29	1	2
Matma	3	5	English	0%	3	FI	21	695	45	3	5

Note. AMI = Attitudes and Motivation Index; FI = French Immersion; M = multiple school programs; F = French.

Procedures

Every questionnaire and task in the present study was offered in both French and English so that participants could participate in their official language of choice. Tasks are explained below in the order of presentation for participants. The following tasks belong to Part 1 of the study protocol.

Language Background Questionnaire (LBQ):

The LBQ was employed to capture the in-depth language learning experience and self-rated proficiency of the participants by collecting information on age of acquisition, manner of acquisition, language dominance, as well as self-rated French proficiency in terms of oral comprehension, oral production, written production, reading comprehension, and pronunciation (Sabourin, Leclerc, Lapierre, Burkholder, & Brien, 2016). It has been validated for use with diverse samples of multilingual young adults at the undergraduate level (Sabourin, Leclerc, Lapierre, Burkholder, & Brien, 2016). The LBQ was completed online in Qualtrics and took approximately 20 minutes to complete. It is provided in Appendix C. The following measures were extracted from participants' responses on the LBQ.

Self-Rated Proficiency. The LBQ asked participants to rate their reading, writing, listening, and speaking proficiency in all of their languages. The original 6-point rating scale from "very low" to "native" was adapted to a 4-point scale of "low", "intermediate", "advanced", and "expert". These changes were implemented firstly, to make the relative distance

between options clearer to participants, and secondly, to avoid any confusion surrounding the term “native” as the most proficient option. The LBQ also asked participants to rate their pronunciation skills in terms of having an accent. The original 5-point rating scale from “very accented” to “native” was adapted to a 4-point rating scale of “very accented”, “accented”, “slightly accented”, and “not accented” for the same reasons as aforementioned.

Language Exposure. The LBQ also asked participants to indicate the percentage exposure to all of their languages in various contexts at various ages throughout life. The age categories were birth to age 2, age 2 to kindergarten, kindergarten, elementary school, high school, college/university, of which the latter was adapted to remove Collège d'enseignement general et professionnel (CEGEP), as participants were from Ontario high schools only. The contexts included at school, at home, with friends, media use, extracurricular activities, daily activities in the community, and work. The percentages at each age/context intersect were expected to sum to 100%. The original LBQ section on parent/caregivers’ information was reduced significantly, as that level of detail was deemed unnecessary for the scope of this thesis.

Schooling. The LBQ also asked participants to describe the language educational program(s) that they attended from kindergarten to the end of high school, allowing for variability along the way. The original LBQ was adapted for the purposes of this study to include Extended French as an English-language schooling option (relevant to participants who attended an English Catholic school) and to include schooling outside of Canada. Those who indicated having attended school outside of Canada were asked to explain the country(ies) and language(s) of study.

Mini-Attitude/Motivation Test Battery (Mini-AMTB):

The Mini-AMTB was utilized to explore the attitudes and motivations of the participants in this thesis. The Mini-AMTB, a shortened version of a questionnaire known as the AMTB (Gardner, 1985), is comprised of 11 prompts to which participants indicate the strength of their agreement on a 7-point Likert style scale, to examine the attitudes and motivations of Canadians learning French. The Mini-AMTB is more concise in its exploration of motivation and attitudes, in contrast to the full version, where there is also a conflation of attitudes and motivation with ideologies; that careful distinction made it more appropriate for the current project. Each prompt in the Mini-AMTB therefore represents a subscale from the full-length questionnaire: 'interest in foreign languages', 'motivational intensity', 'French course anxiety', 'French teacher evaluation', 'attitudes toward learning French', 'attitudes toward French-Canadians', 'integrative orientation', 'desire to learn French', 'French course evaluation', 'French use anxiety', and 'instrumental orientation'. Beyond the subscale scores, the Mini-AMTB also provides three composite scores: "integrativeness", "motivation", and "attitudes toward the learning situation", calculated from combining two or more subscale scores. Lastly, the Mini-AMTB also provides an overall self-rated attitude and motivation index (AMI) score (Bialystok & Frohlich, 1978). The Mini-AMTB has been widely applied in the field of SLA and a *computerized* version of the Mini-AMTB was first validated in 2004 with a sample of adolescent bilinguals ranging from 10 to 15 years of age (Tennant & Gardner, 2004). It was completed online in Qualtrics and took approximately 5 minutes to complete. The Mini-AMTB is provided in Appendix D.

Only one adaptation was deemed necessary for this thesis: the prompt "My attitude toward French Canadians is [unfavourable ←→ favourable]", representing the subscale 'Attitude toward French Canadians' was removed due to its sensitive nature. It was decided that an existing prompt, "If I were to rate my feelings about learning French in order to interact with

French Canadians, I would have to say they are [weak ←→ strong]", representing the subscale 'Integrative Orientation' would provide sufficient evidence for the needs of this thesis and that it was unnecessary to ask participants' to make a judgment on French Canadians broadly. The resulting questionnaire therefore only contained 10 prompts/subscales.

Language Ideology Survey (LIS):

The LIS was utilized to gather quantitative data about the participants' degree of agreement with known language ideology construct. The LIS captures the following seven language ideology constructs: *monolingualism versus multilingualism, language as a decontextualized formal system, language as a tool, language as a valuable complex skill, language as a national unifier, language as a marker of intelligence,* and *language as a privilege.* Participants were asked to rank the degree to which they agreed or disagreed with each prompt on a 6-point scale from "strongly disagree" to "strongly agree" with no neutral midpoint option. The LIS was created and piloted by (Fitzsimmons-Doolan, 2011) with Arizona voters. Other than follow-up studies by the same research team, this measure has yet to be implemented in assessing language ideologies in other contexts; adaptations for this Canadian context are detailed below. The LIS was completed online in Qualtrics and took approximately 10 minutes to complete. The LIS is provided in Appendix E.

Some adaptations were made for the purposes of this thesis. The original survey contained 31 prompts. In the adapted version for the present study, all mentions of the U.S. were changed to Canada. For example, the original ideological prompt "In the U.S., the use of more than one language should be promoted." was changed to "In Canada, the use of more than one language should be promoted." Secondly, prompts mentioning English were repeated for French so that level of agreement could be assessed for each official language. For example, the

ideological prompt “In Canada, public communication should occur in English.” was repeated to also read “In Canada, public communication should occur in French.” This resulted in the addition of five prompts, for a total of 36 prompts on the LIS.

Given the differences between the U.S. and Canada on language policy and the culture of language, some terminological adaptations were also incorporated. The term “native language”, referring to any non-English first language in the original version, was changed to “languages other than English and French”. For example, the original ideological prompt “Schools must teach native languages of students.” was changed to “Schools must teach languages other than English and French to students.” Finally, the term “normal” was replaced with “appropriate”, as a more inclusive term considering the diversity of this multilingual sample. For example, the original ideological prompt “In the U.S., English is more normal than other languages.” was changed to “In Canada, English is more appropriate than other languages.” (and repeated for French).

Social Identity Ranking (SIR):

An SIR task was used to investigate the relative importance of language-related social affiliations to the participants’ sense of identity. The SIR was originally developed and utilized by (Hooper, 1976) to examine feelings of belongingness to certain social and group identities. Hooper felt that examining a person’s sense of identity could help predict or explain social behaviours that would be tied to their roles as members of certain social groups. It was adapted for this thesis taking into consideration a more contemporary context (explained below). Participants were presented with the following list of categories of social or group affiliations, which they were asked to rank from most important to least important: language knowledge, language program at school, gender, race or ethnicity, and prospective educational or

professional plans. Rather than being exhaustive, this list is a reproduction of the demographic information that will be collected for this thesis; these individual characteristics and experiences are known to, or are predicted to, impact multilingualism or multilingual identity. Participants were also given the option of adding one social affiliation and ranking it, if there was a part of their identity that was not adequately represented by the choices provided. The tool has been cited and validated over the years, including recent applications with diverse samples at the college level (Abdelal, Herrera, Johnston, & McDermott, 2006). The SIR was completed online in Gorilla Experiment Builder and took approximately 5 minutes to complete. A screenshot is provided in Appendix F.

The original SIR listed affiliations to certain age groups, racial and ethnic groups, political groups, socioeconomic classes, family roles, genders, religious groups, educational groups, and occupational groups. In the current project, the SIR has been adapted in three key manners. Firstly, the social and group identities references in this version better reflects the reality for young adults; for instance, age groups were removed (since the participants are close in age) and the language around occupational and educational groups was modified to reflect a more *prospective* view of *potential* career and educational paths. Secondly, due to the application of this task to research on multilingualism, language-related social and group identities were added. Lastly, the design of the task was re-worked to account for modern best practices of inclusive self-identification. Rather than listing all of the potential social and group identities from which participants would have to choose, only the broad categories of affiliations were presented and then the participant filled in the appropriate social or group identity. This approach was used because it is less prescriptive and therefore, more inclusive for the diverse group of participants.

Lexical Decision Task (LDT):

The LDT was used to assess individual participants' processing speed and accuracy in French. The LDT was completed online in Gorilla Experiment Builder. Participants were instructed to indicate whether each stimulus was a true word in French, and to respond as quickly as possible. Participants were encouraged to provide their best guess if they were unsure. The selection of "true word" was made by pressing the 'f' button on the keyboard while the selection of "not a true word" was made by pressing the 'j' button on the keyboard. Preceding the fixation cross, participants were instructed to place their index fingers on the 'f' and 'j' keys and to keep them there until the end of the practice or trial. Before the experimental trial, participants were led through a screen that provided instructions, including the total number of stimuli (72) and the approximate length of time required for the task (10 minutes). Participants were then led through a step-by-step example of what they would see during the task, supported by written explanations and instructions. Participants then participated in a practice trial, replicating the exact conditions of the experimental trial with 3 unique practice trial stimuli. Accuracy of responses and reaction time were recorded automatically by the software.

In this task, the written stimuli were presented in the middle of the screen, one at a time, for a maximum duration of 20 seconds. The stimuli were preceded by a fixation cross, presented in the middle of the screen for exactly 3 seconds. The stimuli – 72 letter strings, 4 or 5 letters long – were selected from an earlier LDT study of French-speaking university students (Barca, Pezzulo, Ouellet, & Ferrand, 2017). There were three types of letter sequences: high frequency (HF) real words in French, low frequency (LF) real words in French, and non-words (NW) in French. More specifically, the NWs were legal pseudowords – letter sequences that follow the orthographic rules of French and are pronounceable but are not actual French words. The three categories of stimuli were intermixed and presented in a random order.

The original source for the real words was The French Lexicon Project, which is available freely online to the public, and which is supported by earlier evidence-based work developing Lexique 1 and Lexique 2 (Boris, Pallier, Brysbaert, & Ferrand, 2004; New, Pallier, Ferrand, & Matos, 2001). All of the legal pseudowords were derived from the PHOM database (Farioli, Grainger, & Ferrand, 2011). In having chosen a pre-existing word list, the appropriate level of relative difficulty of the letter strings needed to be verified. Friedman tests were run to uncover any potential differences in error rate and reaction time between words, within word type. Friedman tests revealed no statistically significant differences between the mean ERs and RTs of the 24 HF words, LF words, and NWs [$\chi^2(23) = 23.00$, $p = .461$]. Therefore, there were no significantly easier or harder words within each type.

There are numerous LDT experiments in the literature, investigating a wide range of research questions related to language processing in one language or across a multilingual person's languages dating back several decades (Meyer & Schvaneveldt, 1971). This version of the LDT protocol, with this word list developed to assess French language processing, has previously been applied to university students in France who were native speakers of French (Barca, Pezzulo, Ouellet, & Ferrand, 2017) and children between the ages of 10 and 18 in Cote d'Ivoire who were studying French in school and had varying levels of French exposure in the household (Brice, et al., 2024). The LDT is presented in Appendix G.

The following task belongs to Part 2 of the study protocol.

Semi-Structured Interview (SSI):

Semi-structured interviews were undertaken to elicit conversation about what ideologies they hold and investment in general. Semi-structured interviews are an effective qualitative tool which helps the researcher grasp the perspective of the participant, then construct a fuller

narrative of their unique lived experiences (De Fina & Georgakopoulou, 2020). Open-ended questions were prepared to steer the conversation in a particular direction, without leading participants to mention any particular ideologies. The interview guide for the current study is presented in Appendix H. SSIs as a method of data collection have been utilized in a great deal of research on the experiences of multilingual children (Koskina, 2023; Madrid, 2022), multilingual adults (Rocha, 2011), parents of multilinguals (Lee, Shetgiri, Barina, Tillitski, & Flores, 2015; Rasheed, Tiwari, & Padickaparambil, 2024), and teachers of multilinguals (Adjei, 2024; Bokhorst-Heng & Marshall, 2024; Crooms, 2022).

The SSIs took place virtually, using Microsoft Teams and its live transcription feature. They were videorecorded for the purposes of reviewing the accuracy of the transcripts and the subsequent qualitative analysis. Participants were free to keep their camera on or off, depending on their personal preference. The interview questions were asked in the participant's language of choice, but the participants were free to answer as they see fit, which may or may not have include a mix of languages. The researcher engaged the student in conversation for approximately 60 minutes.

Analysis

IMB SPSS 22 and JASP version 0.16.3.0 were used for statistical analyses. Qualitative analyses were conducted by hand.

Data Preparation

In order to prepare the raw data for analyses, they were cleaned and prepared in the following ways.

Total Number of Languages

The list of languages known, provided by each participant, was counted and noted as the total number of languages reported.

French Strength Order

The list of languages known was provided by participants in order from their strongest language to their weakest language. The position of French in the list was noted, with French in the 1st position meaning it was the participant's strongest language and French in the 5th position meaning it was the participant's weakest language.

Official Language Dominance

As abovementioned, the list of languages known was provided by participants in order from their strongest language to their weakest language. The relative position of French and English were noted so that official language dominance was a reflection of which language was ranked higher and thus, stronger.

Self-Rated Proficiency

French self-rated proficiency data from the five modalities (reading, writing, listening, speaking, as well as pronunciation) were averaged to create one overall French proficiency score for each participant.

Early French Exposure

The percentage of exposure to French reported from birth to age 2 directly represented the amount of early French exposure for each participant.

Cumulative French Exposure

Two indicators of French exposure were calculated. The first indicator, cumulative exposure, was calculated from a count of the instances in various contexts and at various ages throughout life the participant reported having any exposure to French. Whether the amount was

1% or 100% exposure to French, that context/age qualified. Since there were 34 contexts and ages, the highest cumulative exposure score possible was 34. The second indicator, amount of cumulative exposure, was calculated from a sum of the French exposure percentages across all of the contexts and ages throughout life that the participant reported. Since the maximum percentage of exposure is 100% at all of the contexts/ages, the highest amount of cumulative exposure possible was 3400.

Schooling

The schooling categories were the following: participants who attended a single program from kindergarten to grade 12 were classified as having attended French school, French Immersion, or Core French programs; participants who reported a change in schooling at some point were classified as having attended Multiple School Programs. The latter category includes participants who attended school both outside and within Canada, or who changed school programs within Canada.

Attitudes and Motivation

From the Mini-AMTB, an overall score known as the attitudes and motivation index (AMI) score was calculated. The sum included the ratings of eight prompts and the ratings of two prompts related to anxiety, which were reverse scored. Therefore, a score of 54 was the highest possible AMI – a rating of 7 on eight prompts *minus* a rating of 1 on both reverse-scored prompts. Additionally, three composite scores, “integrativeness”, “motivation”, and “attitudes toward the learning situation”, were calculated from the sum of ratings for two, three, and two prompts respectively. Ratings for the prompts “integrative orientation” and “instrumental orientation” were also noted.

Language Ideology

For each of the 7 language ideology constructs (*Monolingualism vs. Multilingualism, Language as a Decontextualized Formal System, Language as a Tool, Language as a Valuable Complex Skill, Language as a National Unifier, Language as a Marker of Intelligence,* and *Language as a Privilege)* the mean rating was calculated for the prompts contributing to that construct, following Fitzsimmons-Doolan (2011).

Social Identity Ranking

Among the five social or group affiliations evaluated – and the sixth, "other" option – the ranking of the language-related social affiliations "language knowledge" and "current or past language educational program" were noted. Lower number rankings indicate a greater importance of these two social affiliations to the participants' sense of identity. The exact social or group identity elaborated by the participant for these two social affiliations did not contribute to this social identity ranking.

Lexical Processing

Two outcome measures of French lexical processing were calculated: reaction time (RT) and error rate (ER). The raw RTs were reviewed to account for outliers, mistakes, moments of distraction, handedness bias, and other potentially confounding factors (Mulder, van Heuren, & Dijkstra, 2018). In line with earlier LDT research (Racine, 2014), firstly, incorrect responses were excluded from the RT analyses, resulting in the removal of 22% of the data points. Secondly, data points were removed when the RTs exceeded 10s (the threshold of meaningful data for this thesis). These datapoints represented 2% of the overall data. Lastly, RTs more than 2.5 standard deviations from the mean RT for each word were removed, equal to 3% of the overall data. The total percentage of data removal in the thesis is similar to past research (Altarriba & Knickerbocker, 2011). The data were then averaged for each word type (HF; LF;

NW), resulting in three RTs per participant. ERs were calculated by dividing the number of incorrect responses by the number of responses given. ERs were calculated separately by word type (HF; LF; NW), resulting in three ERs per participant.

Semi-Structured Interview (SSI):

Pseudonyms were assigned to protect the privacy of these participants. All raw transcripts were reviewed by a trained research assistant, who was not involved in data collection. While simultaneously watching the videorecording of the interview, errors by the automatic transcription were corrected for clarity of message; in certain cases, changes to punctuation were also required for clarity. Personal identifying information was replaced with descriptors (e.g., "[best friend]", "[workplace]", etc.).

Inter-Reviewer Reliability. An inter-reviewer reliability check, in which two research assistants conducted the review process independently, was conducted on one interview transcript (representing 5% of the SSI data). The corrections were deemed to have a high level of agreement and appropriateness.

Descriptive Analyses

Each independent variable was analyzed using descriptive statistics to describe the sample. Categorical variables were described using ranges and frequencies. These included French Strength Order, Official Language Dominance, Schooling, and Social Identity Ranking. Continuous variables were similarly described but also examined using means and standard deviations. These included Total Number of Languages, Self-Rated Proficiency, Early French Exposure, Cumulative French Exposure, Attitudes and Motivation, Language Ideologies, and Lexical Processing. Where there were multiple continuous measures on the same topic, means and standard deviations were compared with Friedman Tests to identify statistically significant

differences and pairwise comparisons to uncover the specifics. These included the different domains of Self-Rated Proficiency, the seven constructs of the Language Ideology Survey, and the different word types related to Lexical Processing.

Inferential analyses were carried out using non-parametric statistics. Given the exploratory nature of this thesis, there was no expectation of normally distributed data or equal variance between groups, as related to the independent variables. These considerations, along with a relatively small sample size, the use of non-parametric tests was best suited to explore the data statistically (Asher, 2024).

RQ1: What language ideologies do Ottawa's multilingual young adults who know French hold?

Both the descriptive analyses of the LIS (described above) and qualitative analyses of the SSIs contributed to the exploring RQ1. The eight selected SSI transcripts were subjected to a content analysis, which is among the most common qualitative methods for the analysis of interview data (Hsieh & Shannon, 2005), especially in exploratory and mixed-methods research where the results will serve as a complement to quantitative data (Vaismoradi, Turunen, & Bondas, 2013). Content analysis is defined as "any technique for making inferences by systematically and objectively identifying special characteristics of messages" (Holsti, 1968). Clearly, content analysis is a general term that encompasses a range of different analytic strategies (Powers & Knapp, 2006; Vaismoradi, Turunen, & Bondas, 2013). In the present study, both a deductive and inductive approach to content analysis was employed. Deductive content analysis was appropriate because of the language ideology constructs from the LIS that employed in this thesis; however, inductive content analysis was also applicable in terms of

exploring a relatively understudied aspect of the language learner and therefore, being open to welcoming further language ideologies that might arise from the interviews.

The content analysis was conducted following the methodology set out by (Elo & Kyngäs, 2008), integrating the element of reflexivity as operationalized by (Mauthner & Doucet, 2003). In the initial phase, SSI transcripts were re-read to establish familiarity with the participants' responses and the greater context surrounding the topics covered. It is crucial to undertake the reflexive exercise of reading the data with increasing amounts of distance between the researcher's biases and the message of the participant (Mauthner & Doucet, 2003). During these readings, the researcher develops an overarching sense of the whole (Chamberlain, Camic, & Yardley, 2004; Polit & Beck, 2003). It was decided that the unit of analysis would be at the level of themes, defined as an integration of unique instances within the data (Sandelowski & Leeman, 2012; Graneheim & Lundman, 2004). The themes reflected language ideologies. In this phase, a coding guide was also prepared for the purposes of this study, so that both coders would be able to present both deductive and inductive findings in a similar manner (see Appendix I); these coding guides were revisited for inter-coder reliability checks, described below.

In the organizing phase, SSI transcripts underwent open coding and grouped coding in a recursive manner – with coders returning to the data multiple times to find unique instances of the themes in question. Codes were grouped when there was considerable overlap. All of this was followed by a general abstraction process as related to RQ1 for each participant. In the reporting phase, the results were organized conceptually for presentation in this thesis.

Inter-Coder Reliability. Inter-coder reliability was one of the main approaches to ensuring the reliability of the CA. Cavanagh (1997) defines inter-coder reliability as the extent to which two researchers, working independently, are found to have coded the qualitative data equivalently. The inter-coder reliability check was conducted in line with standards developed for qualitative interview analysis that recognizes its interpretivist nature and does not seek to reach consensus *(Cheung & Tai, 2023; O'Connor & Joffe, 2020)*. Two researchers conducted the aforementioned coding process independently on all eight of the chosen transcripts and completed independent coding guides. Once both had completed the exercise, the two coding guides were then compared for each of the participants.

For the deductive findings of the content analysis of the SSIs, the primary comparator was agreement about whether each participant tended more towards one end or the other of the ideological spectrum, for each of the seven constructs from the LIS. The researcher and research assistant achieved an inter-coder agreement rate of 70%. Given that the inter-coder reliability check was conducted across the entirety of the eight SSIs, rather than a small sample, and that this deductive qualitative process necessarily entailed the identification, interpretation, and description of the data, which is affected by the interpretivist subjectivity of the researcher, 70% agreement was deemed acceptable. Where disagreement was noted, the qualitative evidence (noted as line numbers and/or quotes from the SSI) for that construct was further examined and compared to seek clarity on the impressions of the coders. Ultimately, the coded impressions of the primary researcher were prioritized with the careful consideration and integration of the impressions of the other. Where possible, inconsistencies – and lack of convincing evidence one way or the other – were explained with nuance in the results section (despite being difficult to manage during the inter-coder reliability checks).

For the inductive findings, both coders were free to note the themes that they identified during the content analysis for each participant. The themes that agreed between both coders were retained. For the scope of this thesis, only retained themes that were repeated across several participants were reported at the group level for RQ1.

RQ2: What are the associations between the language ideologies of Ottawa's multilingual young adults who know French and their individual characteristics and experiences?

Bivariate statistical analyses and multiple regression analyses were used to explore the relationship between the independent variables and the seven language ideology constructs explored in RQ2.

Bivariate Analyses

Each independent variable was analyzed using bivariate statistical methods to explore their relationship with language ideology. Categorical variables required a series of independent samples Kruskal-Wallis tests to identify statistically significant relationships with each of the seven language ideology constructs. These included French strength order, official language dominance, schooling, social identity ranking, and self-rated proficiency (scores directly from the LBQ: listening, speaking, writing, reading, and pronunciation). Continuous variables required a series of Spearman's rank-order correlations to identify statistically significant relationships with each of the seven language ideology constructs. These included total number of languages, early French exposure, cumulative French exposure, attitudes and motivation, lexical processing, and self-rated proficiency (calculated scores: overall, written/oral, and receptive/expressive).

Multiple Regression

A standard multiple regression was used to assess the variation of a dependent variable that could be explained by a set of independent variables (Cohen & Cohen, 1983). This statistical tool is appropriate when (1) the dependent variable is continuous – in this case, average agreement with language ideology statements that inform each ideological construct – and (2) there are at least two continuous or nominal independent variables. Following established methods for multiple regression analyses (Ho, 2013), official language dominance was entered as a nominal variable with two levels (English and French) and schooling was entered as a nominal variable with four levels (French, French Immersion, Core French, and multiple school programs). Since ordinal data is not acceptable for a standard multiple regression, French strength order (rankings from 1 to 4), language knowledge identity rank (rankings from 1 to 6), and language program identity rank (rankings from 1 to 6) were entered as adapted continuous variables. Finally, total languages, early French exposure, French proficiency, cumulative exposure contexts, cumulative exposure amount, AMI, and LDT results (HF RT, LF RT, NW RT, HF ER, LF ER, NW ER) were entered as continuous variables.

In order to protect the power of a standard multiple regression, the size of the sample must be considered to avoid overfitting the model (Grant, Hickey, & Head, 2019). The rule of thumb is to have at least 10 participants for each level of independent variables (Riley, et al., 2019). If all independent variables of interest to this exploratory project were to be entered into the standard multiple regression, with 98 participants, the ratio would only attain 4:1. Therefore, preliminary multiple regressions were conducted using each of the independent variables individually and, where statistically significant results were identified for any of the 7 ideological constructs, those independent variables were carried over into the final standard multiple regression. Before this two-step multiple regression analysis, several steps were taken to prepare

the data, such as ensuring that certain assumptions about the nature of the data were met. An overview of the assumption checks is presented below and the detailed information is available in Appendix J.

In all cases, the assumption of independence of observations was confirmed by a Durbin-Watson statistic around 2. The assumption of linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in a scatterplot of the studentized residuals against the unstandardized predicted values. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the same scatterplot. The assumption of linearity between the dependent and independent variables individually was confirmed visually by the approximate horizontal band in a series of partial regression plots. The assumption of multicollinearity was confirmed by a Pearson correlation coefficient below .70 for all independent variables except for HF RT and LF RT, which shared a correlation coefficient of .788 ($p < .05$), and official language dominance and French strength order, which shared a correlation coefficient of -.767 ($p < .05$). The assumption of multicollinearity was also confirmed by VIF values greater than .10. Given the two-step multiple regression strategy being employed, it was not necessary to remove or adapt the independent variables that demonstrated multicollinearity because they were to be first fed into preliminary multiple regression analyses individually, before being assessed for qualification to the final multiple regression, at which time these assumptions would be reverified. The assumption of no significant outliers, high leverage points, or highly influential points was confirmed by standard residuals and studentized deleted residuals below 3. Residuals above 3 were removed from the multiple regression analyses. The assumption of no leverage values was not met; in all cases, several leverage values fell above .50, defined as “dangerous” (Huber,

1981). As aforementioned, these leverage values were noted and reverified in the final multiple regression. The assumption of no highly influential points was confirmed with values for Cook's Distance under 1. The assumption of normal distribution of residuals was confirmed visually by their approximate normal distribution in a histogram with a superimposed normal curve, with a mean near 0 and a standard deviation near 1. It was further confirmed visually by the distribution of the residuals along the diagonal line in a P-P Plot.

RQ3: To what degree are these multilingual young adults in Ottawa invested into knowing French?

The eight selected transcripts were subjected to the CA, as described in the RQ1 Analysis section, above. Since RQ3 pertains to investment, the analysis and results from RQ1 nest within the analyses and results of RQ3. As such, the content analysis themes for RQ3 reflected identity and capital (the other components of investment according to Darvin and Norton's Investment Model, besides ideology). In the organizing phase, the open coding and grouped coding process was followed by a general abstraction process s related to RQ3 for each participant. For the scope of this thesis, only retained themes that were repeated across several participants were eligible for inclusion at the individual level for RQ3.

Chapter 3: RESULTS

This thesis addressed answers to three research questions: (RQ1) What language ideologies do Ottawa's multilingual young adults who know French hold? (RQ2) What are the associations between the language ideologies of Ottawa's multilingual young adults who know French and their individual characteristics and experiences? (RQ3) To what degree are these multilingual young adults in Ottawa invested into knowing French? This thesis was framed by Darvin and Norton's Investment Model, in which investment into a language is informed by three components: ideology, capital, and identity (Darvin & Norton, 2015).

Descriptive Results

Results presented in this section describe the sample according to each of the measured variables. These results are not directly related to the research questions and are presented for descriptive reasons only. Descriptive results from the LIS are omitted and presented in the following section, since they describe trends in language ideologies and therefore contribute directly to RQ1.

Total Number of Languages

Participants ranged from knowing two to five languages, although total number of languages was capped at five entries for the present study. The mean number of languages known was 2.90 (sd = .863). Of the group, 36% knew two languages, 44% knew three languages, 14% knew four languages, and 6% knew five languages.

French Strength Order

In ranking languages from best to worst in terms of their personal level of comfort, participants ranked French anywhere from their best language to their 4th best language. Of the group, 34% of participants ranked French as their best language, 46% ranked French as their

second-best language, 17% ranked French as their third best language, and 3% ranked French as their fourth best language.

Official Language Dominance

Furthermore, comparing official languages, 61% of participants ranked English better than French and the remaining participants ranked French better than English.

Self-Rated Proficiency

French writing and speaking proficiency ratings spanned the whole range from 1 (low) to 4 (expert), while listening and reading proficiency ratings only ranged from 2 to 4. A Friedman Test showed that there was a statistically significant difference in French proficiency between the 4 domains for the group as a whole, X^2 (3) = 59.579, $p < .001$. A series of Wilcoxon signed-rank tests with a Bonferroni adjustment for multiple comparisons, requiring a p-value below .008, showed that French listening proficiency, with the highest mean rating of 3.24 (sd = .834), was significantly higher than writing and speaking, $p < .001$ in both cases, but not significantly different than reading, p = .717. French reading proficiency, with a mean rating of 3.23 (sd = .789), was also significantly higher than speaking and writing, $p < .001$ in both cases. There was no significant difference between French speaking proficiency with a mean of 3.01 (sd = .939) and French writing proficiency with a mean of 2.86 (sd = .939), p = .009. Mean pronunciation rating was 3.00 (sd = .953), indicating an advanced proficiency for the whole group. The results are summarized in Table 2.

Table 2

Means and Standard Deviations of French Proficiency Scores Across Five Domains

Modality	Listening	Reading	Speaking	Writing	Pronunciation	Overall Proficiency
Mean	3.24[a,b]	3.23[c,d]	3.01[a,c]	2.86[b,d]	3.03	3.1
SD	.834	.789	.939	.939	.953	.761

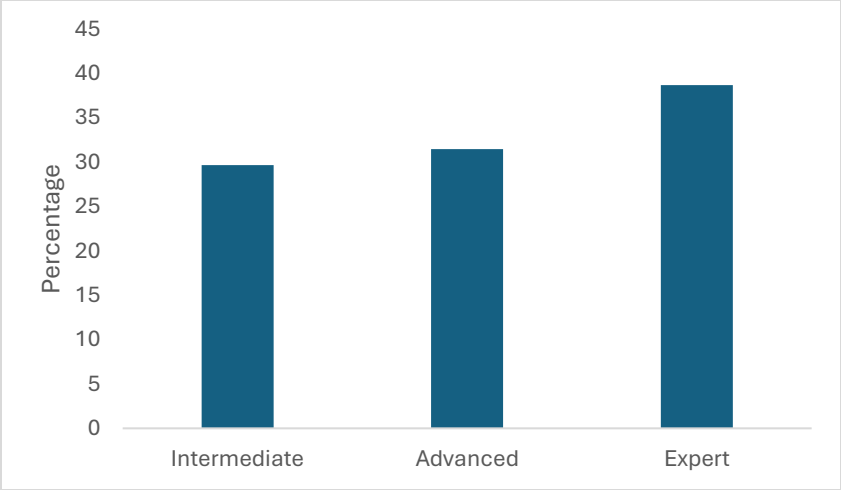
Note. Cells with the same superscript are significantly different from each other; SD = standard deviation.

The results elaborated above suggested a distinction between expressive proficiency (speaking and writing) and receptive proficiency (listening and reading). A Wilcoxon signed-rank test confirmed a significant difference, $p < .001$. On the other hand, a Wilcoxon signed-rank test comparing written modalities (reading and writing) and oral modalities (speaking and listening) indicated no statistically significant difference between proficiency ratings, p .060.

In terms of overall proficiency (averaged across all 5 domains including pronunciation) the whole group mean was 3.1 (sd = .761), indicating an overall advanced proficiency for the whole group. Scores ranged from 1.6 to 4.0. The minimum score of 1.6 is explained by the inclusion criteria of needing some knowledge of French as one of at least two languages. The 39% of participants with a 4.0 level of proficiency rated their French abilities as "expert" level across all 5 language domains.

Figure 2

Percentage of Participants at Each Level of Self-Rated Overall French Proficiency



Early French Exposure

Of the group, 72% of participants had some level of French exposure between birth and 2 years of age, while the remaining 27% did not. When it comes to the amount of early French exposure, the whole group mean was 34.47 (sd = 25.552), representing approximately one third of the time exposed to French from birth to 2 years of age on average. Scores spanned the full range, with 27% of participants having had 0% exposure to French in the early years and 12% of participants having had 100% exposure.

Cumulative French Exposure

After indicating whether they had French exposure in various contexts and at various ages throughout life, mean cumulative exposure to French fell across 23.79 contexts and ages (sd = 10.385), which is approximately 70% of the maximum number of contexts and ages that were assessed. Reports spanned the full range from 1 to 34 contexts and ages (note that a person with a score of 0 would not have been eligible to participate in this thesis; see inclusion criteria). Of the group, 29.7% of participants had some level of exposure across all 34 contexts and at all ages.

After indicating the percentage of French exposure that they had in various contexts and at various ages throughout life, mean amount of cumulative exposure to French was a value of 1028.45 (sd = 914.487), which is approximately 30% of the maximum value that would have been possible across all 34 contexts and ages. Values ranged from 25 to 3085; no participants had 100% exposure to French in all contexts and at all ages.

Schooling

In descending order, 36.0% of participants attended French schooling, 29.7% attended a French Immersion program, and 5.4% attended a Core French program. The remaining 28.8% attended at least two different school programs.

Attitudes and Motivation

Mean "integrative orientation" rating was 4.46 out of 7 (sd = 1.957), spanning the full range from 1 to 7. Mean "instrumental orientation" rating was 5.33 out of 7 (sd = 1.835), spanning the full range from 1 to 7. Mean "integrativeness" composite score was 8.61 (sd = 3.405), which is approximately 62% of the maximum possible score. Scores spanned the full range from 2 to 14 for the group. Mean "motivation" composite score was 12.16 (sd = 6.153), which is approximately 58% of the maximum score that would have been possible. Scores spanned the full range from 3 to 21 for the group. Mean "attitudes toward the learning situation" composite score was 8.38 (sd = 4.051), which is approximately 60% of the maximum score that would have been possible. Scores spanned the full range from 2 to 14 for the group. Mean AMI was 30.89 (sd = 11.493), which is approximately 57% of the maximum score that would have been possible. Scores ranged from 7 to 54 for the whole group.

Social Identity Ranking

The mean rank for language knowledge as an identity marker was 3.10 (sd = 1.209) and mean rankings for language program as an identity marker was 3.84 (sd = 1.582). Both of the

rankings spanned the full range from 1 to 6. Additionally, 7.20% of participants ranked Language Knowledge as the most important affiliation to their sense of identity, while 5.4% of participants did so for Language Program. Overall, work/educational identity was most commonly ranked #1, with 18% of participants ranking it as most important to their sense of identity. Race was most commonly ranked #2, with 13% of the participants ranking it as second most important to their sense of identity.

Lexical Processing

Reaction Time. Separate mean RTs were calculated for HF words, LF words, and NWs. A Friedman test of RTs revealed significant differences between word types, $\chi^2(2) = 151.28$, $p < .001$. Pairwise comparisons of RTs with a Bonferroni correction for multiple comparisons revealed significant differences between HF and LF words ($p < .001$), HF words and NWs ($p < .001$), as well as LF words and NWs ($p < .001$). The analysis revealed that, on average, correct responses were fastest for HF words, followed by LF words, and that it was slowest for NWs for the whole group. Mean RT for HF words was 925ms (sd = 241.16); mean RT for LF words was 1084ms (sd = 279.61); mean RT for NWs was 1338ms (sd = 383.89). The LDT outcomes and significant differences are presented in Table 3. Out of the 72 words presented, a LF word, "cube" generated the fastest correct responses (RT = 807ms; sd = 262.30; potentially explained because it is an English cognate and all participants reported some knowledge of English) and a NW, "bage" generated the slowest correct responses (RT = 1712ms; sd = 883.17) for the whole group.

Error Rate. Separate mean ERs were calculated for all three word types. A Friedman test of ERs revealed significant differences between word types, $\chi^2(2) = 122.52$, $p < .001$. Pairwise comparisons of RTs with a Bonferroni correction for multiple comparisons, revealed significant

differences between HF and LF words ($p < .001$) and HF words and NWs ($p < .001$), but there was no significant difference between LF words and NWs ($p = .559$). The analysis revealed that, on average, participants committed the fewest errors in identifying HF words and committed more errors for LF words and NWs. Mean ER for HF words was .088 (sd = .044); mean ER for LF words was .302 (sd = .153); mean RT for NWs was .284 (sd = .097). The LDT outcomes and significant differences are presented in Table 3. Out of the 72 words presented, a HF word, "fete" had the highest accuracy (ER = .030; sd = 1.720) and a LF word, "myope" had the lowest accuracy (ER = .667; sd = .473) for the whole group.

Table 3

Mean reaction time, standard deviation, and error rates for high frequency, low frequency, and non-words in the LDT

Target	ER	SD	RT (ms)	SD
HF words	.088	.044	925	241.16
LF words	.302	.153	1084	279.61
Non-words	.284	.097	1338	383.89

Note. ER = error rate; SD = standard deviation; RT = reaction time; HF = high frequency; LF = low frequency.

RQ1: What language ideologies do Ottawa's multilingual young adults who know French hold?

The results presented in this section contribute to answering RQ1. Quantitative results are presented first; qualitative results are presented second. Quantitative results reflect a series of descriptive analyses of the seven constructs from the Language Ideology Survey (LIS), including measures of dispersion and measures of central tendency. These contribute to our understanding of the whole group's level of agreement with each construct. Non-parametric statistical analyses explore statistical differences between the relative degree of agreement across the constructs.

Qualitative results reflect content analyses (CAs) of the semi-structured interviews (SSIs) for a sub-group of participants. The results are organized according to the 7 constructs from the LIS, with each section considering all 8 of the participants, as appropriate. These deepen our understanding of individual engagement with language ideology and, not only the individual's degree of agreement with the constructs, but also the importance of each construct to the individual, as evidenced by whether or not the constructs featured spontaneously in their SSI transcripts.

Language Ideology Survey (LIS)

A recap of the language ideology constructs in the LIS and how to interpret their ratings are provided hereunder in **Table 4**.

Table 4

Language Ideology Survey (LIS) Constructs and the Interpretation of their Ratings

Language Ideology Construct	Interpretation of Ratings
Monolingualism vs. Multilingualism	A higher rating represents a belief that gives value and justification for one language
Language as a Decontextualized Formal System	A higher rating represents a belief that languages are rules-based and rigid
Language as a Tool	A higher rating represents a belief that languages are important for social and material gains
Language as a Valuable Complex Skill	A higher rating represents a belief that languages are skilled assets that are actively learned

Language as a National Unifier	A higher rating represents a belief that language ties a person to a national identity
Language as a Marker of Intelligence	A higher rating represents a belief that intelligence is tied to language skills
Language as a Privilege	A higher rating represents a belief that language is a privilege, not a right

Minimum, maximum, and mean LIS ratings for the whole group, with standard deviations, are presented in Table 5 below. *Language as a Marker of Intelligence* and *Language as a Privilege* had ratings that spanned the full range of the scale from 1 to 6. *Language as a decontextualized formal system*, *Language as a Tool*, *Language as a Valuable Complex Skill*, and *Language as a National Unifier* had ratings at the highest end of the rating scale but did not have ratings at the lowest end of the rating scale. *Monolingualism vs. Multilingualism* was unique in having a narrower range overall, with no ratings at the highest or lowest ends of the scale.

A Friedman's 2-Way Analysis of Variance by Ranks indicated that the distribution of the responses to the LIS differed significantly, $X^2(6) = 217.617$, $p < .001$. A series of Wilcoxon signed-rank tests with a Bonferroni adjustment requiring a p-value below .002 showed that there were several statistically significant differences, which are also detailed in Table 5. *Language as a Valuable Complex Skill*, with the highest mean ranking (mean = 5.302, sd = .635), and *Language as a Tool,* with the second highest mean ranking (mean = 4.401, sd = .986), were significantly different from one another and significantly higher than all other constructs. *Language as a Decontextualized Formal System*, with the lowest mean ranking (mean = 3.282, sd = .804), was significantly lower than five of six other constructs.

Table 5

Descriptive Language Ideology Survey (LIS) Rating Scores

Language Ideology Construct	Minimum	Maximum	Mean	SD
MvM	2.8	5.8	3.933 [a,b,c]	.478
LDFS	1.7	6.0	3.282 [a,d,e,f,g]	.804
LT	1.5	6.0	4.401 [b,d,h,i,j,k]	.986
LVCS	2.8	6.0	5.302 [c,e,h,l,m,n]	.635
LNU	1.8	6.0	3.957 [f,i,l]	.912
LMI	1.0	6.0	3.791 [g,j,m]	1.231
LP	1.0	6.0	3.629 [k,n]	1.409

Note: Cells with the same superscript letters are significantly different from each other; SD = standard deviation; MvM = *Monolingualism vs. Multilingualism*; LDFS = *Language as a Decontextualized Formal System*; LT = *Language as a Tool*; LVCS = *Language as a Valuable Complex Skill*; LNU = *Language as a National Unifier*; LMI = *Language as a Marker of Intelligence*; LP = *Language as a Privilege.*

Semi-Structured Interview (SSI)

The content analysis of the SSIs (n = 8) provided further insight into participants' views of the seven language ideology constructs from the LIS. In this section, the tendencies of this sub-group are outlined for each construct. Table 6 presents an overview of the eight sub-group participants, to contextualize their qualitative results.

Table 6

Brief Overview of Identity Markers and Language Profiles of the Eight Interview Participants

	Gender	Race	Strongest to weakest language	Earliest exposure to French
Abdullah	*Male*	*Arab North African*	*Arabic > English > French*	Kindergarten
Amélie	[no response]	[no response]	*English > French*	Before 2 years old
Bahar	*Female*	*Middle eastern, Iranian*	*Persian/Farsi > English > French*	High school

Dawn	[no response]	[no response]	*English > French*	Before 2 years old
Holly	*Woman*	[no response]	*English > French*	Kindergarten
John	[no response]	[no response]	*French > English > German*	Before 2 years old
Julianne	[no response]	[no response]	*English > French*	Before 2 years old
Matma	*Female, questioning, gender fluid*	*Marginalized person*	*English > Arabic > French > Japanese > Spanish*	Grade 4

Note. Italics indicate open text responses provided by the participants in their own words.

Regarding the language ideology *Monolingualism vs. Multilingualism*, five out of eight participants (Abdullah, Amélie, Bahar, Julianne, & Matma) had a tendency to give value and justification for multiple languages. "*In general, I feel like Ottawa, specifically… everyone here talks multiple languages. At least two languages. That's like minimum now and it feels really… I don't know how to explain this but it feels really good. You know, you feel like this society knows more."* Interestingly, one participant (Dawn) seemed to demonstrate an orientation towards giving value and justification for two languages, namely English and French, the official languages. "*When I came here, there's a lot of French speakers, so I kind of picked up on that and now it's like another routine. Whereas, so, here it's like English and French and back home, it was mostly languages that I didn't know."* Her interview did not provide evidence that the same value and justification extended to languages other than those. She contests the devaluation of French in another Canadian city, arguing instead for the devaluation of non-official languages: "*I'm originally from Toronto, so there's not many French speakers there. So when I did go to school and I would, you know, come back on the bus with my friends speaking in French, people who just look at me as if, you know, like I don't belong there, even though there was already other languages besides English that was spoken."* Only one participant (Holly) had a tendency

to give value and justification for one language – English. "*Yeah, it's a very English-speaking world*". Lastly, one participant (John) did not provide any explicit or implicit evidence to indicate an orientation towards one, two, or many languages, so no comment can be made on his behalf.

Regarding the language ideology *Language as a Decontextualized Formal System,* four out of eight participants (Bahar, Dawn, Holly, & Matma) had a tendency to view languages as being rules-based and rigid. This was evidenced, primarily, by an emphasis on the quality of accents and on accuracy and/or errors. *"I have a really, really thick accent. Yeah, like when I speak in French, it's a very thick Ontario accent. And then you know, I go to Quebec and no one can understand me. And then I go to France and no one can understand me." "I'm limited in the French. I might feel that it's kind of intimidating umm, when they can kind of correct me on… I don't even know. Like, the pronunciation."* One participant (Abdullah) fell towards the same end of the spectrum, although he appeared to show rules-based and rigid expectations for language schooling to legitimize language knowledge, as someone who had experience in multiple school programs in Canada and elsewhere. *"So obviously, at home being like my parents [are] both Arabic speaking, so I'd say I picked up on that first – the Arabic at home. And then starting like at school age […] that's when I got introduced to school in Gatineau and picked up the French. Come into grade school (first grade), I went to an Islamic school in Ottawa. […] So, at that point, I was learning English, French, and Arabic at the same school. Then, coming into grade three, I moved to the Middle East… Oman. I went there and there I was able to expand on my Arabic knowledge, having like never really gone to a proper Arab school. So, the language was very like, I wouldn't say limited, but my knowledge on it was mostly like speaking and listening."* He also recalled a vivid memory of having been corrected by a peer on his personal pronoun use in English: "*There was one experience that I remember when I was in grade one and two. [I]*

accidentally called my friend 'she' and he would correct me to say, 'It's he.'" Only one participant (John) had a tendency to view languages as being flexible and created by the people. He described making errors and not feeling required to correct certain error patterns that he had fallen into. *"My grammar in French is worse than my grammar in English. Umm, that's mostly due to how English is more of a tonality language and French is more of a grammar heavy language. And so there's more nuance that I have either forgotten, haven't really bothered to correct, or have tried to correct and failed miserably."* The remaining two participants (Amélie & Julianne) did not provide enough explicit or implicit evidence to indicate an orientation towards either rigidity or flexibility, so no comment can be made on their behalf.

Regarding the language ideology *Language as a Tool*, four out of eight participants (Amélie, Bahar, Holly, & Julianne) had a tendency to view language as being important for social and material gains. "*It definitely helps like something from my resume. Everyone will ask if you speak French, right? Obviously, living in Canada, French is like an asset or an important skill."* When describing the importance of language, they indicated the social and material benefits. *"Especially if I stay in Canada, I think… you know… in occupational therapy, for example, there will be a lot of clients that are French and some that are English. So being able to speak both will permit me to get more clients."* The material gains cited surrounded employment (e.g., resume, interviews, and work itself) and education: "*I mean, I've had like, for job interviews and stuff like that, I've had a few like we conducted in French, like verify mandatory like French levels.*" "*I think I might end up doing occupational therapy, which if I'm not wrong, I think I heard that the master's is only given in French or something. So I think that'll definitely help me when it gets to that point.*" Less material gains surrounded travel, culture, and connection with others. *"I would say, it opens doors to a whole other culture and mindset that*

you can learn from and reflect on." Within this same group, two participants (Bahar & Julianne) made important distinctions, however, when discussing languages other than their primary languages. In both cases, they wanted to learn Italian and Spanish as an additional language for the primary reason of feeling a sense of connection to, or interest in, that language. *"I don't know […] I know there's like Spanish classes and Italian. So those are interesting to me."* This tendency of valuing additional languages independently of social and material gains was replicated in two additional participants (Dawn & Matma) for Japanese, although they fell more towards that end of the spectrum across all of their languages. They both generally expressed a wide range of reasons to value language without necessarily gaining capital from it. "*I just like languages. I'm just interested in it."* One participant (Abdullah) joins the two aforementioned participants in valuing language independently of social and material gains. In many instances, he articulated that the value of language surrounds expressing oneself and delighting in the interactions with others. "*First of all, from my experience, having someone that I don't expect to know Arabic is like a delightful experience. […] So, I want to, as much as people have that experience with me, I want to experience it with other people, you know? Surprising people that you know their language."* One participant (John) did not provide any explicit or implicit evidence to indicate an orientation towards either of these two conceptualizations of value, so no comment can be made on his behalf.

Regarding the language ideology *Language as a Valuable Complex Skill,* five out of eight participants (Amélie, Bahar, Dawn, Holly, & Matma) had a tendency to view languages as being skilled assets that are actively learned. *"It was like a slog to learn it. I'll be honest. A lot of time and a lot of energy, while initially learning your French. Let me tell you. Umm, but I mean, I suffered like at the time, but there aren't like disadvantages. It's not like it's going to, like, hurt*

me, like my future prospects or something, knowing a second language." In their interviews, they illustrate language learning as being both effortful and skillful. *"My parents congratulated me from knowing French and I think it's because they knew that it was a brand new language and it's going to be harder to learn because I was still technically learning English and so they recognized that it would also be hard to learn a new language while I was also still working on my English." "It's hard to communicate. It was hard to learn English. I kind of felt like I was behind compared to my classmates. They seemed so much smarter than me. You know, they they'd get it right away."* Related to those beliefs was a shared understanding of language skills being dormant at certain times but not being lost. *"Even though sometimes I kind of think that I might lose French, […] if I'm like immersed in it for a few days then I can get it back.*" The intersection of multilingualism, including fluctuating use of different languages and sequential and simultaneous language learning, with *Language as a Valuable Complex Skill* is examined in the discussion. The remaining three participants (Abdullah, John, & Julianne) had a tendency to view languages as simply being acquired passively. "*I'll be honest with you, most of it happened when I was little, so like the process of it, it just kind of happened. […] I don't remember much of a struggling.*" Language learning was often discussed as being a result of passive exposure in the home, in the community, or at school. *"My first words were in French. Basically, the way I spoke when I first started was mostly French. It was a little painful. I was having a hard time concentrating and getting the little finite things. Umm, but other than that, once I got like some of the basics down, it was just the education system really took it up and I was good to go."* Interestingly, this belief persisted, even when presenting instances of having learned autonomously. "*So basically, I'm someone who's learned. I self learn in English. Sometimes in French, depending." "So that's kind of how I also learned English. By like listening right?*

Because I didn't have like… it didn't get taught to me. It was really by listening, but I kind of figured out English."

Regarding the language ideology *Language as a National Unifier,* one out of eight participants (John) had a tendency to view language as tying a person to a national identity. *"You kind of get this nice mash-up of people and well, we're in a government town. Umm, speaking French and English isn't just a rule, it's almost a requirement here […] within the broader perspective of Canada."* Much of the time, he spontaneously inserted comments about national identity into his thoughts on language, using nationality or regionality as context for certain language realities. *"I have family that's mostly from Gatineau. Umm, my dad's from Quebec. So, give or take, we try to speak French."* This was true for English, French, and German, to which he was exposed through his mother as her third language. *"Basically as a kid, my mom taught me German. My mom's not German of origin, but she's she spent enough time in Germany.*" The link between language and national identity was also evident in the perspective he shared on people from other countries around the world, such as this excerpt on accents: *"Especially those who have kept in touch with umm, the French colonizers, have kept a little bit more of that français de France and so you can understand them a little bit better. And the people who have kind of diverted off like, Quebec, usually have tendency to have thicker accents and more of a national identity."* This particular link was expressed by one other participant (Julianne), although only once and less convincingly, which did not constitute sufficient evidence to meet the designation in the same way as John. "*Even like in the US, Spanish is very like… it's not French their second language, it's like Spanish.*" Therefore, Julianne and the remaining six participants (Abdullah, Amélie, Bahar, Dawn, Holly, & Matma) did not provide enough explicit or implicit evidence to

indicate an orientation towards either end of the spectrum of an association between language and national identity, so no comment can be made on their behalf.

Regarding the language ideology *Language as a Marker of Intelligence,* four out of eight participants (Abdullah, Bahar, Dawn, & Matma) had a tendency to view language as being tied to intelligence. *"Especially at school, when I did French Immersion, […] Even though I had the opportunity to speak both English and French, I primarily spoke in French just because I felt that it would better me as a student. They might see me as, you know, more skilled. Not that it should, but I felt like it would put me at a higher level than other students."* What they shared was an admiration of the intelligence of those with strong language skills. *"It's just nice seeing umm, people with that combo [of English, Arabic, and French]. It's nice seeing how people can maintain it and it's honestly impressive."* This group was split, however, in terms of their self-perception. Three participants (Abdullah, Bahar, & Dawn) exuded almost exclusively pride in their intelligence as a result of their language skills. *"When I did go to work, I had very few [French] speakers. But one time I did have one and they didn't know the menu and what the descriptions meant. […] When I spoke to them in French to help them out, they were kind of shocked that I also knew the language. […] I felt very proud because I didn't think I would be able to use that in my work context because the area there is, again, no French population."* One participant (Matma) was more critical of her intelligence, as linked to her language skills, citing examples of her limitations. *"When I make silly grammatical errors, it annoys me. Like, I get mad. I'm like, 'Why would I make that mistake?'"* Only one participant (John) had a tendency to view language as being separate from intelligence. *"If, you know, simply my brain is malfunctioning and I can't figure out the word that I need to say, I'll just point."* John has some educational exceptionalities and has received consistent support and accommodations for these

since primary school; he continues to access similar programs at the university. It is likely that his self-described individual experience of disconnection between his intelligence and, in particular, his productive language skills, could have contributed to his different ideological position, which would be highly adaptive for someone with his challenges. *"Well, unfortunately, the one thing I've actually failed in is writing. My proficiency of reading in French is actually higher than most."* The remaining three participants (Amélie, Holly, & Julianne) did not provide enough explicit or implicit evidence to indicate an orientation towards either end of the spectrum of an association between language and intelligence, so no comment can be made on their behalf.

Regarding the language ideology *Language as a Privilege,* three out of eight participants (Amélie, Bahar, & Julianne) had a tendency to view language as being a privilege. *"My mom, when they moved here… She's the youngest. So, she got to learn English. So, she's bilingual now and like works for the government."* In their interviews, they spoke about certain aspects of language education as privileges, whether they were afforded the privilege or not. *"I'd say that I spent a lot of time in my French, but I don't regret it. […] I guess, [I had] less fun in my life. But to me, that's not a disadvantage because that's just not my priority." "Back when I did like elementary school, […] there was a French Immersion program, which we weren't allowed to do because they said we already knew French enough. So we weren't allowed to go into that program."* They also expressed a sentiment that connected their choice to use an interlocutor's preferred language as a privilege to that interlocutor. *"Customer after customer… like, you can be French, English, French, English… And it's like, to me, it doesn't bother me. […] It's like a benefit from me."* On the other hand, one participant (Matma) was the only participant with a tendency to view language as being a right. When discussing similar concepts (e.g., language choice), she appealed to the respect for the interlocutor above all. *"I mostly just want to make*

sure that they're, you know, satisfied, not unhappy. That they feel, I guess, respected." This duty to show respect extended to include non-verbal language as well. *"You have got to look at people when you're talking to them. […] Just being approachable, being respectful. That's important in language."* The remaining four participants (Abdullah, Dawn, Holly, & John) did not provide enough explicit or implicit evidence to indicate an orientation towards language being a privilege or a right, so no comment can be made on their behalf.

Besides the seven language ideology constructs of the LIS, two other constructs emerged as noteworthy from the content analysis of the SSIs. First, five out of eight participants (Abdullah, Bahar, John, Julianne, & Matma) evoked the belief *Language as a Portal to Culture.* In their interviews, these participants viewed language and culture being fundamentally intertwined. *"I feel like, using different languages, […] the only difference I would see is the types of expressions you'd use, the types of jokes you'd make. It's things that are based around the culture of the certain language."* In some instances, this belief was expressed as an opportunity to explore the culture of others through language. *"I'm just interested in the culture and Japanese people. Umm, and I don't know, it looks like a fun language to learn."* In other instances, this belief was expressed as making assumptions about the culture of others based on their language knowledge – sometimes a shared culture based on a shared language. *"It makes you feel connected in a sense."*

Second, three out of eight participants (Abdullah, Amélie, & Julianne) evoked the belief *Early Exposure Advantage for Language Acquisition*. These participants felt that language learning was easier and/or more successful during this early period. *"I feel like the younger you are, the easier it is to learn languages."* Certain participants appealed to their personal experience while others appealed to their second-hand experience relating to classmates,

siblings, or parents. *"I think obviously I'm not as good at like writing in French as I think would have been possible. But I think that has a lot to do with the fact that I started a lot older." "I would say I was still better. […] Growing up with it, it's different than learning at a later age. Like, it was in my development stage, rather than them. They're a little bit more older, so it takes a while to learn."* As an alternative example, Bahar, whose interview did not show evidence of this belief, makes the following assertion during a statement about an interest in learning additional languages in the future: "*I have got to mention that it's way easier the more you learn languages. Like it just gets easier learning them because the words are going to be the same. You have an idea of how the grammar works. You don't like... You don't necessarily learn something new.*"

RQ2: What are the associations between the language ideologies of Ottawa's multilingual young adults who know French and their individual characteristics and experiences?

The results presented in this section contribute to answering RQ2. This section contains only quantitative results that reflect two types of inferential statistics used to probe for associations between the seven language ideology constructs from the Language Ideology Survey (LIS) and a number of independent variables of interest. Bivariate statistical analyses are presented first; a multivariate analysis is presented second. Bivariate statistical analyses explore associations one-by-one, while the multivariate analysis explores associations for the whole model, including all independent variables, at once. Due to the exploratory nature of this thesis, the two approaches have been employed for different reasons. The bivariate approach will contribute to our understanding of where commonly explored independent variables in multilingualism research may be associated with language ideology and may warrant future research. The multivariate approach will offer evidence of the effectiveness of an initial attempt

at explaining language ideology with a multiple regression model and many independent variables at once.

Bivariate Statistics

Total Number of Languages

There were no statistically significant correlations, $p > .05$ in all cases.

French Strength Order

Level of agreement with the language ideology construct *Language as a Privilege* differed statistically significantly based on the ranking of French from strongest to weakest languages, χ^2 (3) = 11.281, p = .010, with a mean rank rating of 44.75 when French was ranked first, 58.79 when French was ranked second, 34.42 when French was ranked third, and 47.67 when French was ranked fourth. There were no other statistically significant differences, $p > .05$ in all remaining cases.

Official Language Dominance

Level of agreement with the language ideology construct *Language as a Decontextualized Formal System* differed statistically significantly depending on English or French being the dominant official language, χ^2 (1) = 5.720, p = .017, with a mean rank rating of 43.87 for English dominance and 57.66 for French dominance. There were no other statistically significant differences, $p > .05$ in all remaining cases.

Self-Rated Proficiency

Level of agreement with the language ideology constructs does not differ significantly based on overall French proficiency. Examining the details of French proficiency more closely, level of agreement with *Language as a Decontextualized Formal System* and *Language as a Valuable Complex Skill* differed statistically significantly based on French writing proficiency,

$X^2(3) = 10.241$, $p < .05$ and $X^2(3) = 8.330$, $p < .05$ respectively. The mean rank rating of *Language as a Decontextualized Formal System* was 43.75 for low French writing proficiency, 40.99 for intermediate French writing proficiency, 61.78 for advanced French writing proficiency, and 50.02 for expert French writing proficiency. The mean rank rating of *Language as a Valuable Complex Skill* was 40.58 for low French writing proficiency, 50.50 for intermediate French writing proficiency, 39.26 for advanced French writing proficiency, and 57.85 for expert French writing proficiency.

Level of agreement with *Language as a Valuable Complex Skill* also differed statistically significantly based on French reading proficiency, $X^2(2) = 6.060$, $p < .05$, with a mean rank rating of 48.95 for intermediate French reading proficiency, 40.63 for advanced French reading proficiency, and 53.72 for expert French reading proficiency. There were no other statistically significant results when it came to the 4 language domains or pronunciation.

Early French Exposure

There were no statistically significant correlations, $p > .05$ in all cases.

Cumulative French Exposure

A small, positive, and statistically significant correlation was uncovered between the number of contexts with exposure to French and *Language as a Valuable Complex Skill* ($\rho = .213$, $p < .05$). There were no other statistically significant correlations, $p > .05$ in all remaining cases.

There were no statistically significant correlations between amount of cumulative exposure across all contexts and the 7 language ideology constructs, $p > .05$ in all cases.

Schooling

Level of agreement with the language ideology constructs did not differ statistically significantly based on school program, $p > .05$ in all cases.

Attitudes and Motivation

Weak, positive, and statistically significant correlations were uncovered between AMI and *Language as a National Unifier* ($\rho = .270$, $p < .05$) and *Language as a Privilege* ($\rho = .284$, $p < .01$). There were no other statistically significant correlations, $p > .05$ in all remaining cases.

A weak, positive, and statistically significant correlation was uncovered between "integrative orientation" and *Language as a Decontextualized Formal System* ($\rho = .207$, $p < .05$). There were no other statistically significant correlations, $p > .05$ in all remaining cases.

Weak, positive, and statistically significant correlations were uncovered between "instrumental orientation" and *Language as a Tool* ($\rho = .236$, $p < .05$), *Language as a Valuable Complex Skill* ($\rho = .209$, $p < .05$), and *Language as a Privilege* ($\rho = .233$, $p < .05$). A moderate, positive, and statistically significant correlation was uncovered between "instrumental orientation" and *Language as a National Unifier* ($\rho = .347$, $p < .01$) . There were no other statistically significant correlations, $p > .05$ in all remaining cases.

There were no statistically significant correlations between the "integrativeness" composite score and the 7 language ideology constructs, $p > .05$ in all cases.

A weak, positive, and statistically significant correlation was uncovered between "motivation" and *Language as a Privilege* ($\rho = .280$, $p < .01$). There were no other statistically significant correlations, $p > .05$ in all remaining cases.

There were no statistically significant correlations between the "attitudes toward the learning situation" composite score and the 7 language ideology constructs, $p > .05$ in all cases.

Social Identity Ranking

Level of agreement with the language ideology constructs did not differ statistically significantly based on how language knowledge was ranked, $p > .05$ in all cases.

Level of agreement with the language ideology constructs did not differ statistically significantly based on how language program was ranked, $p > .05$ in all cases.

Lexical Processing

A weak, negative, and statistically significant correlation was uncovered between the mean error rate for non-words and *Language as a Privilege* ($\rho = -.243$, $p < .05$). There were no other statistically significant correlations, $p > .05$ in all remaining cases.

Multiple Regression

Because the ratio of participants to independent predictors did not meet the 10:1 rule of thumb (Harrell Jr., Lee, Califf, Pryor, & Rosati, 1984), preliminary multiple regressions were conducted using each of the independent variables individually with the seven language ideology constructs as dependent variables. The results are presented below; regression coefficients and standard errors are available in Appendix K.

Monolingualism vs. Multilingualism - MvM

HF RT and LF RT added statistically significantly to the prediction, $p < .05$. All other independent variables did not.

Language as a decontextualized formal system – LDFS

French strength order and official language dominance added statistically significantly to the prediction, $p < .05$. All other independent variables did not.

Language as a Tool – LT

None of the 17 independent variables added statistically significantly to the prediction, $p > .05$.

Language as a Valuable Complex Skill – LVCS

French proficiency added statistically significantly to the prediction, $p < .05$. HF ER also added statistically significantly to the prediction, $p < .001$. All other independent variables did not.

Language as a National Unifier – LNU

AMI added statistically significantly to the prediction, $p < .01$. All other independent variables did not.

Language as a Marker of Intelligence – LMI

Schooling added statistically significantly to the prediction, $p < .05$. All other independent variables did not.

Language as a Privilege

AMI added statistically significantly to the prediction, $p < .01$. Language program identity rank also added statistically significantly to the prediction, $p < .05$. All other independent variables did not.

The variables for which statistically significant results were identified in the preliminary multiple regressions for each of the 7 ideological constructs were included in the final multiple regression model: French strength order, official language dominance, French proficiency, schooling, AMI, language program identity rank, HF RT, and HF ER. Additionally, LF RT was omitted despite its statistical significance in predicting *Monolingualism vs. Multilingualism* because it was highly correlated to HF RT ($r = .788$, $p < .05$), which was also statistically significance in the preliminary multiple regression of *Monolingualism vs. Multilingualism*; since HF ER was otherwise statistically significant (*Language as a Complex Valuable Skill*), it was decided that only HF variables would be employed in the final multiple regression analyses. This reduced number of independent variables carried over represents a ratio of >8:1. Assumption

checks and the removal of statistical outliers preceded the final multiple regression analyses, which are presented in a series of tables below. Detailed descriptions of assumption checks are available in Appendix L.

Monolingualism vs. Multilingualism - MvM

The R^2 for the overall model of the language ideology MvM was 19% with an adjusted R^2 of 6%, a negligible effect size according to (Cohen J. , 1988). French strength order, official language dominance, French proficiency, schooling, AMI, language program identity rank, HF ER, and HF RT did not statistically significantly predict agreement with MvM ratings, $F(8,50) = 1.465$, $p = .194$. Regression coefficients and standard errors can be found in Table 7 below.

Table 7

Final multiple regression results for Multilingualism vs. Monolingualism (MvM)

	B	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	UL				
Model (Constant)						.190	.060
FRENCH STRENGTH ORDER	.066	-.243	.376	.154	.109		
OFFICIAL LANGUAGE DOMINANCE	.016	-.472	.504	.243	.018		
FRENCH PROFICIENCY	.043	-.207	.293	.125	.077		
SCHOOLING	.039	-.075	.154	.057	.115		
AMI	.007	-.004	.017	.005	.180		
LANGUAGE PROGRAM IDENTITY RANK	-.083	-.153	-.012	.035	-.316		
HF ER	-.342	-2.195	1.511	.923	-.053		
HF RT	1.000^{e-03}	0	.001	0	.248		

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2;

AMI = attitudes and motivation index; HF ER = high frequency error rate; HF RT = high frequency error rate. *p < .05. ** < .01. ***p < .001.

Language as a decontextualized formal system - LDFS

The R^2 for the overall model of the language ideology LDFS was 11.6% with an adjusted R^2 of 0%, a negligible effect size according to (Cohen J. , 1988). French strength order, official language dominance, French proficiency, schooling, AMI, language program identity rank, HF ER, and HF RT did not statistically significantly predict agreement with LDFS ratings, F(8,51) = .840, p = .573. Regression coefficients and standard errors can be found in Table 8 below.

Table 8

Final multiple regression results for Language as a Decontextualized Formal System (LDFS)

	B	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	UL				
Model (Constant)						.116	-.022
FRENCH STRENGTH ORDER	-.124	-.769	.520	.321	-.102		
OFFICIAL LANGUAGE DOMINANCE	.328	-.688	1.344	.506	.190		
FRENCH PROFICIENCY	-.099	-.618	.420	.259	-.089		
SCHOOLING	-.036	-.274	.201	.118	-.052		
AMI	.018	-.004	.041	.011	.250		
LANGUAGE PROGRAM IDENTITY RANK	-.002	-.148	.144	.073	-.004		
HF ER	-.381	-4.185	3.422	1.895	-.030		
HF RT	.001	0	.002	.001	.189		

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2;

AMI = attitudes and motivation index; HF ER = high frequency error rate; HF RT = high frequency error rate. *p < .05. ** < .01. ***p < .001.

Language as a Tool - LT

The R^2 for the overall model of the language ideology LT was 16.6% with an adjusted R^2 of 3.5%, a negligible effect size according to (Cohen J. , 1988). French strength order, official language dominance, French proficiency, schooling, AMI, language program identity rank, HF ER, and HF RT did not statistically significantly predict agreement with LT ratings, F(8,51) = 1.264, p = .283. Regression coefficients and standard errors can be found in Table 9 below.

Table 9

Final multiple regression results for Language as a Tool (LT)

	B	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	UL				
Model (Constant)						.166	.035
FRENCH STRENGTH ORDER	.400	-.311	1.111	.354	.289		
OFFICIAL LANGUAGE DOMINANCE	1.281	.160	2.402	.558	.654		
FRENCH PROFICIENCY	-.722	-1.295	-.150	.285	-.570		
SCHOOLING	-.309	-.571	-.047	.130	-.392		
AMI	.006	-.019	.031	.012	.072		
LANGUAGE PROGRAM IDENTITY RANK	-.053	-.214	.109	.080	-.088		
HF ER	-.357	-4.553	3.840	2.090	-.025		
HF RT	4.790^{e-05}	-.001	.001	.001	.010		

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2;

AMI = attitudes and motivation index; HF ER = high frequency error rate; HF RT = high frequency error rate. *p < .05. ** < .01. ***p < .001.

Language as a Valuable Complex Skill - LVCS

The R^2 for the overall model of the language ideology LVCS was 4.5% with an adjusted R^2 of -11.1%, a negative effect size according to (Cohen J. , 1988). French strength order, official language dominance, French proficiency, schooling, AMI, language program identity rank, HF ER, and HF RT did not statistically significantly predict agreement with LVCS ratings, F(8,49) = .289, p = .967. Regression coefficients and standard errors can be found in Table 10 below.

Table 10

Final multiple regression results for Language as a Valuable Complex Skill (LVCS)

	B	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	UL				
Model (Constant)						.045	-.111
FRENCH STRENGTH ORDER	.122	-.189	.433	.155	.220		
OFFICIAL LANGUAGE DOMINANCE	.113	-.391	.616	.251	.142		
FRENCH PROFICIENCY	.050	-.209	.309	.129	.097		
SCHOOLING	-.034	-.149	.080	.057	-.108		
AMI	-.005	-.016	.006	.006	-.135		
LANGUAGE PROGRAM IDENTITY RANK	.017	-.053	.088	.035	.072		
HF ER	-.188	-2.021	1.646	.912	-.033		
HF RT	2.830^{e-05}	-.001	.001	0	.015		

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2;

AMI = attitudes and motivation index; HF ER = high frequency error rate; HF RT = high frequency error rate. *p < .05. ** < .01. ***p < .001.

Language as a National Unifier - LNU

The R^2 for the overall model of the language ideology LNU was 23.6% with an adjusted R^2 of 11.6%, a negligible effect size according to (Cohen J. , 1988). French strength order, official language dominance, French proficiency, schooling, AMI, language program identity rank, HF ER, and HF RT did not statistically significantly predict agreement with LNU ratings, F(8,51) = 1.969, p = .070. Regression coefficients and standard errors can be found in Table 11 below.

Table 11

Final multiple regression results for Language as a National Unifier (LNU)

	B	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	UL				
Model (Constant)						.236	.116
FRENCH STRENGTH ORDER	.030	-.591	.651	.309	.023		
OFFICIAL LANGUAGE DOMINANCE	.493	-.486	1.472	.488	.276		
FRENCH PROFICIENCY	-.307	-.807	.194	.249	-.265		
SCHOOLING	.036	-.193	.265	.114	.050		
AMI	.028	.007	.050	.011	.373		
LANGUAGE PROGRAM IDENTITY RANK	-.127	-.268	.014	.070	-.233		
HF ER	-1.826	-5.491	1.839	1.826	-.140		
HF RT	1.000^{e-03}	0	.002	.001	.187		

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the

coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2; AMI = attitudes and motivation index; HF ER = high frequency error rate; HF RT = high frequency error rate. *p < .05. ** < .01. ***p < .001.

Language as a Marker of Intelligence - LMI

The R^2 for the overall model of the language ideology LMI was 19.8% with an adjusted R^2 of 7.2%, a negligible effect size according to (Cohen J. , 1988). French strength order, official language dominance, French proficiency, schooling, AMI, language program identity rank, HF ER, and HF RT did not statistically significantly predict agreement with LMI ratings, F(8,51) = 1.571, p = .157. Regression coefficients and standard errors can be found in Table 12 below.

Table 12

Final multiple regression results for Language as a Marker of Intelligence (LMI)

	B	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	UL				
Model (Constant)						.198	.072
FRENCH STRENGTH ORDER	.532	-.379	1.444	.454	.294		
OFFICIAL LANGUAGE DOMINANCE	.558	-.879	1.995	.716	.218		
FRENCH PROFICIENCY	.085	-.649	.819	.366	.051		
SCHOOLING	.284	-.052	.620	.167	.275		
AMI	.008	-.024	.040	.016	.075		
LANGUAGE PROGRAM IDENTITY RANK	.112	-.095	.319	.103	.144		
HF ER	-1.429	-6.809	3.952	2.68	-.076		
HF RT	2.650^{e-05}	-.002	.002	.001	.004		

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the

coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2; AMI = attitudes and motivation index; HF ER = high frequency error rate; HF RT = high frequency error rate. *p < .05. ** < .01. ***p < .001.

Language as a Privilege - LP

The R^2 for the overall model of the language ideology LP was 29.9% with an adjusted R^2 of 18.6%, a small effect size according to (Cohen J. , 1988). French strength order, official language dominance, French proficiency, schooling, AMI, language program identity rank, HF ER, and HF RT did statistically significantly predict agreement with LP ratings, F(8,50) = 2.661, p < .05. Regression coefficients and standard errors can be found in Table 13 below.

Table 13

Final multiple regression results for Language as a Privilege (LP)

	B	95% CI for *B*		*SE B*	β	R^2	ΔR^2
		LL	UL				
Model (Constant)						.299	.186*
FRENCH STRENGTH ORDER	-.289	-1.276	.699	.491	-.138		
OFFICIAL LANGUAGE DOMINANCE	-.981	-2.529	.568	.771	-.331		
FRENCH PROFICIENCY	.079	-.721	.878	.398	.042		
SCHOOLING	.042	-.330	.414	.185	.035		
AMI	.042*	.007	.076	.017	.328*		
LANGUAGE PROGRAM IDENTITY RANK	-.269*	-.492	-.046	.111	-.302*		
HF ER	2.027	-4.561	8.614	3.280	.084		
HF RT	2.000e-03*	0	.004	.001	.270*		

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the

coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2; AMI = attitudes and motivation index; HF ER = high frequency error rate; HF RT = high frequency error rate. *p < .05. ** < .01. ***p < .001.

RQ3: To what degree are these multilingual young adults in Ottawa invested into knowing French?

The results presented in this section contribute to answering RQ3. The model of investment used as the theoretical framework for this thesis includes three components: ideology, capital, and identity. In order to draw conclusions about investment, all three of these components must be considered. The results related to capital are presented first; they are qualitative in nature. The results related to identity are presented second; they are both qualitative and quantitative. Rather than being presented in this section, the quantitative and qualitative results related to ideology were presented above, in the results section for RQ1. Although not presented here, RQ1 nests within RQ3 and therefore, those results will be considered along with capital and identity in the final section which pulls from all sections to answer RQ3 about investment as a whole.

Capital

Results regarding capital come from the content analysis of the SSIs. Out of the three types of capital (cultural, economic, and social), all eight of the participants mentioned types of economic capital that they see being afforded to them for knowing multiple languages or for knowing French. Forms of economic capital mentioned include access to jobs and educational benefits. Six out of eight participants mentioned types of cultural and social capital that they see being afforded to them for knowing multiple languages or for knowing French (see Table 14). Forms of cultural capital mentioned include increased cultural familiarity and travel

opportunities. Forms of social capital mentioned include the possibility of interacting and connecting with others, as well as creating community and differentiating the self.

Table 14

Semi-Structured Interview (SSI) Quotes Depicting Participants' Impressions of the Capital Gains Resulting from Knowing Multiple Languages

	Cultural	Economic	Social
Abdullah	*"Traveling, like I said, it makes things much easier. And definitely making connections. That's a big one for me."*	*"Obviously, most importantly, you can find many, many jobs that simply just rely on like language and knowing multiple languages."*	*"The main purpose of me trying to learn a language is that interaction with other people."*
Amélie	*"I guess traveling too could be better. Like, I could end up traveling in like places like France. Obviously it's not the same French, but I would still be able to like communicate and stuff like that. So it does make it simpler as opposed to like other people, my family, who only speak French. Like, traveling for them is really tough because they can't communicate half the time."*	*"Well, it's good because like it helps me get jobs, for example, usually here you usually have to be bilingual [...] and school-wise too, it helps because I was able to like, make the decision to go French and then pay a little less."*	*"I can speak to a lot more people, which is great."*
Bahar	*"Like when you don't know, for example, French, you can, like you have only a little chance of being able to [...] know the culture of French and know French people."*	*"The reason I started learning French so intensely was that I wanted to be accepted in French Immersion at uOttawa because I just thought that it was a great opportunity. And because I'm an international student, it's like, it really helps a lot. It's like financial stuff too."*	*"Knowing different languages is knowing... is being able to be a person in different worlds, I would say."*
Dawn	*"You can communicate with other people... you can also cross connect with cultures and understand their culture and they can understand yours."*	*"Then also, in the future, perhaps getting a job within the government. I know that there's a benefit to that, although most places they don't speak French, so I'm not*	*"Especially being here in Ottawa, I know there's a lot of French speakers, just because it's so close to umm, Quebec. And it's specifically uOttawa... there's a lot of bilingual students. So, I feel*

		sure it's too beneficial in the general workplace."	*like I'll be able to communicate with other people better."*
Holly	[no relevant quote]	*"Well, I really like government jobs. They're awesome. They're so easy. And you have to know French for them. So like it definitely really helps there because it's like a prerequisite for the job. Umm, that's actually one of the main reasons why I stayed with French the entire time, because if you want to get any kind of like jobs like that, like in the public sector or like honestly even the private sector too, French is just useful. Like, if you want to do anything high level in those areas you have to have French."*	[no relevant quote]
John	[no relevant quote]	*"If I'm going to move somewhere, I'm going to move to Quebec. [...] They're smaller communities and the only exception is Montreal. [...] But that's mostly because everyone who speaks English just went there. Everywhere else, [...] the people who speak English are a minority in Quebec and I truly believe, economically speaking, it's more viable."*	*"It creates a sense of community, no matter how far away you are from home. [...] You go to Yukon, there's going to be a lot less people speaking French, but if you meet a French person, you'll immediate recognize their accent. Usually, you can tell, and you'll immediately form a bond. It's a matter of... simple like that. And English speakers don't have that."*
Julianne	*"I'm someone that really wants to travel like after I'm done school. I'm going to take like a couple years and really travel. So, just getting to talk to everyone and having like, learn their culture, learn their language, and just like really communicating, like for me, it's like, I love having like conversations with a bunch of different people. [...] So maybe hopefully, like in every country, I learn like the basic*	*"English... I feel like it's more common, I guess. But I do live in Orleans, so [...] it's also very French. So like, I do use both. I find it useful though because like, at my job, like it's so easy to communicate with everyone, right? Like, you can see sometimes, like a customer before was English and I can like switch to French right after and not be like, I'm not finding the words."*	*"I found it useful because like you can like talk to more people and have actual conversations with people in like different languages."*

	phrase and like the communication."		
Matma	*"I feel like the more languages you learn, the more you're able to communicate with other people, the more you reduce that language barrier, you know? And, I guess, the more you get to understand different cultures."*	*"You know if you're wanting to like… let's say you get a job, people are more likely to hire you if you know two languages, if you're bilingual."*	[no relevant quote]

Identity

This section presents the results from the SIR. One out of eight participants (John) ranked Language Program as the most important affiliation and Language Knowledge as the second most important affiliation to his sense of identity. Similarly, one out of eight participants (Julianne) ranked Language Knowledge as the most important and Language Program as the second most important affiliation to her sense of identity. Together, those two participants are among those with the strongest identity ties to these two language-related affiliations, according to the SIR. On the contrary, one out of eight participants (Holly) ranked Language Knowledge as the fifth most important affiliation and Language Program as the sixth most important affiliation to her sense of identity. This participant is among those with the weakest identity ties to these two language-related affiliations, according to the SIR. Participants' rankings and personal explanations for the two language-related affiliations, Language Knowledge and Language Program, are presented in Table 15.

Table 15

Social Identity Ranking (SIR) Ranks and Explanations for the Two Language-Related Affiliations

	Affiliation	Rank	Explanation
Abdullah	Language Knowledge	2	*"Arabic, English, French"*

	Language Program	6	[no response]
Amélie	Language Knowledge	1	*"It's very important to me to keep up my written knowledge of both French and English"*
	Language Program	3	[no response]
Bahar	Language Knowledge	3	*"Farsi, English, and French"*
	Language Program	6	[no response]
Dawn	Language Knowledge	5	*"The ability to get around based on your language and knowledge of it"*
	Language Program	3	*"Use for social and $ class"*
Holly	Language Knowledge	5	*"Knowing French"*
	Language Program	6	*"Going to an alternative school, and high school in French"*
John	Language Knowledge	2	*« Important pour communiquer »*
	Language Program	1	*« Je me fait des amis »*
Julianne	Language Knowledge	1	*"Helped me in communicating with a lot of different people"*
	Language Program	2	*"Learned terms in 2 languages. Able to learn and communicate about the material more"*
Matma	Language Knowledge	3	*"I value learning many languages because that makes me able to communicate with more people"*
	Language Program	5	[no response]

Note. A rank of 1 indicates that an affiliation is most important to the participant's sense of self, while a rank of 6 indicates that an affiliation is least important.

This section presents the results from the SSIs. Five out of eight participants (Abdullah, Bahar, Dawn, Holly, & John) were unequivocal in asserting that knowing multiple languages had had an impact on their identity. The other three participants (Amélie, Holly, & Matma) were unequivocal in asserting that knowing multiple languages had **not** had an impact on their identity. Key quotes regarding their sense of identity as it pertains to knowing multiple languages are presented in Table 16. The responses presented therein demonstrate that the participants define and conceptualize identity differently.

Table 16

Semi-Structured Interview (SSI) Responses to Participants' Sense of Identity as a Person who Knows Multiple Languages

	Would you say that knowing multiple languages has had an impact on your identity?	
Abdullah	Y	*"Well, yeah, absolutely. Uh, it's not the language that forms my identity, but it's like pieces that I've picked up along the way to make the person that I am today. So, looking back at it, those languages that I picked up have like certain spots in my memory that came along this path."*
Amélie	N	*"Umm, I don't really think so. I mean maybe a little bit just because it would have stopped me from doing a lot of things that I've done like today. If I didn't know both languages, but I wouldn't say it's necessarily part of my identity per se."*
Bahar	Y	*"Umm yes for sure because. Well just knowing different languages is knowing like, is being able to be a person in different worlds I would say. Like when you don't know, for example French, you can, like you have only a little chance of being able to communicate in French, work in French, study in French, you know, know the culture of the French and know French people. And now I do get that opportunity. So and then you learn and explore other cultures. You learn more, like in your mind, mentally. You get more mature, in my opinion. And you know, how mature you are is a part of your identity because it's how you behave with people and how you think."*
Dawn	Y	*"Umm yes. I feel like... so for an example, at home, I feel like it makes me more of a, I guess minority, even though I'm mainly speaking English there, but I feel like because I know certain languages and, for instance, where I did speak in French with my friends on the bus, people saw me as kind of like a different human being, just because I knew French, which wasn't the main language spoken there. And also because, I guess, based on my looks they didn't think that I spoke French. And here I feel like it helps me really umm show my identity in that I know how to communicate and identify myself in both English and French."*
Holly	N	*"You know, I've spoken French for a lot of years. It's still, it's just not anywhere near as easy as it is in English. It's more like I don't know, like surface level. You know, it's not like part of me is that makes sense.*
John	Y	*"Yes. Absolutely. Umm, so basically it comes down to uh Franco-Ontarien. Oh my God, if you asked any Francophone kid and uh, 'On est Franco-Ontarien. Aujourd'hui pour demain.' I don't really remember too much of it now, but that got drilled into our heads like no tomorrow. Uh, that was basically the second anthem. And so definitely, I won't lie, it strikes a chord with everyone who speaks French, no matter if they hate the language, they love the language, doesn't matter. It's part of their identity. Everyone can relate to it and at the end of the day, we can play the double-edged sword umm and so we can relate to two cultures that are have hated each other for uh decades upon decades upon... centuries, actually. And so it can be funny and it can also be a little dark."*
Julianne	N	*"Yeah. Because I mean, I went to a French high school and elementary school. So, but, also like outside of school was mostly English, like I would dance and it was only English. So my identity kind of switched between like in here, you're fully French. Like at school, right? Like you don't speak English at school unless you're in English class. Or it's like*

		here, you're French, here you're English. And I feel like it's also like different friend groups and like different people and they know you differently and like French and English, for me it's like they... it's like two different things, kind of."
Matma	N	*"No, not really. I'm. I'm still me. Uh, no."*

Note. Y = yes; N = no.

Investment

Taken together, these results regarding the capital and identity components of investment, and the ideology results presented above, an overall impression can be formed of the investment of each participant.

Abdullah

Abdullah knows Arabic, English, and French (in order of his ranking of strongest to weakest language). In the home that he shared with his parents and siblings, he used Arabic and English; at school and in the community, he uses all three of his languages. He has educational experience outside of Canada, from grades 3 to 6 inclusively. His earliest exposure to French was in a French kindergarten in Gatineau. He attended an Arabic school for grades 1 and 2 in Ottawa before moving away, and an Extended French program in Ottawa after returning.

Abdullah is invested in knowing French as one of his three languages. "*I'm using a mix of all three… trying to stay on top of my French just so it doesn't like, fall out, you know?*" He describes Arabic as "*his roots*" and French and English as "*languages that I have learned and then learned to embrace as well*." His investment seems to be fueled by earlier experiences of French attrition while living outside of Canada. "*If I would have found a way to hang on to my French a bit more, that would have been really useful and it would have taken a lot less work to try and get it back.*" At the same time, Abdullah has a belief that languages are simply acquired passively (*Language as a Valuable Complex Skill*). He tends to defer his language learning to the structures and institutions around him, which is evidenced by his positioning as learning

language *from* something, someone, or someplace rather than learning *to* accomplish or apply certain language skills. *"My birth city was Paris, so obviously we got the French from there."* This belief may be related to his experience of having adapted to life in many different places, if adaptation is consciously or unconsciously understood as a slow and gradual process of change over time. "*You'd have to learn different terminology from different countries.*"

Abdullah ranked Language Knowledge as the second most important social affiliation to his identity. Although he makes a few mentions of economic, cultural, and social capital, it is not a major driver in his investment. The social benefits that he does mention relate to genuine interconnectedness. He wants to share language experiences with others because of the "*positive feedback you get from them.*" He gives value and justification for many languages (*Monolingualism vs. Multilingualism*) and he explains his personal desire to maintain three languages along with his desire for his younger siblings to do the same. He prioritized speaking English with them "*because, coming here to Canada, they still didn't know English properly, so it was in a sense to help them learn it.*" He has also kept an eye on their French abilities, explaining that "*for both of my younger siblings, they wouldn't have lived in Gatineau as much as I would, so their exposure to French is limited to umm… 2017*." He ranked Language Program as the least important social affiliation to his identity. This relatively low ranking might be a reflection of having attended multiple school programs (in Canada and elsewhere in the world), especially during his early school years, which he disproportionately credits for his language learning (*Early Exposure Advantage for Language Acquisition*).

Overall, Abdullah is currently in a maintenance phase of his French investment. As someone with an identity that is shaped by his knowledge of multiple languages and a belief that the value of language is independent of social and material gains (*Language as a Tool*), his

investment is guided by his sense of place in the world and expression in service of connecting to others. "*There's less language barrier if you want… you know, if someone is struggling with something, you're the person that they can come to. It just makes everything much simpler and then much more positive in a sense.*"

Amélie

Amélie knows English and French (in order of her ranking of strongest to weakest language). In the home that she shares with her parents and sister, she uses both English and French, and she uses French with her extended family. She was exposed to French 100% of the time, in the home, before 2 years of age. She has resided in and received education in three Canadian provinces: Quebec, New Brunswick, and two different cities in Ontario (Toronto and Ottawa) in that order. She attended school in mostly English, receiving Core French education in grade 2 before attending French schooling from grade 3 onwards.

Amélie is somewhat invested in knowing French. During her SSI, she explained that she does not consider her knowledge of multiple languages as having contributed to her identity. She connects strongly with English, explaining that she and her sister "*kind of turned to that language*" and has developed a strong preference for English use over the years. "*Technically, my first language was French, but having grown up in a lot of like English places, I tend to be more comfortable with English.*" On the SIR, Amélie did rank Language Knowledge as the most important and Language Program as the third most important social affiliation to her identity, stating, "*It's very important to me to keep up my written knowledge of both French and English.*" The discrepancy between these rankings and her explicit denial of the role of multilingualism in shaping her identity might be explained if she had an alternative conceptualization of "identity" in the SIR as more of a "priority". For instance, she does hold a belief that language is important

for social and material gains (*Language as a Tool*) and offered many examples of economic capital that she leverages, or intends to leverage, from her knowledge of French. "*I do take most of my classes in French as it is less expensive.*"

She also holds a belief that languages can remain dormant for periods of time without being completely lost (*Language as a Valuable Complex Skill*). "*I guess it kind of just comes back and clicks. […] If I read something French or I really get like, immersed in the language a bit, then I'll start speaking in French for a few days.*" Even though she uses English more often, she still expresses certain phrases in French.

> "*For example, like instead of saying 'It's hot', I always say it in French. For some reason, that's just like a type of word that's like more French. Or 'I'm tired', I'll tend to say it in French. So, I guess, mostly, I don't know… states of mind and stuff like that.*"

Amélie associates the use of both official languages with schooling, "*I think I'm comfortable in both languages to like, take classes in either one*" and with employment, "*I've had customers that speak English and some that speak French. So I've had to like, jump in between both languages*", but she makes a strong distinction when it comes to their use in her personal life. '*I think in general I will mostly choose English. I think apart from like, if I'm talking about something that I might not want a lot of people to overhear.*"

Overall, Amélie's current investment into knowing French is informed in large part by the economic capital that she estimates she stands to gain from preserving that language. The intersection of her language ideologies about languages being important for social and material gains (*Language as a Tool*), languages being skilled assets that are actively learned (*Language as a Valuable Complex Skill*), and giving value and justification for many languages

(*Monolingualism vs. Multilingualism*), results in a desire to preserve her knowledge of French as she moves into the workforce without necessarily needing to revitalize a personal connection with the language as it pertains to her sense of identity.

> "*A lot of the media, like movies, TV shows, songs, and everything is in English. So we've learned a lot of expressions and ways of discussing that comes from English, so I think that's why it really shaped most students to really be leaning towards English.*"

Bahar

Bahar knows Farsi, English, and French (in order of her ranking of strongest to weakest language). She is the most recent immigrant to Canada in the group, having moved to Ottawa two years prior to participation in the study. In the home that she shares with her mother, she uses Farsi; at school, at work, and in the community, she uses English. She began learning English in grade 6. She had a year of learning French around 7 years of age and then restarted learning French less than two years prior to participation in the study.

Bahar is highly invested in knowing French as one of her languages.

> "*The thing is, for me, when I am at the peak… very hardest point of learning that language, […] I'm like, 'I'm so sick of this.' Why couldn't I be like, fluent French speaker, fluent English speaker? […] But I think once I get past that, I immediately think of what languages I will learn next.*"

She demonstrates commitment to learning French through her engagement with extracurricular French tutoring as preparation for a French Immersion postsecondary program at the University of Ottawa. Her dedication persisted even when she was not permitted to enter the bilingual education program that she desired.

> "*I did want to get into French Immersion in high school, but they didn't let me because I hadn't taken French […] So I had, four days a week, French classes after school, which was like umm… a subtotal of five hours per week learning French.*"

Her dedication also persisted when she failed to find French media to support her learning with the same strategies that she had employed for learning English. "*I tried to find, like 'Friends' translated into French with like, English subtitles, but I just wasn't able to find.*"

Her immigration experience and her French investment are interrelated. "*I was planning on learning French because of, you know, Canada… work… You've got to, like, speak French to get like promotions and stuff."* She connects French with economic capital gains, especially when it comes to verbal expression. "*My short-term goal is to get outside of my box with French and speaking French because I think it's going to be a big help for me. Umm… for, you know, work related stuff.*" Despite her challenges, she demonstrates resilience in speaking French.

> "*I'm not confident in my French at all. […] We do have quite a considerable amount of French customers and I always try to speak in French with them, even though I might say some words in English, but I still try to like, umm… speak French as much as I can.*"

Bahar is also driven by social capital gains. "*It's paying off that I can, you know, talk to people in French, even though they're from Gatineau.*"

Bahar is someone for whom knowing multiple languages certainly contributes to her identity. Her belief that intelligence is tied to language skills (*Language as a Marker of Intelligence*) is also related to her sense of identity. In describing herself, she says:

> *"So ever since I was a kid, I loved knowing multiple languages. Like, I don't like playing sports. I don't play sports. But I think knowing multiple languages is a cool thing that somebody can be able to do, and I always wanted to speak multiple languages."*

That Bahar considers her language skills to be an identity marker – or an identity differentiator – is related to the fact that she learned both English and French outside of school, therefore setting her apart from her peers. This is further evidenced by her responses to the SIR. Bahar ranked Language Program as the least important social affiliation to her identity. Since she credits private tutoring for her additional language learning, and since an affiliation with a language program would have only become relevant in grades 11 and 12 as she pursued schooling in Ottawa, the low ranking makes sense. On the other hand, Bahar ranked Language Knowledge as the third most important social affiliation to her identity on the SIR. Since her Language Knowledge contributes significantly to her identity, and since she believes that language is a privilege (*Language as a Privilege*), she makes this assumption of others and therefore seeks to grant the use of French to French speakers in Ottawa. In one example, she suggested to her employer that they integrate French music into their playlist:

> "*I'm an immigrant myself. And when you just go somewhere and they start speaking in your native language to you, it just feels something very different. It feels way better […] You know the customer's feeling better. They don't have to speak in their second language. You don't have to, you know, overstep their identity. In my opinion, they can be themselves with you.*"

Overall, Bahar is currently invested in knowing French and is currently benefitting from that investment in various ways. She integrated language learning into her identity well before

this period of reinvestment into French, influenced by her language ideologies. Due to her continued investment, she has reached the point in her French learning that she can apply it in pursuit of the types of capital that she values. "*It feels amazing that I finally did all my attempts and all my like, you know, studying for like a year and a half, maybe more […] and now I'm starting to like, completely be okay."*

Dawn

Dawn knows English and French (in order of her ranking of strongest to weakest language). In the home that she shares with her parents and sister, she uses English. She was exposed to English 100% of the time, in the home, before 2 years of age. She has resided in and received education in two different cities in the province of Ontario (Toronto and Ottawa, in that order). She attended a French Immersion program from grade 1 to grade 8, with the first four years involving more French exposure than the last four years. She attended Core French in high school.

Dawn is invested in knowing French. She has demonstrated commitment to learning French through her educational choices in high school and at university.

> "*In French, I can do all the same skills but I'm less advanced in umm… I guess, the vocabulary and the higher end of the language. I'm planning on taking some French courses next semester as a well as through the next four years so that I can enhance those.*"

Her SIR responses provide additional insights, as she ranked Language Program as the third most important social affiliation to her identity – higher than Language Knowledge, which she ranked fifth. Since she comes from a monolingual English family and household, it is possible that Language Program is more important to her since it was through her educational experiences

that she developed her English-French bilingualism. Dawn's knowledge of French as her second language is clearly tied to her identity. In numerous instances, she described a great frustration when her identity as a person who speaks English and French was not expected or recognized by others. When using French in public, she says, "*They just kind of looked at me like, 'Oh. I didn't expect that to come from you.* "' She expressed discontent that her internalization of French as a part of her identity and communicative repertoire was not matched by her peers.

> "*I played soccer after school and like, I said some words that just come naturally in my head in French. And so, I spoke to one of my players in French and she kind of looked at me like, 'Why are you speaking to me in French now? You know, it's after school. It's time for English.*' *And I felt kind of embarrassed because I thought we both were learning the English and French language.*"

Both of these examples arose in the context of a city that has a smaller French-speaking community than Ottawa, against which she draws important distinctions.

Dawn holds a belief that intelligence is tied to language skills (*Language as a Marker of Intelligence*). "*Yes, actually I'm able to speak fluently even though [French] technically isn't my first language.*" She also holds a unique belief that gives value and justification for the two official languages, rather than for one language or for many languages (*Monolingualism vs. Multilingualism*). She perceives other languages besides English and French as having formed barriers between her and those around her. "*They might not know English and also I don't know their language.*" She also holds a belief that the value of language is independent of social and material gains (*Language as a Tool*) but she does note a certain interconnectedness when it comes to socializing in her known languages. "*When I speak in French and they speak in French, I feel like it's like a mutual connection*." As such, there are positive social encounters that make

her feel empowered and negative social encounters that make her feel disempowered for using French as her second language.

> "*At the end of the lecture, I went to ask him a question and I said it in English and he didn't know what I was saying so I said it in French, and then he kind of umm… looked at me in a way that he was confused and rephrased it for me. […] I felt kind of disempowered and felt like […] because he knew the language, he tried to, I guess, control me in a way.*"

Overall, Dawn is eagerly operating in a novel postsecondary environment that is reinforcing her current investment into French. She describes earlier challenges communicating with others in her community, so her investment led her to an environment that supports the use of the two languages that she knows and therefore, also supports the full expression of her identity. "*I feel like I'm more connected to the community and […] I can understand what they're saying and also communicate with them.*" She not only appreciates the French in her day-to-day life but also sees the language as a part of her future in the short and long term.

> "*I'm happy that there's resources where I can still learn. In high school, it was an all-English school but there was still an opportunity for me to take the French courses, as well as like French clubs and stuff. Even now, taking it in university… it's going to be really helpful for me.*"

Holly

Holly knows English and French (in order of her ranking of strongest to weakest language). In the home that she shares with her parents and two siblings, she uses English. She was exposed to English 100% of the time, in the home, before 2 years of age. She is from Ottawa and has lived in Ottawa her whole life. She attended almost exclusively French Immersion

programs, except for Core French in grades 7 and 8 at an alternative school. Her earliest exposure to French was therefore in kindergarten.

Holly is minimally invested in knowing French. "*English is my first language. It's the language that I'm by far more comfortable in.*" She explains that her exposure to French was limited because of the predominance of English in her community and in her household. "*Even like our community centre was all in English now that I'm thinking about it.*" As such, her experiences with learning French come exclusively from school. In her SSI, she provides examples of teaching approaches that she encountered that did not meet her language learning needs and others that did.

> "*The elementary school I went to was very, very bad. […] It was just kind of like, I say, clinical the way I was taught […], which I didn't feel was very like useful to me. Like that was not a great way to learn.*" "*I think that was more like my teacher though and liking the teaching methods she used. […] In my later years of high school, it was a lot more interactive.*"

Holly holds a belief that languages are rules-based and rigid (*Language as a Decontextualized Formal System*). This belief might be related to the fact that she learned French as her second language exclusively in an educational setting – especially given the type of in-class activities that Holly described during her elementary school years. "*Here are some grammar forms. […] Here's like a worksheet.*" She is critical of her language abilities in French, focusing particularly on the intricacies of verb conjugations, as well as her accent. "*Even the people that don't [speak English]… they still speak English, especially when like I try to speak French. I think I have a really thick accent. They just speak English back.*" Despite this, she also recognizes the progression of her French abilities over time, highlighting the long and difficult process of

learning her second language. "*My French really improved once I got to high school French. […] In the last two years of high school, that's where my French like dramatically like had the big push.*" This is in line with her belief that languages are skilled assets that are actively learned (*Language as a Valuable Complex Skill*).

Indeed, Holly describes her French knowledge as an asset that she intends to translate into economic capital. "*There's like a bunch of government jobs and stuff. […] You absolutely need French for those jobs just to get them. Even though 99.8% of the time you will only be speaking in English.*" At her age, she has already begun to utilize her French knowledge to improve her employment prospects. "*I worked with the city in the summer for the last like three years and you like, have to know French to do that.*" While she holds the belief that language is important for social and material gains (*Language as a Tool*), she makes it clear that her knowing French is indispensable during the application and interview process, whereas it is virtually unnecessary in the eventual role itself. When asked if she ever uses her French at work, she replied, "*No… No… Like, everyone speaks English.*" Holly holds a belief that gives value and justification for one language (*Monolingualism vs. Multilingualism*) and that language is English. On her mother's side of the extended family, there are members who seem to exhibit anti-French sentiment, which she explained in her SSI.

> "*My grandparents, on her side… They're weird with French. Like, they don't speak a word of it and they will refuse to learn. And they'll get upset like, if you speak French around them. It's kind of weird. And they're only English.*"

Within her immediate family, Holly does describe herself as being different from the others for knowing French. "*I also watched a lot of TV shows in French when like, everyone else wasn't there. Because oh my god, does my family hate watching French shows. Which I get, because*

they can't understand a word of it." Still, this difference does not factor into her identity. She makes that clear in her SSI and on the SIR, where she ranked Language Program as the least important social affiliation to her identity and Language Knowledge as the second least important.

Overall, Holly's minimal investment in French is currently driven by a singular force: the prospect of economic capital. She makes no mention of cultural or social capital in her SSI. Knowing French is not a key contributor to her sense of identity and neither is the broader reality of being a person who speaks two languages or who participated in English-French bilingual education. Her languages ideologies inform her recognition and justification of English monolingualism in Ottawa. "*I don't like speak French. I don't like, consider myself a French speaking person, if that makes any sense?*"

John

John knows French, English, and German (in order of his ranking of strongest to weakest language). In the home that he shares with his parents, he uses French and English. He was exposed to French 50% of the time, English 49% of the time, and German 1% of the time, in the home, before 2 years of age. He is from Ottawa and has lived in Ottawa his whole life. He attended exclusively French school programs.

John is inactively invested in knowing French. "*The fact that I'm speaking to you in English right now is a sign that I'm losing a little bit of more that French orientation.*" He has the highest self-rated French proficiency out of the interview sub-group, with expert level listening, speaking, and reading skills with no accent (note that his writing skills are low across all three languages due to his educational exceptionalities). He labels himself Francophone and

Franco-Ontarien, illustrating that French is central to his identity. "*I can never lose my French, but my French will be slower and more thought out.*" This sentiment also highlights his belief that languages can be dormant at certain times without being lost. "*I don't know why English people are so afraid to be surrounded by French people, they won't lose their English. That's for sure.*" Related to that, he also holds beliefs that languages are simply acquired passively (*Language as a Valuable Complex Skill*) and that languages are flexible and created by the people (*Language as a Decontextualized Formal System*). For these reasons, John is not concerned about his current preference for using English or about the errors that he makes in French.

> "*Sometimes I say words in French that I think I know their meaning because I interpreted it from a book, but interpretation could be flawed and as a result, sometimes I say something and someone goes, 'No, that's not what you think it means in French.* "'

John explains his choice to read in English in his SSI.

> "*I started getting a little bit into more of the English category. Umm, I started reading a little bit more in English. English books were just cheaper at the end of the day. French books are expensive as hell. I love reading in French.*"

In this case, his preference for reading in French imposed a financial penalty. In fact, John makes little mention of any type of capital to be gained from his knowledge of French – whether that be economic, social, or cultural. John has compartmentalized his two languages so that English is used for his hobbies (such as reading, mountain biking, and watching history videos) and French is used institutionally.

> "*I can speak English fluently without a problem, but it's kind of parted out. So, institutionally, I can't do math in English, so good luck for me going to any math classes or anything theoretical. But for example, my passion is mountain biking. I have a mountain biking club at uOttawa and, generally speaking, my French terminology is not so great. […] So, institutionally… I guess, in school… I'm speaking French.*"

Moreover, on the SIR, John ranked Language Program as the most important social affiliation to his identity. Perhaps the intersection of his French educational program, his institutional use of French, and his French identity would explain the high ranking. He also ranked Language Knowledge as the second most important social affiliation to his identity. These were tied for the highest rankings of the language-related social affiliations out of the participants in the interview sub-group, so the SIR reinforces the evidence that language figures in a core, stable part of John's identity.

Overall, John's investment into knowing French is currently idle, given that his French language abilities are high and that he is already well-integrated into the French community. It is driven decidedly by identity, followed by ideology. Importantly, he distinguishes French language knowledge, French language use, and French language culture. With beliefs that language ties a person to a culture (*Language as a Portal to Culture*) and to a national identity (*Language as a National Unifier*), as well as with a sound consideration of the socio-historical realities of English- and French-speaking Canadians, he is comfortable with his French dormancy and is making plans to reignite those language skills in the future. "*If I'm going to move somewhere, I'm going to move to Quebec. And that's mostly because I'd like to keep in touch with my language.*"

Julianne

Julianne knows English and French (in order of her ranking of strongest to weakest language). In the home that she shares with her parents and, previously, her half brother, she uses French and English. She uses French with her mother's extended family and English with her father's extended family. She was exposed to French 80% of the time and English 20% of the time, in the home, before 2 years of age. She is from Ottawa and has lived in Ottawa her whole life. She attended exclusively French school programs.

Julianne is firmly invested in knowing French as one of her two languages.

> "*I can speak to you in both languages. Like, if someone would tell me, 'Why do you know French?' I'm like, 'Well, why does it matter to* you*? I'm speaking to you in English, right?' Like, why does it matter for* me*? It's like an advantage for everything.*"

Julianne labels herself, the members of her immediate family, and her friends as "bilingual".

> "*You know, if I'm with my friends, really, speak both. Like, you'll really see like what we call le franglais, which is basically like in one phrase, your first, beginning is in French and then you switch to English and then like, we all understand because my whole friend group we're like bilingual.*"

In many instances, she described using both languages interchangeably or switching between them with the same interlocutors. "*It's been like, what… eleven to twelve years I've been like switching or bilingual. So it's not a big deal. I actually kind of like it.*" This tendency to switch back and forth extends to her educational experience at uOttawa and in her workplaces.

"*One of my jobs is at a movie theatre so that is primarily always English. And then I have another job and it's like a gluten-free bakery. The owners are French so it's very bilingual and most of my customers are French. So like, at both the jobs I speak both pretty much.*"

In these aforementioned examples and throughout the SSI, Julianne ascribes labels depending on the person's language abilities. Interestingly, in some cases, she includes the adjective "only" in describing monolinguals. "*Because everyone else… well it was like 50% of people… were only French, like you would just speak in French.*" "*His mom is only English. Like, only speaks English.*" Julianne holds a belief that gives value and justification for many languages (*Monolingualism vs. Multilingualism*) and an interest in foreign languages as well.

Julianne has developed a preference for English over the years.

"*Sometimes I feel like lately, because I'm using more English, I have to like think more in French. Like, some words come a little slower to me now but like, back when I was younger, I was like French French.*"

Rather than "bilingual", she uses the label "French French" in describing her younger self although she did have limited exposure to English in early childhood and increasingly more throughout elementary school.

"*Some people really just learned English from what we learned in like our 4th grade class… like, the first class. Like, I knew English [...] but then outside of school, where I dance from when I was like five all the way until I graduated, I did dance and that was all English, right?*"

The use of a different label suggests that her identity shifted as English exposure and use increased as her schoolmates' proficiency increased. This falls in line with her belief that

languages are simply acquired passively (*Language as a Valuable Complex Skill*). "*I really learned by listening. Like, so I listened to what people would say and when they would translate to me. And then they would say the English to me after. Like, I would know for the next time.*" As with the others in the interview sub-group who held that belief, Julianne's sense of passive acquisition was accompanied by descriptions of autonomous learning "*I learned a lot of words like self-taught in a way"* and of language dormancy "*I'm not even close to completely losing [my French].*" On the SIR, Julianne tied for the highest rankings of the language-related social affiliations out of the participants in the interview sub-group. She ranked Language Knowledge as the most important social affiliation to her identity and Language Program as the second most important, citing the ability to communicate with others about a wide range of topics as justification. These rankings support the overall impression that both of her languages are important to her identity and that her identity is a big part of her investment. "*My identity kind of switched between like, […] here you're French, here you're English.*"

Julianne holds the belief that language is a privilege (*Language as a Privilege*) and uses language that highlights her interpretation of bilingualism as an advantage. "*My mom is primarily French […] because they grew up in Quebec. […] When they moved here, she's the youngest, so she got to learn English. So she's bilingual now and like, works for the government.*" Julianne explains how bilingualism offers certain types of capital that she values, such as economic capital related to employment and education.

> "*I have two classes that are in French and then three classes in English. So I just did it almost like a mix so I like keep working on my French in some classes and like English in some, so I can get like both.*"

She shows commitment to learning new languages to gain cultural capital, which appeals to her as a someone who enjoys travelling and having access to cultural connection with others on vacation. "*Having like, 'How are you?' and stuff like that in every language can be very interesting.*" Her interest in foreign languages is tied to her belief that language ties a person to a culture (*Language as a Portal to Culture*).

Overall, Julianne exhibits a current investment profile that draws evenly from all three components, resulting in a steady investment in knowing French, which is key to her bilingualism. She implicitly reveals that ideology and identity are very important drivers of her investment, chronicling her continuing understanding of language identity via the use of labels. She also explicitly appreciates the importance of cultural and social capital as currency for connection with others, in line with her belief that language is important for social and material gains (*Language as a Tool*), and provides evidence of carrying this orientation throughout her life.

> "*When I was younger, it would like surprise me when they could speak to me in French, even if like, you know, they were English. It was like, 'Oh, you're also bilingual!' You know what I mean? It was like, 'Oh, that's nice!'*"

Matma

Matma knows English, Arabic, French, Japanese, and Spanish (in order of her ranking of strongest to weakest language). In the home that she shares with her parents and siblings, she uses English and Arabic; at school and in the community, she uses French and English. With her extended family, she uses Arabic. She was exposed to English 50% of the time and Arabic 50% of the time, in the home, before 2 years of age. She is from Ottawa and has lived in Ottawa her

whole life. She attended Core French until grade 3 and then moved into French Immersion from grade 4 to 12.

Matma is highly invested in knowing French.

> "*When I went to elementary school, they had like this French Immersion program that you could register for starting from grade 4 onwards. And I thought, 'Hey! You know, French is a pretty cool language. Why not learn it?' And so, I did.*"

Her interest in French led her to choose a program with more French exposure and to continue in that program through to the end of high school. In fact, she would have preferred to enter that program even earlier than she did. "*I think maybe they should give the option of like, learning French at an earlier age… like, not grade 4. Like maybe you could start taking it in kindergarten.*" (Note that this option does, indeed, exist.) Interestingly, Matma seems to discount the French exposure prior to grade 4, when she was in the Core French program, distinguishing it from "learning French". "*It was mostly in English. We had one French course where the teacher would teach us a bit of French.*" Matma does hold a belief that languages are skilled assets that are actively learned (*Language as a Valuable Complex Skill*). She offers rich description of her journey towards "learning French" in her SSI, including the conscious decisions that she took and the effort that the made. "*So I was like, "Okay, I want to learn French. So that's what I did. So, I studied. I did most of my classes in French.*" Almost a decade later, her commitment to "learning French" persists.

> "*During the summer, I read Les Misérables. I just read it because umm… well, I wanted to kind of assess myself and see how well I understand French literature […] and I guess, just learn new words… see how Victor Hugo is writing.*"

As someone with an interest in foreign languages and a belief that gives value and justification for many languages (*Monolingualism vs. Multilingualism*), this active learning extends to her other languages, Japanese and Spanish. "*For Japanese, I had an instructor. So he taught me the language. I guess the best way I've learned was studying the alphabet, practicing the language, and, I guess, forcing myself to use it in everyday context.*"

According to Matma, there are advantages to knowing many languages (the most out of the interview sub-group), such as gaining cultural and social capital. "*Being able to communicate with more people. Being able to understand different cultures.*" Even when she mentions the use of French in the workplace, it is still a person-to-person connection that she is seeking, related to the customer having the right to use their language (*Language as a Privilege*) and treating the customer with respect.

> "*Because I know French, if there's a customer that comes in and they only know French and they want to make an order, let's say. I can help them. I can help them walk through the process… Make them comfortable, you know? Not like, disturbed because they have to use English.*"

This is different from using knowledge of French to access employment or other economic capital. Although it is clear that Matma values her languages, they do not factor heavily into her sense of identity. On the SIR, she ranked Language Knowledge as the third most important social affiliation to her identity and Language Program as the fifth most important. She fundamentally separates who she is from the languages that she knows and uses. At the time of her SSI, she used English most frequently. "*I'm like constantly using English, so obviously I'm going to favour using that language.*" She holds a belief that languages are rules-based and rigid (*Language as a Decontextualized Formal System*) and is invested in supporting very specific

French language skills. "*Especially with French… It's the type of language where like, you've got to constantly revise everything you learned. Otherwise, you're going to forget the grammar rules and whatnot.*"

Overall, Matma possesses strong language ideologies, such as language being a right (*Language as a Privilege*) and the value of language being independent of social and material gains (*Language as a Tool*), which inform her investment into French. She has not internalized her language knowledge as part of her identity but she empathizes with the communication experience of others.

> "*If not all the people are speaking your language, I guess it can kind of feel like, isolated, a little. You know? So if there's like another person who at least knows your language, I guess you feel more included.*"

Her beliefs guide her deep respect for, interest in, appreciation of, and orientation towards languages. "*Language is like, everything. Without language, who are you? You know? How do you express yourself? How do you communicate with others? How do you know what to do?*"

Chapter 4: DISCUSSION

This thesis addressed answers to three research questions: (RQ1) What language ideologies do Ottawa's multilingual young adults who know French hold? (RQ2) What are the associations between the language ideologies of Ottawa's multilingual young adults who know French and their individual characteristics and experiences? (RQ3) To what degree are these multilingual young adults in Ottawa invested into knowing French? This thesis was framed by Darvin and Norton's Investment Model (2015), in which investment into a language is informed by three components: ideology, capital, and identity.

To explore the three questions, a variety of quantitative and qualitative data were collected from a group of young adults having recently graduated from an Ontario high school in the Ottawa area who self-declared knowing French as one of at least two languages. Most of the sample knew three or two languages, with French as their second-best language or best language. In general, participants reported greater receptive proficiency than expressive in French, as well as an advanced level of pronunciation. The majority of participants had some level of French exposure between birth and 2 years of age, averaging exposure to French about one third of the time both in the early years and through to the end of high school. French and French Immersion schooling were common among the sample, along with experiences in multiple school programs. Attitudes and motivation towards French were modest. On average, language-related social affiliations were ranked somewhere between third and fourth most important to their identity, out of six.

Taken together, the mixed method results provide nuanced insights into these exploratory research questions and invite interesting discussion, which is elaborated in this section beginning

with the three RQs and ending with a general discussion, limitations, and future directions for the field of investment of multilingual young adults.

RQ1: What language ideologies do Ottawa's multilingual young adults who know French hold?

Language ideologies were explored quantitatively with the Language Ideology Survey (LIS), for which the analysis involved the whole group, and qualitatively with the semi-structured interview (SSI), for which the analysis involved a sub-group of eight participants.

There were two language ideology constructs from the LIS that were especially relevant to this group of young multilinguals. Firstly, *Language as a Valuable Complex Skill* had the highest mean ratings for this group. Its mean was statistically significantly higher than the means of the other six language ideology constructs. As such, the findings suggest that the whole group had a tendency to view languages as skilled assets that are actively learned. *Language as a Valuable Complex Skill* also featured in all SSIs. Some sub-group participants matched the trend of the whole group, while others fell more towards the other end of the spectrum. The qualitative analysis of this particular language ideology was complex because the participants in this thesis are necessarily multilingual but have such different language learning experiences. Among the languages spoken by this group, French was learned first, learned second, learned third, or learned at the same time as one or more languages. In some cases, French was learned later (more recently), when memories are sharper, and in other cases, French was learned at a very young age. These distinctions had intersecting impacts on interpretations of languages being actively or passively learned.

Secondly, *Language as a Tool* had the second highest mean ratings for this group. Its mean was statistically significantly lower than the mean of *Language as a Valuable Complex*

Skill and statistically significantly higher than the means of the other five language ideology constructs. As such, the results of this thesis showed that the whole group had a tendency to view language as important for social and material gains. *Language as a Tool* featured in almost all SSIs. Some sub-group participants matched the trend of the whole group, while others fell more towards the other end of the spectrum. As hypothesized for RQ1, the findings suggest that the age and life stage of these participants, as well as the likelihood of them moving into professional employment after a university degree, may provide some explanation of their belief in language being important for social and material gains.

Certain constructs from the LIS were less relevant to this group, as evidenced by mean ratings nearer to the midpoint and fewer spontaneous mentions in the SSIs. In particular, *Language as a National Unifier* only came up spontaneously in one out of eight SSIs. The findings related to *Language as a National Unifier* demonstrate an important consideration when it comes to the interpretation of the results of RQ1. The qualitative results from the SSI were inductive, coming more directly from the participants' true experiences of being people who know multiple languages, whereas the quantitative results from the LIS necessarily provide a score for all seven of the constructs. It is important to remember that participants were prompted to rate their agreement with a series of prompts, even about language ideologies that do not factor heavily into their overall sense of how languages contribute to the world around them. The LIS provides information about where they fall on the spectrum of agreement with various prescribed language ideologies. The content analysis of the SSIs also provides this information – recognizing that this might not necessarily be true for all seven constructs, but for those that were important enough to be discussed.

Two supplementary constructs also emerged as being significant to this group of young multilinguals: *Language as a Portal to Culture* and *Early Exposure Advantage for Language Acquisition*. Since the concepts are somewhat related, it is possible that the lower relevance of *Language as a National Unifier* might be explained by the converse higher relevance of *Language as a Portal to Culture.* As hypothesized for RQ1, the cultural and linguistic 'mosaic' of Canada might explain the belief connecting language and culture rather than language and nationality. This would also pertain to the connection between French language and culture and between English language and culture in Canada. With regards to the language ideology *Early Exposure Advantage for Language Acquisition,* some participants felt that language learning was easier and/or more successful during an early period of development. These two language ideologies were reported by this particular group; future research is warranted in order to make an important contribution to the literature on language ideologies of young multilinguals in Ottawa.

Unlike hypothesized, the findings of this thesis did not reveal trends related to the language ideology constructs *Monolingualism vs. Multilingualism* and *Language as a Marker of Intelligence.* Despite this being a group of multilinguals, the results were inconclusive as it pertains to *Monolingualism vs. Multilingualism.* Quantitatively, mean level of agreement with that construct was neither high nor low, with no statistically significant difference between it and the other moderately-rated constructs; however, it is worth noting that level of agreement with this construct was consistent across the group, evidenced by the smallest range in agreement. Some sub-group participants tended more towards giving value and justification for many languages, while others fell more towards the other end of the spectrum. It was also possible that this group of multilinguals might not tie intelligence to language skills based on some existing

research comparing them to monolinguals (Valentin-Rosas, 2023), but this was not the case for this thesis. Once again, its mean was near the middle of all seven constructs with no statistically significant difference between it and the other moderately-rated constructs. Half of the sub-group participants tended towards intelligence being tied to language, one fell more towards the other end of the spectrum, and the rest did not mention this construct. Language ideologies reported in Valentin-Rosas (2023) were drawn from a different group of English monolingual educators in Texas, which constitutes an older age group (most likely, although the age of participants was not reported) and a very different context. The United States is known to maintain prevalent ideologies of English monolingualism (Lippi-Green, 2012). It is therefore possible that, comparatively, multilingual young adults in Ottawa would tie intelligence to language skills *less* than the English monolingual Texans, but their beliefs were not at the complete other end of the ideological spectrum.

All in all, the results indicate that the LIS has some applicability for use in Ottawa with young multilinguals. Bearing in mind that certain adaptations were already made to the version used in this thesis (mostly concerning word choice and the reflection of having two official languages rather than one), some of the language ideology constructs proved relevant to this group and the LIS worked well at quantitatively discerning where along the spectrum each participant fell. This allowed for the quantitative analysis presented below for RQ2. In preparation of the original LIS for a de facto English monolingual context in the US, Fitzsimmons-Doolan (2017) drew dozens of ideological propositions about language from a systematic review of a decade of literature from across the world, with articles investigating everything from English in the United States to Quichua in Ecuador. In order to provide the best quantitative evidence of the language ideologies held by multilingual young adults in Ottawa,

more localised work would have to be done to identify the constructs that truly influence investment in this sociopolitical environment. A focus on Canadian literature or literature from multilingual, multicultural countries would perhaps better support the development of a more localised survey. Important insights could also be drawn from qualitative research with young Canadians, as demonstrated with the two supplementary language ideologies uncovered in this thesis. As with the original work done by Fitzsimmons-Doolan (2011), an exploratory and confirmatory factor analysis would be required to improve the validity of the survey with this population. One additional intricacy of the LIS as used in this thesis relates to the language ideology construct *Language as a Tool*, which measures agreement along a spectrum from language being important for social and material gains to the value of language being independent of social and material gains. There is a slight misalignment between the (Fitzsimmons-Doolan, 2017) conceptualization of this construct and capital as one of the three components of investment, according to Norton (Darvin & Norton, 2015). In the Investment Model, the theoretical framework for this thesis, capital is subdivided into social, economic (potentially akin to material), and cultural gains. Ideally, the conceptualizations would have the same theoretical model underpinning them.

In response to RQ1, generally speaking, the results of this mixed-methods exploration suggest that young French-speaking multilinguals in Ottawa tend to believe that languages are skilled assets that are actively learned, that language is important for social and material gains, and that language is a portal to culture. Other than these, this group seems to hold a wide range of beliefs that are not possible to generalize based on the results of this study alone. The individual differences in language ideology might be explained by individual characteristics and experiences, as discussed in RQ2 below.

RQ2: What are the associations between the language ideologies of Ottawa's multilingual young adults who know French and their individual characteristics and experiences?

The degree to which there were associations between each of the seven language ideology constructs in the LIS and the individual characteristics and experiences were explored quantitatively for the whole group. The multiple regressions revealed that it was not possible to predict any of the language ideology constructs with the model used.

With that being said, the individual analyses provide some indication of variables of interest that could explain some of the variability in language ideology in multilingual young adults; they would necessarily require further investigation. Several statistically significant results came from the Mini-Attitude/Motivation Test Battery (Mini-AMTB). Participants with a higher overall score of attitudes and motivation (AMI) were slightly more likely to believe that language ties a person to a national identity (*Language as a National Unifier*) and that language is a privilege (*Language as a Privilege*). Participants with a higher "motivation" composite score were slightly more likely to believe that language is a privilege (*Language as a Privilege*). In terms of the individual items on the Mini-AMTB, participants who were more strongly aligned with the prompt "If I were to rate my feelings about learning French in order to interact with French Canadians, I would have to say they are [weak ←→ strong]" were slightly more likely to believe that languages are rules-based and rigid (*Language as a Decontextualized Formal System*). Additionally, participants who were more strongly aligned with the prompt "If I were to rate my feelings about learning French for practical purposes such as to improve my occupational opportunities, I would have to say they are [weak ←→ strong]" were more likely to believe that language ties a person to a national identity (*Language as a National Unifier*), as

well as were slightly more likely to believe that language is important for social and material gains (*Language as a Tool)* and that languages are skilled assets that are actively learned (*Language as a Valuable Complex Skill*). As hypothesized, the conceptual similarity between "instrumental orientation" and the language ideology construct *Language as a Tool* would help to explain the relationship that was uncovered; it appears that there is also a conceptual similarity with the construct *Language as a Valuable Complex Skill*, likely in terms of it being considered an asset. Since investment is a sociological complement to the psychological construct of motivation, it is unsurprising that there should be some association between sub-concepts of both theories.

A number of statistically significant results were uncovered across other individual characteristics and experiences. Participants' self-rated French writing proficiency impacted their likelihood of believing that languages are rules-based and rigid (*Language as a Decontextualized Formal System*), with the highest agreement coming from those with advanced French writing proficiency, and furthermore, that languages are skilled assets that are actively learned (*Language as a Valuable Complex Skill*), with the highest agreement coming from those with expert French writing proficiency. Participants' self-rated French reading proficiency also impacted their likelihood of believing that languages are skilled assets that are actively learned (*Language as a Valuable Complex Skill*), with the highest agreement coming from those with expert French reading proficiency. Participants' ranking of French among their languages, by strength, impacted their likelihood of believing that languages are privileges (*Language as a Privilege*), with the highest agreement coming from those who ranked French second. Participants who reported French as their dominant official language were more likely to believe that languages are rules-based and rigid (*Language as a Decontextualized Formal System*), when

compared to French-dominant participants. Participants who reported a higher number of contexts with exposure to French were slightly more likely to believe that languages are skilled assets that are actively learned (*Language as a Valuable Complex Skill*). The diversified exposure might have required more active language learning resources or might have informed a realization of how languages can be deployed as assets. Participants with lower non-word error rates on the Lexical Decision Task (LDT) were slightly more likely to believe that language is a privilege (*Language as a Privilege*).

As far as these five individual characteristics and experiences give us information about the role of French in participants' lives and/or their knowledge of French, they are in line with hypotheses that Francophone or French-dominant participants, participants with more French exposure, participants with higher French proficiency, and participants with more advanced French lexical processing might hold different language ideologies than their more English-oriented peers (May, 2005; Scott, Straker, & Katz, 2008). This is particularly salient for the construct *Language as a Privilege,* given that the French community in Ottawa continues to defend their linguistic rights (Grin, 2005). Unlike hypothesized, this thesis did not find any relationship between type of schooling and language ideology. The same is true for Language Program and Language Knowledge SIR rankings. This theoretical hypothesis was justified based on a longstanding understanding of the differences in language ideologies between the Francophone and Anglophone populations in Canada (Landry & Forgues, 2007), and although the results were promising for certain individual characteristics and experiences, schooling and the importance of language-related social affiliations to the participants' sense of identity were likely too far removed as measures that are representative of belonging to either group.

In response to RQ2, generally speaking, the results of this quantitative exploration suggest that the selected individual characteristics and experiences were not strongly related to holding certain language ideologies, neither individually nor in combination with one another. There were some interesting findings for which further exploration could be justified. Similar analyses using scores from the full AMTB could, of course, be considered. Moreover, all eleven subscales of the Mini- or full AMTB could be explored. Rather than just the amount of French exposure, quality and timing of French exposure could be explored in greater detail, such as examining recent French exposure. More detailed French proficiency variables, such as separating reading, writing, speaking, and understanding, or categorizing receptive/productive or written/oral modalities could also be explored. A composite categorical variable based on the LDT error rate (ER) and reaction time (RT) across all three word types could also be explored, as one composite variable might better describe and discriminate overall French lexical ability. The potential for a localised adaptation of the LIS would further increase the likelihood and relevance of any relationships between individual characteristics and experiences and holding certain language ideologies. If resources allowed, another approach would be to undertake extensive grounded theory research in order to make qualitatively informed determinations about the relationship between individual characteristics and experiences and language ideologies. This method would also provide additional evidence in support of the individual characteristics and experiences most appropriate to answer this research question. In any case, a better understanding of the individual characteristics and experiences associated with holding certain language ideologies would contribute to our understanding of investment among young multilinguals, as in RQ3.

RQ3: To what degree are these multilingual young adults in Ottawa invested into knowing French?

The degree to which participants are invested into knowing French was explored quantitatively and qualitatively, drawing from all sources of data. The researcher acknowledges their subjectivity, which is ultimately present in the interpretations made. This thesis provides qualitative evidence that investment may be impacted by individual characteristics and experiences such as the recency of their first exposure to French, engagement with the French community, family/household use of and attitudes towards French, use of French with peers, self-rated proficiency in French, the milieu for learning French (not necessarily school). A person's full linguistic repertoire, educational exceptionalities, experiences in different cities or countries, and immigration experience would also be important to consider for an investment profile. Overall, a current preference for English predominated for the participants. This finding is interesting because language preference is usually derived from weighting larger contextual factors with individual lived experiences (De Houwer, 2015); it would appear that the larger contextual factors played a disproportionate role, outweighing the diversity of their individual lived experiences, resulting in the same outcome across the board. This finding supports Darvin and Norton's sociolinguistic perspective with regards to multilingualism.

As hypothesized, the findings of this thesis demonstrate that degrees of investment into French vary considerably across this sample. Some participants were very invested in French, while others were minimally invested in French. There were also some participants whose investment into French were in phases best described as "maintenance" or "idle". This snapshot of investment would also suggest that most young multilinguals in Ottawa have one or two components that are driving their investment into French more than the others. Only one out of

eight participants exhibited an investment profile that drew evenly from all three components. The specific component(s) that stand(s) out depends on the individual.

Ideology proved to be a central investment component for most of the participants. The findings suggest that those whose investment is highly influenced by ideology might hold a belief related to the construct *Language as a Privilege*. This construct informed investment no matter which end of the spectrum participants tended towards. Whether language was viewed as a right or a privilege, participants saw French knowledge as a means to assist French speakers in everyday encounters or in an employment setting. Those who tended towards the belief that languages are rules-based and rigid therefore demonstrated commitment to ongoing French learning in order to improve their self-rated proficiency. Participants emphasized the importance of accuracy in French grammar and often commented on the quality of their accent and/or fluency in French. Many of the same participants held a related belief that there is an early exposure advantage for language acquisition that resulted in greater ease and/or more success. In most cases, this bolstered investment either in order to make up for their perception of a missed opportunity or in the hopes of avoiding the loss of skills that they feel fortunate to have acquired early. For one participant, the belief that language ties a person to a national identity offered meaning and a socio-historical narrative that drove his investment. Conversely, most participants tied language and culture together more readily than language and nationality.

Capital proved to be a crucial investment component for some participants, while for others, it played a role in their investment, and for others still, it was of negligible importance. The findings would suggest that those whose investment is highly influenced by capital might hold a belief related to the constructs *Language as a Tool* or *Language as a Valuable Complex Skill.* Contrary to the hypotheses, overall, investment was not driven more by capital than by

ideology or identity. However, the participant for which this was most true had attended almost exclusively French Immersion schooling, had little French exposure outside of school, and had no knowledge of other languages or recent immigration experience; her personal characteristics and experiences generally overlap with those of the participants in studies with that finding (Byrd Clark, 2008; Marshall & Bokhorst-Heng, Canadian Immersion Students' Investment in French, 2020). Therefore, for this particular type of multilingual young adult, the disproportionate focus on capital within the context of neoliberalism has been replicated in this thesis. Regardless of the relative impact of capital overall, of its three forms, economic capital was more important than social and cultural capital for most participants, which is in line with the hypotheses based on similar Canadian research (Marshall & Bokhorst-Heng, Canadian Immersion Students' Investment in French, 2020). Cultural capital featured more in the investment of participants with recent immigration experience or an interest in foreign languages.

Identity was also explicitly emphasized by some participants while others explicitly believed that it was unimportant. Implicitly, the SSIs would suggest that identity played a role, to some degree, in the investment of most participants. Although the focus of this thesis is investment into French, it could be argued that identity plays a role for all of these multilingual participants when all of their languages are considered, bolstering investment for one or more languages for which there is a strong identity connection. A fuller understanding of identity across different languages is beyond the scope of this thesis. The findings would suggest that those whose investment is highly influenced by an identity tied to knowing French might hold a belief related to the construct *Monolingualism vs. Multilingualism* or *Language as a Marker of Intelligence*. The minimal investment of the only participant who gave value and justification for

one language – English – was explained by a sense of identity that did not include French. The investment of another participant who gave value and justification for two languages – English and French – was explained by a strong bilingual identity. One interesting trend was investment into French informed by either of two opposing experiences. On the one hand, identity could be strengthened from togetherness and belonging with others who know French. On the other hand, identity could be strengthened by means of differentiation from others who did not know French or did not integrate French into their lives in the same way. The duality of this finding was unexpected. One possible explanation is that the former reflected those participants who were more embedded in French-speaking communities and the latter reflected those participants who were more embedded in English-speaking communities – whose multilingual identity may have felt differentiating. In both cases, the identity component was strengthened and investment was further supported. The comparison with peers is somewhat in line with the hypotheses, especially the relationship between self-rated proficiency, the ideological construct of *Language as a Marker of Intelligence*, and identity as a component of investment.

The exploration of identity as a component of investment also relied on the Social Identity Ranking (SIR), a task adapted and modernized for this study. The SIR provided quantitative and qualitative data that was helpful in the interpretation of participants' identity. Similarly to the SSIs, the SIR results provide additional evidence about the variation to the importance of identity. Participants ranked the language-related social affiliations everywhere from most important to least important to their sense of identity. Although the social identity rankings varied greatly, the explanations, nonetheless, converged around similar themes. The ranking of language program was not as relevant to participants with schooling outside of Canada. There was a certain degree of deviation between the rankings of the language-related

social affiliations on the SIR and the SSI discussion of identity. There is some evidence to suggest that the SIR could have been influenced by differences in the interpretation of the task, as seen with one participant who ranked Language Knowledge as the most important social affiliation to her identity while denying the same assertion in the SSI. One potential explanation could be an alternative interpretation more in line with "priorities" rather than "contributors to identity". With that said, the SIR has the potential to support a wide range of other tasks exploring the investment of multilinguals, although refinement of the instructions and example could improve the quality and consistency of the responses.

In response to RQ3, generally speaking, the results of this mixed-methods exploration suggest that young multilinguals in Ottawa who know French are invested, to some degree, in knowing French. Taking all things into consideration, including the linguistic landscape of Ottawa featuring French as a minority but official language, the age and life stage of the convenience sample in this thesis, their identity influenced primarily by prospective professional or educational plans with language-related social affiliations also proving moderately influential, their beliefs about language being important for social and material gains (*Language as a Tool*) and being skilled assets that are actively learned (*Language as a Valuable Complex Skill*), and their intent to reap the capital benefits of knowing French in the workplace and at university, these young people are invested meaningfully in knowing French – whether that means continuing to improve or maintain their French or reawakening their French when necessary. Of course, the diversity of the individual characteristics and experiences of these participants is reflected in the varying degrees of investment, and the same is true for the varying influence of ideology, capital, and identity on said investment. This finding is consistent with prior research that documented robust and unique investment profiles present in a group of multilingual grade 8

students in New Brunswick (Marshall & Bokhorst-Heng, Canadian Immersion Students' Investment in French, 2020).

General discussion

This thesis reveals a great deal about the language ideologies of Ottawa's young adults who know French as one of at least two languages. Many hold beliefs related to the effortful and skilled acquisition of languages as assets that provide access to various forms of valued capital. The language ideologies most observed in this thesis, and in the literature, demonstrate how forward thinking these young multilinguals are (Marshall & Bokhorst-Heng, Canadian Immersion Students' Investment in French, 2020; McLaughlin, 2024). In many ways, their investment had been (and continues to be) directed into the future, towards opportunities yet to come, related to employment, education, and travel. Pre-existing language ideologies could be reinforced and exploited to retain as much engagement as possible from young multilinguals in the language-learning classroom and cultural programming; however, this approach risks alienating those who hold different ideologies than the majority. The findings from this thesis demonstrate considerable variability in language ideologies at the individual level. More research is needed to discern the individual characteristics and experiences that might be associated with certain language ideologies in order to support individualized engagement. A balanced and diversified approach is recommended as the foundation of investment, such that all three components are explained to minority language learners and cultivated. Taken together, these strategies might help to attract more young people to bilingual education programs and retain them longer.

Limitations

This thesis utilized a first-come-first-served voluntary convenience sample of multilingual young adults who knew French at the University of Ottawa, "a leader of education

in French language in Ontario" (University of Ottawa, 2022). This approach was appropriate for the exploration of language ideologies for the purpose of acting as a starting point for future questions that could be examined among a broader sample, as discussed below. Although generalizability to the population is not necessarily a concern with exploratory research, particularly the qualitative elements of this study, it could be argued that a certain amount of generalizability from a qualitative sub-group to a quantitative whole group is assumed in a mixed-methods study. This representativeness is somewhat unclear, although the eight participants in part 2 of the study were intentionally selected to be as diverse as possible.

In exploring the quantitative data in this thesis, especially as it pertains to the multiple regression analyses, the sample size was smaller than would have been ideal for a multiple regression with so many independent variables. The 2-step procedure undertaken to reduce the number of independent variables in the final multivariate model should have mitigated the associated risks, but there remains a small chance that reduced statistical power might have led to a Type 2 error. In addition, the initial assumption checks suggested that certain leverage values could have had an inflated impact on the outcome. In the final multivariable model, the leverage values had diminished from being in the "dangerous" category (> .50) to being in the "risky category" (> .20); however, this is still a small source of concern that limits the interpretation of these results.

In addition, a major contribution of this thesis was the adaptation and application of a quantitative measure of language ideology. However, the language ideological context of Arizona, USA, where the Language Ideology Survey was developed and piloted, is vastly different than that of Ottawa, Ontario, Canada. Although appropriate attention was given to the consideration of clear differences between the two, such as two official languages in Canada, and

subtle differences between the two, such as how we use the terms “native” or “normal”, it remains challenging to adapt an instrument on ideology for a different context. This thesis nonetheless attempted to adapt the LIS. The goal was to represent the language context in Ottawa, Ontario, Canada, and allow a better understanding of ideology from the perspective of multilingual young adults in Canada.

In exploring the qualitative data in this thesis, mostly arising from the content analysis of the SSIs, a false dichotomization of tending towards one end (or the other) of an ideological spectrum was employed in order to comprehend and compare the participants. In reality, research does not yet have the ability to discern how far away from an ideological middle-ground each participant falls, or to know how much ideological distance there is between those who are presented as tending towards opposing views. Thus, until a better methodology is developed, the results must be interpreted with caution. The quantitative means for most of the seven LIS constructs would suggest that, on average, the participants fell closer to the midpoint than towards the extremes (noting that a neutral midpoint option was not presented to participants so they were required to respond on one side or the other).

Future Directions

This thesis on the language ideologies of young multilinguals in Ottawa is intended to serve as a starting point for a pathway of research on investment into French as a minority official language in Ottawa, and more broadly in Canada. The quality and consistency of responses to the LIS could be verified with a synchronous investigator-administered method, such as the strategy used by Fitzsimmons-Doolan (2011) with Arizona voters, over the phone. Future research could also probe some of the established language ideologies in the literature that did not form part of the LIS and were not uncovered in the inductive content analysis of the SSIs

in this thesis. For instance, the hierarchy of languages is a common ideology that recognizes languages as being organized by relative status (Fazlji, 2020). Also, in Canadian schools, teachers have been known to invoke an ideology of separate bilingualism, signifying that French should be used exclusively in French class and English should be used exclusively in English class (Brisson, 2021).

The research on associations between individual characteristics and experiences and language ideologies could be extended based on the findings of this thesis and others in the literature. For instance, there is some evidence that early exposure to multiple languages can impact cognitive and socio-cognitive skills (D'Souza & D'Souza, 2021; Fan, Liberman, Keysar, & Kinzler, 2015). One study suggests that early multilingual exposure may promote greater fluid intelligence, separate from accumulated knowledge and reflecting, rather, the ability to solve novel reasoning problems (D'Souza & Dakhch, 2022), which could relate to the ideological constructs of *language as a marker of intelligence* and *language as a valuable complex skill.* Additionally, participants with a stronger interest in foreign languages might fall more towards the multilingualism end of the ideological construct *monolingualism versus multilingualism.* Additionally, language exposure could be explored in greater detail. Differences might arise between young adults whose additional language exposure came primarily from school and those whose exposure to multiple languages took place in the household, with friends, or in the community. Given the context where language skills are being formally assessed for grades, there could be a relationship with language ideologies such as *language as a decontextualized formal system* or *language as a marker of intelligence.*

Since the individual and their investment are constantly evolving, more research would be needed on investment at different ages. These findings are best understood as being

representative of one point in time – right at the cusp between adolescence and young adulthood. The advantage of beginning the exploration with this age group is their ability to express complex beliefs with the benefit of hindsight, without being too far removed from their experiences in the primary and secondary school years. Ideally, future research would be broadened to include young multilinguals from other universities and college in Ottawa and in Ontario – as well as those who made other choices after high school. Young multilinguals entering the workforce directly might not be interested in the opportunities that are driving the investment of young multilinguals at the University of Ottawa – or might not believe these opportunities to be within their eventual reach. As such, they may demonstrate a very different structure of investment.

The growing body of literature on the investment of young Canadians into knowing French may have educational applications. Future intervention studies could explore the meaningful integration of a range of language ideologies (that encourage multilingualism) into the language-learning classroom and cultural programming (Marshall & Bokhorst-Heng, 2025). Similarly, research might be developed to explore ways to encourage *immediate* and *ongoing* reasons to invest in French throughout the primary and secondary school years, in addition to the future-oriented reasons that already seem to be powerful drivers.

Chapter 5: CONCLUSION

This mixed-methods project explored the language ideologies of multilinguals who know French – the minority official language in Ottawa. Ideology is understood as one of three components of investment, along with capital and identity, according to Darvin and Norton's Investment Model, the theoretical framework of this thesis (Norton Peirce, 1995). This thesis contributes to our understanding of the spoken and unspoken ideologies of these young multilinguals, of the complex relationship between said ideologies and the individual characteristics and experiences of these young multilinguals, and of the role of said ideologies in driving their investment into knowing French.

This thesis contributes to the literature on young adult multilinguals – a population that is generally understudied in the field of bilingualism in favour of infants and school-aged children. It also contributes to the literature on individuals who are relatively well established in their multilingualism, where there tends to be a focus on new and emerging additional language learners. It is clear that the diversity of multilinguals is increasing in Ottawa and across Canada, and that young people are becoming multilingual in a variety of different manners, so it is important to explore the factors that inform and explain their investment into French.

The focus on ideology represents an opportunity to explore the sociolinguistic beliefs and perspectives of multilinguals, shedding light on how they understand language and the role they see language playing in society. The more that we recognize the individual variation in their beliefs and perspectives, the more that we can appreciate the language learning and language use choices that they each make. As they grow into adults, keeping their degree of investment high so that they can reach their desired multilingual outcomes will require innovative and

individualized approaches in the home, in the school, and in the community to meeting their needs.

All in all, the rich nature of the findings support the applicability of the Investment Model as a sound theoretical framework for research seeking to understand the experience of young multilinguals as they exist in the dynamic social world characterizing Ottawa, Ontario, Canada. This framework proved particularly strong in producing findings that are highly contextualized for one particular region, taking into consideration its linguistic landscape including the structures of power related to the various languages in question.

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Appendix A

Percentage of Official Language Instruction by School Board and Educational Program Offered in Ottawa

School Board	Educational Program	Grade(s)	% Instruction in English	% Instruction in French
OCDSB	English Program with Core French	1-8	87	13
	Early French Immersion	1	20	80
		2-6	40	60
		7-8	50	50
	Middle French Immersion	4-6	34	66
		7-8	50	50
OCSB	Extended French	1-6	75	25
	French Immersion	4-8	50	50
	Core French	7-8	87.5	12.5
CEPEO	French	1-3	0	100
		4-8	13	87
CECCE	French	1-3	0	100
		4-8	13	87

Note. OCDSB = Ottawa-Carleton District School Board; OCSB = Ottawa Catholic School Board; CEPEO = Conseils des écoles publique de l'Est de l'Ontario; CECCE = Conseil des écoles catholiques du Centre-Est.

Appendix B

Language Profiles for the Eight Interview Participants

Abdullah
345436

Gender: Male
Race: Arab North African

Strongest language to weakest language à

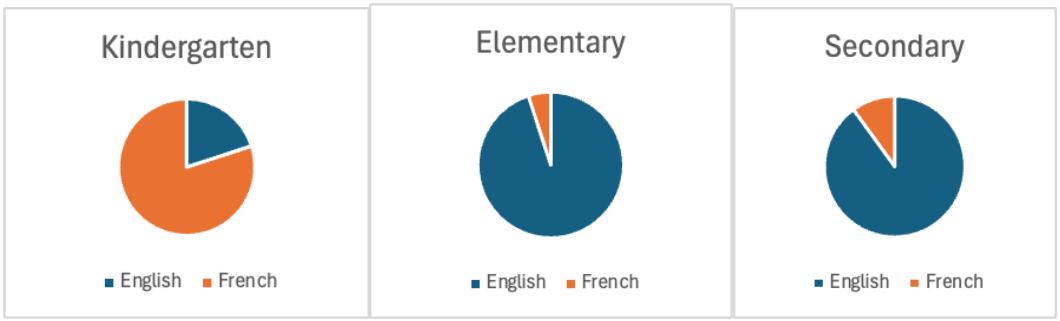
Arabic	English	French		

Most to least exposure in the early years à

Arabic 100%	English 0%	French 0%		

Earliest exposure to French: kindergarten

Language Exposure in School



Current Language proficiency

	Arabic	English	French		
Listening	Expert	Expert	Advanced		
Speaking	Expert	Expert	Advanced		
Writing	Advanced	Expert	Intermediate		
Reading	Advanced	Expert	Intermediate		
* Pronunciation	Not accented	Slightly accented	Slightly accented		

Educational history

Time Period	Program
Grade 1-2	Canadian French-language school
Grade 3-6	School outside of Canada (Oman; English/Arabic)
Grade 7-12	Extended French Program

Attitude/Motivation for French

High	Low
• Interest in Foreign Languages • Desire to Learn French • French Teacher Evaluation • Instrumental Orientation • French Course Evaluation	• Integrative Orientation • French Use Anxiety • French Class Anxiety • Motivational Intensity

Attitude/Motivation Index = 39

Language Ideology

High	Low
• Language as a valuable, complex skill • Language as a national unifier • Language as a marker of intelligence • Language as a privilege	• Monolingualism versus multilingualism • Language as a decontextualized, formal system • Language as a tool

Social Identity Ranking

1		
2	Language Knowledge	Arabic, english, french
3		
4		
5		
6	Language Program	School

Amélie
315517

Gender: [unknown]
Race: [unknown]

Strongest language to weakest language à

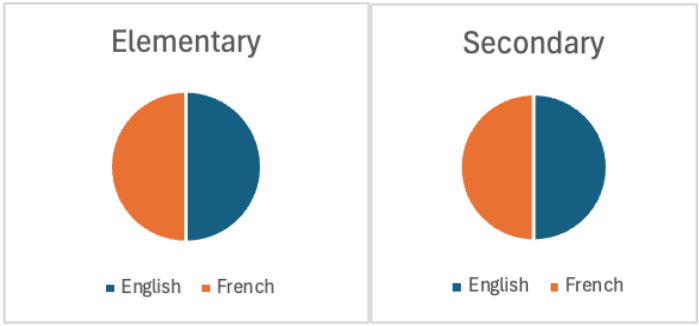
English	French			

Most to least exposure in the early years à

English 0%	French 100%			

Earliest exposure to French: before 2 years of age

Language Exposure in School



Current Language proficiency

	English	French			
Listening	Expert	Expert			
Speaking	Expert	Advanced			
Writing	Advanced	Intermediate			
Reading	Expert	Advanced			
* Pronunciation	Slightly accented	Slightly accented			

Educational history

Time Period	**Program**
Kindergarten – grade 2	Unknown
Grade 3-12	Canadian French-language school

Attitude/Motivation for French

High	Low
• Instrumental Orientation	• Integrative Orientation • Attitudes toward Learning French • French Teacher Evaluation

Attitude/Motivation Index = 15

Language Ideology

High	Low
• Language as a tool • Language as a valuable, complex skill • Language as a national unifier	• Monolingualism versus multilingualism • Language as a decontextualized, formal system • Language as a marker of intelligence • Language as a privilege

Social Identity Ranking

1	Language Knowledge	It's very important to me to keep up my knowledge of both french and english.
2		
3	Language Program	It's very important to me to keep up my written knowledge of both french and english.
4		
5		
6		

Bahar
336145

Gender: Female
Race: Middle eastern, Iranian

Strongest language to weakest language à

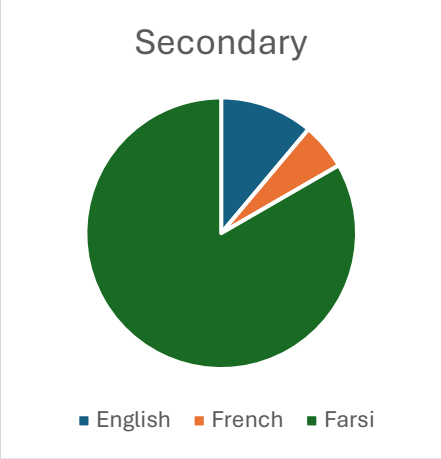
Persian/Farsi	English	French		

Most to least exposure in the early years à

Persian/Farsi 100%	English 0%	French 0%		

Earliest exposure to French: high school

Language Exposure in School



Only Farsi before secondary school

Current Language proficiency

	Persian/Farsi	English	French		
Listening	Expert	Expert	Intermediate		
Speaking	Expert	Advanced	Intermediate		
Writing	Advanced	Advanced	Intermediate		
Reading	Expert	Advanced	Intermediate		
* Pronunciation	Not accented	Slightly accented	Accented		

Educational history

Time Period	Program
Grade 1-10	School in Iran (languages used most to least: Persian/Farsi, Arabic, English)
Grade 11-12	Canadian English-language school

Attitude/Motivation for French

High	Low
• Interest in Foreign Languages • Instrumental Orientation • French Use Anxiety • French Class Anxiety • Motivational Intensity	• Integrative Orientation • Attitudes toward Learning French • French Course Evaluation

Attitude/Motivation Index = 17

Language Ideology

High	Low
• Language as a tool • Language as a valuable, complex skill • Language as a marker of intelligence	• Monolingualism versus multilingualism • Language as a decontextualized, formal system • Language as a national unifier • Language as a privilege

Social Identity Ranking

1		
2		
3	Language Knowledge	Farsi, English, and French
4		
5		
6	Language Program	

Dawn
342817

Gender: [unknown]
Race: [unknown]

Strongest language to weakest language à

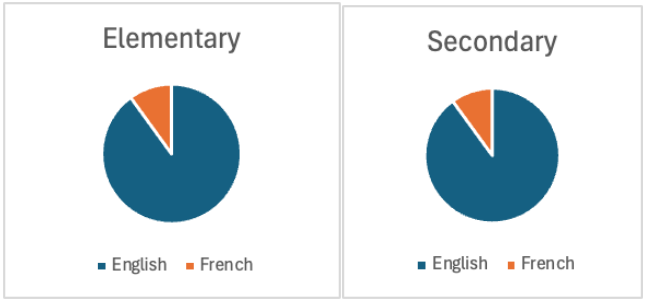
English	French			

Most to least exposure in the early years à

English 75%	French 25%			

Earliest exposure to French: before 2 years of age

Language Exposure in School



Current Language proficiency

	English	French			
Listening	Expert	Intermediate			
Speaking	Expert	Intermediate			
Writing	Expert	Intermediate			
Reading	Expert	Intermediate			
* Pronunciation	Very accented	Accented			

Educational history

Time Period	**Program**
Grade 1-7	French Immersion

Attitude/Motivation for French

High	Low
• Integrative Orientation • Interest in Foreign Languages • Desire to Learn French • French Teacher Evaluation • Instrumental Orientation • French Course Evaluation • French Class Anxiety	• French Use Anxiety • Motivational Intensity

Attitude/Motivation Index = 37

Language Ideology

High	Low
• Language as a tool • Language as a national unifier	• Monolingualism versus multilingualism • Language as a decontextualized, formal system • Language as a valuable, complex skill • Language as a marker of intelligence • Language as a privilege

Social Identity Ranking

1		
2		
3	Language Program	use for social and $ class
4		
5	Language Knowledge	The ability to get around based on your language and knowledge of it
6		

Holly
331789

Gender: woman
Race: [unknown]

Strongest language to weakest language à

English	French			

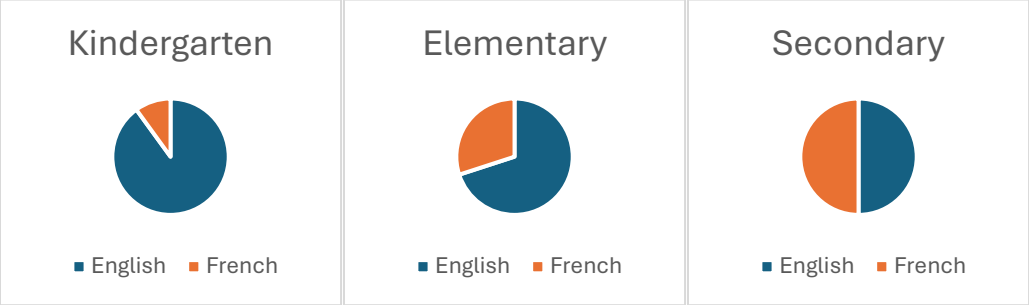
Most to least exposure in the early years à

English 100%	French 0%			

"I am the only one in my family who speaks any amount of French, I grew up in a 100% English household."

Earliest exposure to French: kindergarten

Language Exposure in School



Little-to-no French exposure with friends, the media, extracurricular activities, daily activities, work, etc.

Current Language proficiency

	English	French			
Listening	expert	advanced			
Speaking	expert	advanced			
Writing	expert	intermediate			
Reading	expert	advanced			
* Pronunciation	not accented	accented			

Educational history

Kindergarten-6	French Immersion
7-8	[unknown but likely a Canadian English-language ALTERNATIVE school]
9-12	French Immersion

Attitude/Motivation for French

High	Low
• Interest in foreign languages • Instrumental orientation • French use anxiety • French class anxiety	• Integrative orientation • Desire to learn French • Attitudes toward learning French • French teacher evaluation • French course evaluation

Attitude/Motivation Index = 12 (1st percentile)

Language Ideology

High	Low
• Language as a Tool • Language as a Valuable, Complex Skill • Language as a Marker of Intelligence	• Monolingualism vs. Multilingualism • Language as a Decontextualized, Formal System • Language as a National Unifier • Language as a Privilege

Social Identity Ranking

1		
2		
3		
4		
5	Language Knowledge	Knowing French
6	Language Program	Going to an alternative school, and high school in French

John
317911

Gender: [unknown]
Race: [unknown]

Strongest language to weakest language à

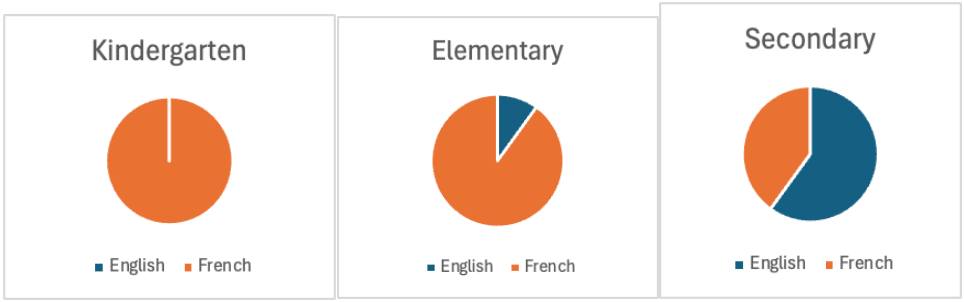
French	English	German		

Most to least exposure in the early years à

French 50%	English 49%	German 1%		

Earliest exposure to French: before 2 years of age

Language Exposure in School



Current Language proficiency

	French	English	German		
Listening	Expert	Expert	Low		
Speaking	Expert	Expert	Low		
Writing	Low	Low	Low		
Reading	Expert	Expert	Low		
* Pronunciation	Not accented	Not accented	Very accented		

Educational history

Time Period	**Program**
Kindergarten – 12	French

Attitude/Motivation for French

High	Low
• Integrative Orientation • Desire to Learn French • Attitudes toward Learning French • Instrumental Orientation	• Interest in Foreign Languages • French Teacher Evaluation • French Use Anxiety • French Course Evaluation • French Class Anxiety

Attitude/Motivation Index = 30

Language Ideology

High	Low
• Language as a tool • Language as a valuable, complex skill • Language as a national unifier • Language as a privilege	• Monolingualism versus multilingualism • Language as a decontextualized, formal system • Language as a marker of intelligence

Social Identity Ranking

1	Language Program	Je me fait des amis
2	Language Knowledge	Important pour communiquer
3		
4		
5		
6		

Julianne
338896

Gender: [unknown]
Race: [unknown]

Strongest language to weakest language à

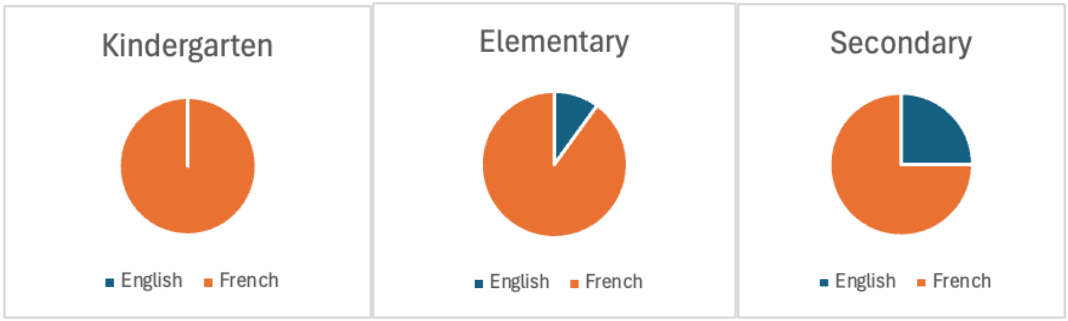
English	French			

Most to least exposure in the early years à

English 40%	French 60%			

Earliest exposure to French: before 2 years of age

Language Exposure in School



Less French at home, it seems

Current Language proficiency

	English	French			
Listening	Expert	Expert			
Speaking	Advanced	Advanced			
Writing	Advanced	Advanced			
Reading	Advanced	Advanced			
* Pronunciation	Slightly accented	Slightly accented			

Educational history

Time Period	**Program**
Pre-kindergarten - 12	Canadian French-language school

Attitude/Motivation for French

High	Low
• Interest in Foreign Languages • French Teacher Evaluation • Instrumental Orientation	• Integrative Orientation • French Class Anxiety • French Course Evaluation

Attitude/Motivation Index = 29

Language Ideology

High	Low
• Monolingualism versus multilingualism • Language as a decontextualized, formal system • Language as a tool • Language as a valuable, complex skill • Language as a national unifier • Language as a marker of intelligence • Language as a privilege	

Social Identity Ranking

1	Language Knowledge	helped me in communicating with a lot of different people
2	Language Program	Learned terms in 2 languages. Able to learn and communicate about the material more.
3		
4		
5		
6		

Matma
339226

Gender: I identify as a female, but lately, I have been questioning my gender fluidity.
Race: I am considered a marginalized person but I don't let it define me.

Strongest language to weakest language à

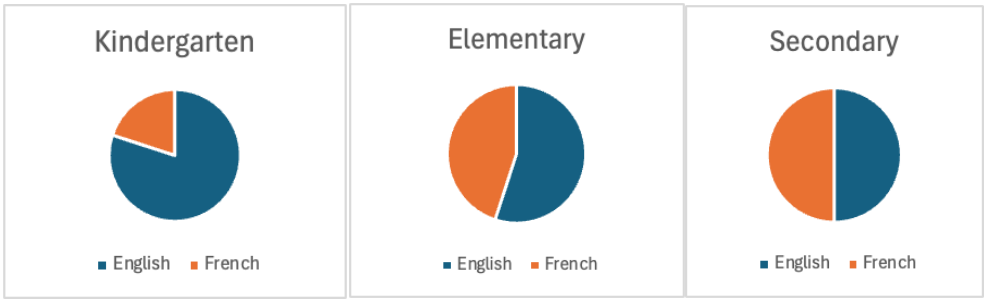
English	Arabic	French	Japanese	Spanish

Most to least exposure in the early years à

English 50%	Arabic 50%	French 0%	Japanese 0%	Spanish 0%

Earliest exposure to French: grade 4

Language Exposure in School



Current Language proficiency

	English	Arabic	French	Japanese	Spanish
Listening	Advanced	Advanced	Advanced	Intermediate	Intermediate
Speaking	Advanced	Advanced	Advanced	Low	Intermediate
Writing	Advanced	advanced	Advanced	Low	Intermediate
Reading	Advanced		Advanced	Intermediate	Intermediate
* Pronunciation	Not accented	Slightly accented	Slightly accented	Very accented	accented

Educational history

Time Period	**Program**
Grade 4-12	French immersion

Attitude/Motivation for French

High	Low
• Integrative Orientation • Interest in Foreign Languages • Desire to Learn French • Attitudes toward Learning French • French Teacher Evaluation • Instrumental Orientation • French Course Evaluation	• French Class Anxiety • Motivational Intensity

Attitude/Motivation Index = 45

Language Ideology

High	Low
• Language as a tool • Language as a valuable, complex skill • Language as a marker of intelligence	• Monolingualism versus multilingualism • Language as a decontextualized, formal system • Language as a national unifier • Language as a privilege

Social Identity Ranking

1		
2		
3	Language Knowledge	I value learning many languages because that makes me able to communicate with more people.
4		
5	Language Program	N/A
6		

Appendix C

Language Background Questionnaire (LBQ)

Environ quel pourcentage de temps par semaine, en moyenne, avez-vous été exposé à chacune de vos langues de la **naissance à l'âge de 2 ans**? Notez bien: la somme des pourcentages devrait être 100%

français

anglais

←

→

uOttawa

Quel est votre niveau de compétence actuel en français ?

	bas	intermédiaire	avancé	expert
Écoute:	○	○	○	○
Parler:	○	○	○	○
Écriture:	○	○	○	○
Lecture:	○	○	○	○

Comment est votre prononciation en français ?

avec un fort accent	avec un accent	avec un léger accent	sans accent
○	○	○	○

Quel est votre niveau de compétence actuel en anglais?

	bas	intermédiaire	avancé	expert
Écoute:	○	○	○	○
Parler:	○	○	○	○
Écriture:	○	○	○	○
Lecture:	○	○	○	○

Comment est votre prononciation en anglais?

avec un fort accent	avec un accent	avec un léger accent	sans accent
○	○	○	○

Si vous avez des commentaires supplémentaires sur vos compétences linguistiques, veuillez utiliser cet espace pour les développer.

←

→

uOttawa

Quel type d'école(s) avez-vous fréquentée(s)? Veuillez cocher toutes les boîtes pertinentes.

- [ ] École anglophone canadienne (y compris les programmes de français de base, de français approfondi et d'immersion française)
- [ ] École francophone canadienne
- [ ] École à l'extérieur du Canada
- [ ] Autre

← →

uOttawa

Les questions suivantes portent sur votre utilisation de vos langues dans différents contextes et sur la façon dont cela peut changer au cours des nombreuses étapes de votre vie. Évitez toutes les questions qui ne s'appliquent pas à vous.

Indiquez à l'aide de pourcentages votre exposition à vos langues **à la maison** de la **naissance à l'âge de 2 ans.** Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **hors de la maison** de la **naissance à l'âge de 2 ans**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

←

→

uOttawa

Indiquez à l'aide de pourcentages votre exposition à vos langues **à la maison** de **2 ans au début de la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **à la maison** durant **la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **à la maison** durant **l'école primaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **à la maison** durant **l'école secondaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **à la maison** au **collège /** à **l'université**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

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Indiquez à l'aide de pourcentages votre exposition à vos langues **à l'école (au préscolaire)** de **2 ans au début de la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **à l'école** durant **la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **à l'école** durant **l'école primaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **à l'école** durant **l'école secondaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **à l'école** au **collège** / à **l'université**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

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Indiquez à l'aide de pourcentages votre exposition à vos langues **avec vos amis** de **2 ans au début de la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure tout le temps passé avec des amis en dehors de la classe, à l'école (au préscolaire), ainsi qu'en dehors de l'école.

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **avec vos amis** durant **la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure tout le temps passé avec des amis en dehors de la classe, à l'école, ainsi qu'en dehors de l'école.

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **avec vos amis** durant **l'école primaire**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure tout le temps passé avec des amis en dehors de la classe, à l'école, ainsi qu'en dehors de l'école.

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **avec vos amis** durant **l'école secondaire**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure tout le temps passé avec des amis en dehors de la classe, à l'école, ainsi qu'en dehors de l'école.

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **avec vos amis** au **collège** / à **l'université**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure tout le temps passé avec des amis en dehors de la classe, à l'école, ainsi qu'en dehors de l'école.

français

anglais

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uOttawa

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les médias** de **2 ans au début de la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les médias** durant **la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les médias** durant **l'école primaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les médias** durant **l'école secondaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les médias** au **collège** / à **l'université**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

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Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les activités parascolaires** de **2 ans au début de la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure toutes les activités parascolaires, tant celles qui étaient affiliées à l'école (au préscolaire) que celles qui n'étaient pas affiliées à l'école (au préscolaire).

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les activités parascolaires** durant **la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure toutes les activités parascolaires, tant celles qui étaient affiliées à l'école que celles qui n'étaient pas affiliées à l'école.

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les activités parascolaires** durant **l'école primaire**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure toutes les activités parascolaires, tant celles qui étaient affiliées à l'école que celles qui n'étaient pas affiliées à l'école.

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les activités parascolaires** durant **l'école secondaire**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure toutes les activités parascolaires, tant celles qui étaient affiliées à l'école que celles qui n'étaient pas affiliées à l'école.

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **dans les activités parascolaires** au **collège** / à **l'université**. Notez bien: la somme des pourcentages devrait être 100%

Veuillez inclure toutes les activités parascolaires, tant celles qui étaient affiliées à l'école que celles qui n'étaient pas affiliées à l'école.

français

anglais

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uOttawa

Indiquez à l'aide de pourcentages votre exposition à vos langues **lors des activités quotidiennes dans la communauté** de **2 ans au début de la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **lors des activités quotidiennes** dans la communauté durant **la maternelle**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **lors des activités quotidiennes** dans la communauté durant **l'école primaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **lors des activités quotidiennes dans la communauté** durant **l'école secondaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **lors des activités quotidiennes dans la communauté** au **collège** / à **l'université**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

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Indiquez à l'aide de pourcentages votre exposition à vos langues **au travail** durant **l'école secondaire**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

Indiquez à l'aide de pourcentages votre exposition à vos langues **au travail** au **collège** / à **l'université**. Notez bien: la somme des pourcentages devrait être 100%

français

anglais

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Si vous avez des commentaires supplémentaires sur votre formation linguistique, n'hésitez pas à utiliser cet espace pour développer.

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Appendix D

Mini-Attitude/Motivation Test Battery (Mini-AMTB)

Les questions suivantes portent sur vos sentiments concernant un certain nombre de problèmes associés à l'apprentissage du français. Évaluez chacun des éléments pour indiquer comment ils s'appliquent à vous.

Faible 0 1 2 3 4 5 6 7 Fort

Si je devais évaluer mes sentiments sur l'apprentissage du français afin d'interagir avec les Canadiens français, je dirais qu'ils sont:

Très bas 0 1 2 3 4 5 6 7 Très haut

Mon intérêt pour les langues autres que le français et l'anglais est:

Faible 0 1 2 3 4 5 6 7 Fort

Mon désir d'apprendre le français est:

Défavorable
0 1 2 3 4 5 6 Favorable 7

Mon attitude envers l'apprentissage du français est:

Défavorable
0 1 2 3 4 5 6 Favorable 7

Mon attitude envers mes professeurs de français est / a été :

Faible
0 1 2 3 4 5 6 Fort 7

Si je devais évaluer mes sentiments à l'égard de l'apprentissage du français à des fins pratiques telles que l'amélioration de mes perspectives professionnelles, je dirais qu'ils sont:

Très bas
0 1 2 3 4 5 6 Très haut 7

Mon anxiété à parler français en dehors des cours est / a été :

Défavorable
0 1 2 3 4 5 6 Favorable 7

Mon attitude envers mes cours de français est / a été :

Très bas
0 1 2 3 4 5 6 Très haut 7

Mon niveau d'anxiété dans mes cours de français est / a été :

Très peu
0 1 2 3 4 5 6 Beaucoup 7

Je décrirais à quel point je travaille dur pour apprendre le français comme:

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Appendix E

Language Ideology Survey (LIS)

uOttawa

Vous trouverez ci-dessous des déclarations concernant les croyances sur la langue. Évaluez votre niveau actuel d'accord avec chaque énoncé, de « Tout à fait d'accord » à « Pas du tout d'accord ».

	Tout à fait d'accord	D'accord	Plutôt d'accord	Plutôt pas d'accord	Pas d'accord	Pas du tout d'accord
Au Canada, utiliser l'anglais est important pour acquérir de la richesse matérielle.	○	○	○	○	○	○
Différentes formes de langage sont adaptées à différents contextes.	○	○	○	○	○	○
Les langues restent les mêmes au fil du temps.	○	○	○	○	○	○
On peut connaître l'intelligence d'une personne grâce à la façon dont elle utilise une langue.	○	○	○	○	○	○
Il faut plus d'intelligence pour bien écrire que pour bien parler.	○	○	○	○	○	○
Il faut être patient avec les personnes qui apprennent une langue seconde.	○	○	○	○	○	○
Avoir un certificat d'études dans une langue fait d'une personne un locuteur de cette langue.	○	○	○	○	○	○
L'utilisation de plus d'une langue rend difficile l'unité sociale.	○	○	○	○	○	○

	Tout à fait d'accord	D'accord	Plutôt d'accord	Plutôt pas d'accord	Pas d'accord	Pas du tout d'accord
Le but de l'apprentissage d'une nouvelle langue est de rencontrer des personnes qui parlent cette langue.	○	○	○	○	○	○
Les langues autres que l'anglais et le français sont belles.	○	○	○	○	○	○
La langue représente l'identité nationale.	○	○	○	○	○	○
Au Canada, connaître l'anglais aide une personne à être Canadienne.	○	○	○	○	○	○
Au Canada, l'utilisation de l'anglais est importante pour les gains sociaux.	○	○	○	○	○	○
Au Canada, l'utilisation de plus d'une langue devrait être encouragée.	○	○	○	○	○	○
Il est préférable d'utiliser une seule langue pour accomplir une tâche plutôt que d'utiliser deux langues.	○	○	○	○	○	○
L'utilisation de plus d'une langue rend la mobilité sociale difficile.	○	○	○	○	○	○

	Tout à fait d'accord	D'accord	Plutôt d'accord	Plutôt pas d'accord	Pas d'accord	Pas du tout d'accord
Les langues sont basées sur des règles.	○	○	○	○	○	○
Le succès d'une nation dépend de l'utilisation d'une langue nationale.	○	○	○	○	○	○
Au Canada, la communication publique devrait se faire en français.	○	○	○	○	○	○
La forme standard ou modèle d'une langue est la forme la plus appropriée pour l'école.	○	○	○	○	○	○
La pratique d'une langue est nécessaire pour apprendre la langue.	○	○	○	○	○	○
Au Canada, l'utilisation de langues autres que l'anglais et le français est utile pour partager la tradition.	○	○	○	○	○	○
Au Canada, la communication publique doit se faire en anglais.	○	○	○	○	○	○
L'usage de la langue est un droit humain.	○	○	○	○	○	○

	Tout à fait d'accord	D'accord	Plutôt d'accord	Plutôt pas d'accord	Pas d'accord	Pas du tout d'accord
Au Canada, utiliser le français est important pour acquérir une richesse matérielle.	○	○	○	○	○	○
Une langue a une forme standard.	○	○	○	○	○	○
Au Canada, l'anglais est plus approprié que les autres langues.	○	○	○	○	○	○
Au Canada, le français est plus approprié que les autres langues.	○	○	○	○	○	○
Au Canada, connaître le français aide une personne à être Canadienne.	○	○	○	○	○	○
L'utilisation de plus d'une langue crée des problèmes sociaux.	○	○	○	○	○	○
Au Canada, l'utilisation de plusieurs langues est un atout économique.	○	○	○	○	○	○
Les langues avec plus de locuteurs sont plus fortes que les langues avec moins de locuteurs.	○	○	○	○	○	○

	Tout à fait d'accord	D'accord	Plutôt d'accord	Plutôt pas d'accord	Pas d'accord	Pas du tout d'accord
Les capacités linguistiques d'une personne sont des atouts.	○	○	○	○	○	○
Les écoles doivent enseigner des langues autres que l'anglais et le français aux élèves.	○	○	○	○	○	○
Au Canada, l'utilisation du français est importante pour les gains sociaux.	○	○	○	○	○	○
Les orateurs ont le droit de choisir la langue qu'ils utiliseront dans n'importe quelle situation.	○	○	○	○	○	○

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Appendix F

Social Identity Ranking (SIR)

Vous trouverez ci-dessous une liste d'affiliations sociales potentielles qui pourraient constituer des aspects de votre identité. Ils sont classés par ordre alphabétique. Classez chaque affiliation sociale de la plus intégrale à la moins intégrale, 1 étant le plus important pour votre sens de soi et 6 étant le moins important. Il existe une catégorie d'affiliation sociale répertoriée comme "Autre". Ceci est intentionnellement offert afin que vous puissiez ajouter une affiliation sociale, si nécessaire, s'il y a une partie de votre identité qui n'est pas représentée par les choix que nous avons fournis.

Indépendamment de leur classement, sur la ligne à côté de chaque affiliation sociale, écrivez le terme spécifique qui explique comment vous vous identifiez.

Voici un exemple:

Koda est une personne trans et être trans fait partie intégrante de leur sens de soi, iel classe donc le genre au premier rang. Sur la ligne, Koda écrit "personne trans non binaire" pour être précis. Koda est également d'origine japonaise et participe activement à leur communauté culturelle, iel classe donc la race ou l'ethnicité au deuxième rang. Sur la ligne, Koda écrit "Canadien.ne d'origine japonaise" sur la ligne pour être précis.

1	Genre ___personne trans non binaire_____
2	Race ou origine ethnique ___Canadien.ne d'origine japonaise_____
3	Connaissance du language ___anglais = japonais > français_____
4	Autre: Ordre de naissance ___aîné.e de 6 frères et sœurs_____
5	Plans éducationnels ou professionels prospectifs ___étudiant.e au collège_____
6	Programme éducatif lingusitique, actuel ou passé ___Immersion française_____

Appendix G

Lexical Decision Task (LDT)

Cette tâche implique des essais répétés. Dans chaque essai, vous verrez une chaîne de lettres apparaître à l'écran. Certains sont de vrais mots en français ; certains ne sont pas des mots en français.

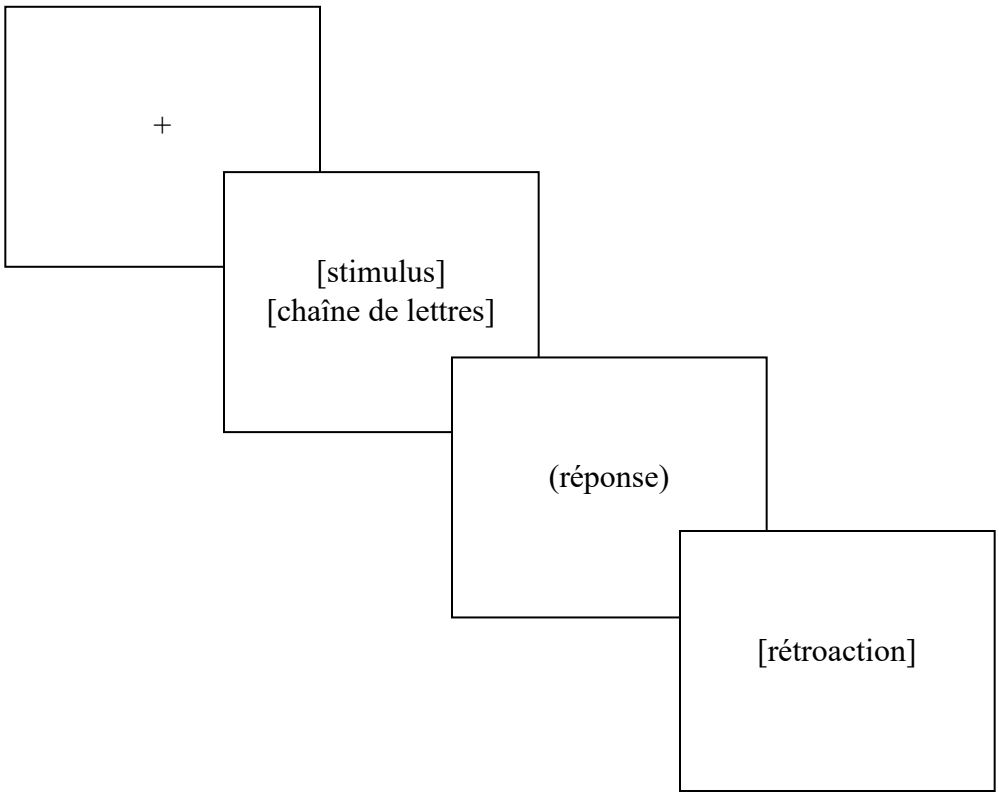
Appuyez sur le « f » si vous pensez que la chaîne de lettres est un vrai mot en français. Vous n'avez pas besoin de connaître le sens du mot pour faire cette sélection.

Appuyez sur le « j » si vous pensez que la chaîne de lettres n'est pas un vrai mot en français.

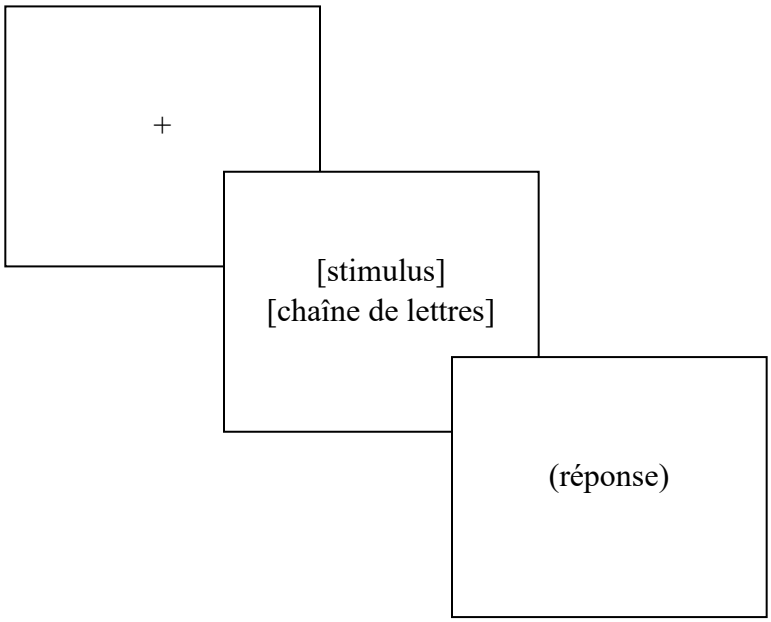
Une fois que vous avez fait votre sélection, l'écran deviendra vide et le prochain essai commencera. La tâche complète prendra environ 5 minutes. Vous serez noté sur la précision et la vitesse.

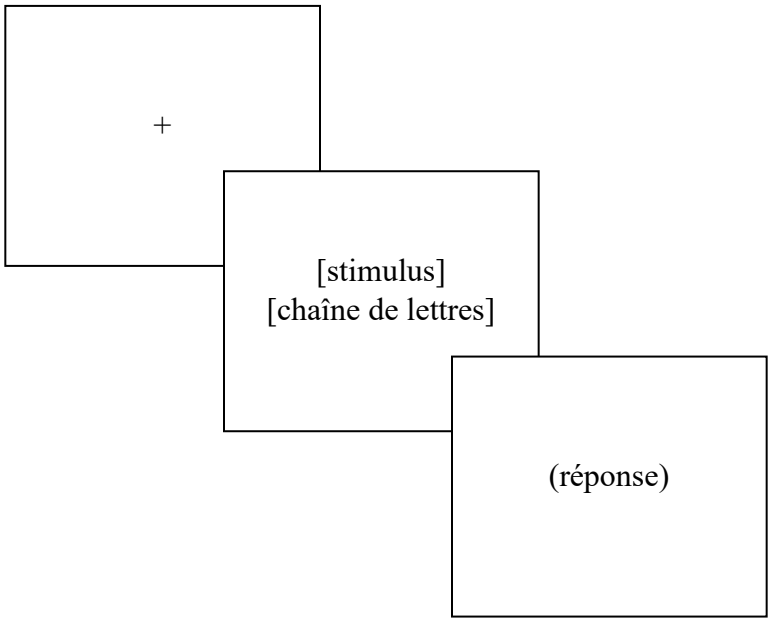
Tout d'abord, nous commencerons par quelques essais pratiques. Cliquez sur le bouton « Démarrer l'entrainement » pour commencer.

.



Maintenant que vous comprenez la tâche, cliquez sur le bouton « Démarrer » pour commencer.





Appendix H

Semi-Structured Interview (SSI) Guide

L'objectif de cet entretien semi-structurée est double:

- ***Comprendre le vécu du jeune adulte multilingue***
- ***Comprendre l'investissement du jeune adulte multilingue du point de vue de l'idéologie, du capital, et de l'identité***

Tout d'abord, j'aimerais savoir quelles langues tu connais et comment tu les as apprises.

Pourrais-tu prendre du recul et me parler en détail de ton parcours scolaire de la maternelle à aujourd'hui.

Pense à la relation entre ton éducation et les langues que tu connais.

Es-tu satisfait de l'éducation que tu as reçue?

Pourquoi ou pourquoi pas?

Comment vie-tu tes langues dans ta vie quotidienne?

Comment vie-tu l'utilisation de tes langues dans la communauté et dans la société?

Quelles autres langues entends-tu et vois-tu autour de toi?

Quand tu étais plus jeune?

[*Si le participant mentionne des autres dialectes*] Y a-t-il des différences entre les dialectes?

Peux-tu m'expliquer quand, où, et avec qui tu utilises tes langues?

Y a-t-il une raison spécifique pour laquelle tu utilises [langue] dans [contexte]?

Y a-t-il des langues que tu n'utilises que dans des contextes et des circonstances spécifiques?

Qu'en est-il des langues que les membres de ta famille connaissent et utilisent?

Quelle(s) langue(s) utilises-tu avec chaque membre de ta famille?

Parle-moi de l'écriture, de la parole, de la lecture, et de l'écoute de tes langues.

Comment décrirais-tu ton vocabulaire dans tes langues?

Dites-moi quel impact tes langues ont sur ta vie en général.

Y a-t-il eu des avantages à connaître plusieurs langues?

Y a-t-il eu des inconvénients à connaître plusieurs langues?

Quel impact tes langues ont-elles eu sur tes projets d'avenir?

Est-ce que ça t'intéresserait dans le futur d'apprendre des langues supplémentaires?

Pourquoi ou pourquoi pas?

[*Si le participant mentionne le travail*] As-tu déjà eu l'occasion d'utiliser tes langues dans un lieu de travail?

Dirais-tu que le fait de connaître plusieurs langues a eu un impact sur ton identité?

Y a-t-il autre chose que tu aimerais partager concernant ton expérience en tant que personne connaissant plus qu'une langue?

Appendix I

Content Analysis Coding Guide

Language Ideologies from the Language Ideology Survey

- ➔ ***Does this person hold any of the beliefs measured by the Language Ideology Survey?***
- ➔ ***If yes, what end of the spectrum do they fall more towards?***

	Monolingualism vs Multilingualism Gives value and justification for many languages ßà Gives value and justification for 1 language	
	Language as a Decontextualized Formal System Languages are flexible and created by the people ßà L*anguages are rules-based and rigid*	
	Language as a Tool *The value of language is independent of social & material gains ßà Language is important for social & material gains*	
	Language as a Valuable Complex Skill *Languages are simply acquired passively ßà Languages are skilled assets that are actively learned*	
	Language as a National Unifier *Language is distinct and separate from a national identity ßà Language ties a person to a national identity*	
	Language as a Marker of Intelligence *Intelligence is not tied to language skills ßà Intelligence is tied to language skills*	
	Language as a Privilege *Language is a right ßà Language is a privilege*	

Additional Language Ideologies

➔ ***What other beliefs about language does this person hold?***

Investment

Notes on identity ***- How a person understands their relationship to the world, how that relationship is structured across time/space, and how the person understands possibilities for the future***
Notes on capital ***- Economic capital includes topics related to wealth, property, and income*** ***- Cultural capital includes topics related to knowledge, education, and cultural appreciation*** ***- Social capital includes topics related to various networks of power in society***
Notes on ideology ***- A normative set of ideas (or dominant ways of thinking) about language that have the power to impose a construction of reality***

Appendix J

Preliminary Multiple Regression Analysis Assumptions Checks

Monolingualism vs. Multilingualism - MvM

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 2.120.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for HF RT and LF RT, which shared a correlation coefficient of .788 ($p < .05$), and OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10. Given the two-step multiple regression strategy being employed, it was not necessary to remove or adapt the independent variables that demonstrated multicollinearity because they were to be first fed into preliminary multiple

regression analyses individually, before being assessed for qualification to the final multiple regression, at which time these assumptions would be reverified.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The absence of significant outliers was confirmed with no standard residuals above 3. However, the check of studentized deleted residuals revealed one residual of 3.666. This participant's data was removed from the multiple regression analyses. Furthermore, 3 leverage values fell above .50, defined as "dangerous", and a large number fell above .20, defined as "risky" (Huber, 1981). The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (-6.24^{e-15}) and a standard deviation near 1 (0.859). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

Language as a Decontextualized, Formal System – LDFS

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 1.976.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for HF RT and LF RT, which shared a correlation coefficient of .788 ($p < .05$) , and OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10. It was further confirmed by VIF values greater than .10. Given the two-step multiple regression strategy being employed, it was not necessary to remove or adapt the independent variables that demonstrated multicollinearity because they were to be first fed into preliminary multiple regression analyses individually, before being assessed for qualification to the final multiple regression, at which time these assumptions would be reverified.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The absence of significant outliers was confirmed with no standard residuals above 3. However, the check of studentized deleted residuals revealed one residual of 3.253. This participant's data was removed from the multiple regression analyses. Furthermore, 3 leverage values fell above .50, defined as "dangerous", and a large number fell above .20, defined as "risky" (Huber, 1981). The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (1.28^{e-15}) and a standard deviation near 1 (0.859). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

Language as a Tool – LT

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 1.557.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for HF RT and LF RT, which shared a correlation coefficient of .788 ($p < .05$), and OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10. It was further confirmed by VIF values greater

than .10. Given the two-step multiple regression strategy being employed, it was not necessary to remove or adapt the independent variables that demonstrated multicollinearity because they were to be first fed into preliminary multiple regression analyses individually, before being assessed for qualification to the final multiple regression, at which time these assumptions would be reverified.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The absence of significant outliers was confirmed with no standard residuals above 3. It was further confirmed by the absence of studentized deleted residuals above 3 SDs. Furthermore, 3 leverage values fell above .50, defined as "dangerous", and a large number fell above .20, defined as "risky" (Huber, 1981). The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (-5.38^{e-16}) and a standard deviation near 1 (0.859). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

Language as a Valuable Complex Skill – LVCS

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 1.909.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the

approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for HF RT and LF RT, which shared a correlation coefficient of .788 ($p < .05$), and OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10. It was further confirmed by VIF values greater than .10. Given the two-step multiple regression strategy being employed, it was not necessary to remove or adapt the independent variables that demonstrated multicollinearity because they were to be first fed into preliminary multiple regression analyses individually, before being assessed for qualification to the final multiple regression, at which time these assumptions would be reverified.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The check of casewise diagnostics revealed one standardized residual of -4.061. This outlier was further confirmed by a studentized deleted residual of -5.34. This participant's data was removed from the multiple regression analyses. Furthermore, 3 leverage values fell above .50, defined as

"dangerous", and a large number fell above .20, defined as "risky" (Huber, 1981). The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (-2.44^{e-15}) and a standard deviation near 1 (0.859). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

Language as a National Unifier – LNU

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 1.703.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for HF RT and LF RT, which shared a correlation coefficient of .788 ($p < .05$), and OFFICIAL LANGUAGE DOMINANCE and

FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10. It was further confirmed by VIF values greater than .10. Given the two-step multiple regression strategy being employed, it was not necessary to remove or adapt the independent variables that demonstrated multicollinearity because they were to be first fed into preliminary multiple regression analyses individually, before being assessed for qualification to the final multiple regression, at which time these assumptions would be reverified.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The absence of significant outliers was confirmed with no standard residuals above 3. It was further confirmed by the absence of studentized deleted residuals above 3 SDs. Furthermore, 3 leverage values fell above .50, defined as "dangerous", and a large number fell above .20, defined as "risky" (Huber, 1981). The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (6.99^{e-16}) and a standard deviation near 1 (0.859). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

Language as a Marker of Intelligence – LMI

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 1.730.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a

scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for HF RT and LF RT, which shared a correlation coefficient of .788 ($p < .05$), and OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10. It was further confirmed by VIF values greater than .10. Given the two-step multiple regression strategy being employed, it was not necessary to remove or adapt the independent variables that demonstrated multicollinearity because they were to be first fed into preliminary multiple regression analyses individually, before being assessed for qualification to the final multiple regression, at which time these assumptions would be reverified.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The absence of significant outliers was confirmed with no standard residuals above 3. However, the check of studentized deleted residuals revealed one residual of -3.380. This participant's data was

removed from the multiple regression analyses. Furthermore, 3 leverage values fell above .50, defined as “dangerous”, and a large number fell above .20, defined as “risky” (Huber, 1981). The absence of highly influential points was confirmed with no values for Cook’s Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (6.99^{e-16}) and a standard deviation near 1 (0.859). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

Language as a Privilege – LP

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 1.992.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for HF RT and LF RT, which shared a

correlation coefficient of .787 ($p < .05$), OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$), as well as EXPOSURE AMOUNT CUMULATIVE and FRENCH PROFICIENCY, which shared a correlation coefficient of .704 ($p < .05$). It was further confirmed by VIF values greater than .10. It was further confirmed by VIF values greater than .10. Given the two-step multiple regression strategy being employed, it was not necessary to remove or adapt the independent variables that demonstrated multicollinearity because they were to be first fed into preliminary multiple regression analyses individually, before being assessed for qualification to the final multiple regression, at which time these assumptions would be reverified.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The absence of significant outliers was confirmed with no standard residuals above 3. It was further confirmed by the absence of studentized deleted residuals above 3 SDs. Furthermore, 3 leverage values fell above .50, defined as “dangerous”, and a large number fell above .20, defined as “risky” (Huber, 1981). The absence of highly influential points was confirmed with no values for Cook’s Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (1.930^{e-15}) and a standard deviation near 1 (0.857). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

Appendix K

Preliminary Multiple Regression Results

Monolingualism vs. Multilingualism - MvM

HF RT and LF RT added statistically significantly to the prediction, $p < .05$. All other independent variables did not. Regression coefficients and standard errors can be found in **Error! Reference source not found.** below.

	B	95% CI for *B*		*SE B*	β	Sig.
		LL	UL			
FRENCH STRENGTH ORDER	-.050	-.169	.069	.060	-.085	.405
TOTAL LANGUAGES	-.092	-.173	-.173	.053	-.173	.089
OFFICIAL LANGUAGE DOMINANCE	-.006	-.202	.190	.099	-.006	.955
EARLY FRENCH EXPOSURE	.001	-.001	.004	.001	.108	.290
FRENCH PROFICIENCY	.002	-.126	.130	.064	.003	.975
SCHOOLING	.017	-.060	.094	.039	.045	.662
CUMULATIVE EXPOSURE CONTEXTS	-6.000e-05	-.010	.009	.005	-.001	.990
CUMULATIVE EXPOSURE AMOUNT	2.240e-05	0	0	0	.044	.668
AMI	.004	.004	.013	0.004	.106	.327
LANGUAGE KNOWLEDGE IDENTITY RANK	-.019	-.112	.074	.047	-.047	.690
LANGUAGE PROGRAM IDENTITY RANK	-.044	.213	.213	.035	-.145	.213
HF ER	-.051	.887	.887	.358	-.017	.887
HF RT	0	0	.001	0	.236	.043*
LF ER	.054	-.442	.549	.249	.025	.830
LF RT	0	0	.001	0	.256	.028*
NW ER	-.080	-.616	.456	.269	-.035	.766
NW RT	5.190e-05	0	0	0	.039	.743

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient.
*p < .05. ** < .01. ***p < .001.

Language as a Decontextualized, Formal System – LDFS

FRENCH STRENGTH ORDER and OFFICIAL LANGUAGE DOMINANCE added statistically significantly to the prediction, $p < .05$. All other independent variables did not. Regression coefficients and standard errors can be found in **Error! Reference source not found.** b elow.

	B	95% CI for *B*		*SE B*	β	Sig.
		LL	UL			
FRENCH STRENGTH ORDER	-0.218	-0.414	-0.022	0.099	-0.220	0.030*
TOTAL LANGUAGES	-0.038	-0.218	0.143	0.091	-0.042	0.682
OFFICIAL LANGUAGE DOMINANCE	0.354	0.032	0.676	0.162	0.217	0.032*
EARLY FRENCH EXPOSURE	0.004	0	0.009	0.002	0.190	0.062
FRENCH PROFICIENCY	0.101	-0.113	0.315	0.108	0.095	0.352
SCHOOLING	-0.012	-0.142	0.118	0.065	-0.019	0.853
CUMULATIVE EXPOSURE CONTEXTS	0	-0.017	0.016	0.008	-0.006	0.954
CUMULATIVE EXPOSURE AMOUNT	0	0	0	0	0.145	0.156
AMI	0.013	-0.002	0.028	0.008	0.180	0.095
LANGUAGE KNOWLEDGE IDENTITY RANK	-0.031	-0.183	0.121	0.076	-0.047	0.684
LANGUAGE PROGRAM IDENTITY RANK	-0.058	-0.174	0.058	0.058	-0.116	0.320
HF ER	-0.628	-1.793	0.538	0.585	-0.126	0.286
HF RT	0.001	0	0.001	0	0.147	0.210
LF ER	0.061	-0.756	0.877	0.410	0.017	0.883
LF RT	0	0	0.001	0	0.171	0.145
NW ER	0.144	-0.739	1.027	0.443	0.038	0.746
NW RT	0	0	0.001	0	0.199	0.089

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient.
*p < .05. ** < .01. ***p < .001.

Language as a Tool – LT

None of the 17 independent variables added statistically significantly to the prediction, p > .05. Regression coefficients and standard errors can be found in **Error! Reference source not found.** below.

	B	95% CI for *B*		*SE B*	β	Sig.
		LL	UL			
FRENCH STRENGTH ORDER	-0.209	-0.452	0.033	0.122	-0.172	0.090
TOTAL LANGUAGES	-0.044	-0.266	0.178	0.112	-0.040	0.695
OFFICIAL LANGUAGE DOMINANCE	0.358	-0.039	0.756	0.200	0.180	0.077
EARLY FRENCH EXPOSURE	0.003	-0.003	0.008	0.003	0.093	0.361
FRENCH PROFICIENCY	0.113	-0.15	0.375	0.132	0.087	0.396
SCHOOLING	-0.119	-0.276	0.039	0.079	-0.151	0.137
CUMULATIVE EXPOSURE CONTEXTS	0.007	-0.012	0.027	0.010	0.074	0.471
CUMULATIVE EXPOSURE AMOUNT	0	0	0	0	0.121	0.234
AMI	0.008	-0.011	0.026	0.009	0.089	0.411
LANGUAGE KNOWLEDGE IDENTITY RANK	0.075	-0.102	0.252	0.089	0.098	0.399
LANGUAGE PROGRAM IDENTITY RANK	-0.020	-0.156	0.116	0.068	-0.034	0.770
HF ER	0.775	-0.568	2.118	0.674	0.134	0.254
HF RT	0	-0.001	0.001	0	-0.032	0.786
LF ER	0.489	-0.446	1.424	0.469	0.122	0.300
LF RT	7.710^{e-05}	-0.001	0.001	0	0.023	0.846
NW ER	-0.340	-1.356	0.677	0.510	-0.078	0.507
NW RT	0	0	0.001	0	0.093	0.432

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient.
*p < .05. ** < .01. ***p < .001.

Language as a Valuable Complex Skill – LVCS

FRENCH PROFICIENCY added statistically significantly to the prediction, $p < .05$. HF ER also added statistically significantly to the prediction, $p < .001$. All other independent variables did not. Regression coefficients and standard errors can be found in **Error! Reference s ource not found.** below.

	B	95% CI for *B*		*SE B*	β	Sig.
		LL	UL			
FRENCH STRENGTH ORDER	-0.017	-0.169	0.135	0.077	-0.022	0.828
TOTAL LANGUAGES	-0.007	-0.144	0.130	0.069	-0.010	0.921
OFFICIAL LANGUAGE DOMINANCE	0.108	-0.141	0.357	0.126	0.088	0.393
EARLY FRENCH EXPOSURE	0.002	-0.002	0.005	0.002	0.108	0.293
FRENCH PROFICIENCY	0.165	0.005	0.325	0.081	0.205	0.044*
SCHOOLING	-0.014	-0.112	0.085	0.050	-0.028	0.785
CUMULATIVE EXPOSURE CONTEXTS	-0.014	-0.112	0.085	0.050	-0.028	0.785
CUMULATIVE EXPOSURE AMOUNT	8.970^{e-05}	0	0	0	0.139	0.175
AMI	8.970^{e-05}	0	0	0	0.139	0.175
LANGUAGE KNOWLEDGE IDENTITY RANK	0.030	-0.093	0.153	0.062	0.057	0.625
LANGUAGE PROGRAM IDENTITY RANK	0.081	-0.009	0.172	0.045	0.205	0.078
HF ER	1.458	0.686	2.230	1.458	0.408	<.001***
HF RT	0	-0.001	0	0	-0.17	0.150
LF ER	0.473	-0.112	1.058	0.293	0.188	0.111
LF RT	6.750^{e-05}	0	0.001	0	0.032	0.785
NW ER	-0.077	-0.712	0.558	0.319	-0.029	0.810
NW RT	7.710^{e-06}	0	0	0	0.005	0.967

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient.
*p < .05. ** < .01. ***p < .001.

Language as a National Unifier – LNU

AMI added statistically significantly to the prediction, $p < .01$. All other independent variables did not. Regression coefficients and standard errors can be found in **Error! Reference s ource not found.** below.

	B	95% CI for *B*		*SE B*	β	Sig.
		LL	UL			
FRENCH STRENGTH ORDER	-0.145	-0.371	0.081	0.114	-0.129	0.207
TOTAL LANGUAGES	0.016	-0.190	0.221	0.103	0.015	0.880
OFFICIAL LANGUAGE DOMINANCE	0.263	-0.107	0.633	0.186	0.143	0.161
EARLY FRENCH EXPOSURE	8.970^{e-06}	-0.005	0.005	0.003	0	0.997
FRENCH PROFICIENCY	-0.013	-0.256	0.231	0.123	-0.011	0.917
SCHOOLING	0.064	-0.083	0.211	0.074	0.088	0.389
CUMULATIVE EXPOSURE CONTEXTS	-0.003	-0.022	0.015	0.009	-0.038	0.711
CUMULATIVE EXPOSURE AMOUNT	-7.020^{e-07}	0	0	0	-0.001	0.994
AMI	0.022	0.006	0.038	0.008	0.279	0.009**
LANGUAGE KNOWLEDGE IDENTITY RANK	-0.054	-0.217	0.109	0.082	-0.077	0.511
LANGUAGE PROGRAM IDENTITY RANK	-0.116	-0.239	0.006	0.061	-0.215	0.062
HF ER	0.118	-1.137	1.374	0.630	0.022	0.852
HF RT	0.001	0	0.001	0	0.150	0.202
LF ER	0.416	-0.452	1.284	0.435	0.112	0.342
LF RT	0.001	0	0.001	0	0.162	0.168
NW ER	-0.156	-1.100	0.789	0.474	-0.039	0.744
NW RT	0	0	0.001	0	0.101	0.392

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient.
*p < .05. ** < .01. ***p < .001.

Language as a Marker of Intelligence – LMI

SCHOOLING added statistically significantly to the prediction, $p < .05$. All other independent variables did not. Regression coefficients and standard errors can be found in **Error! Reference source not found.** below.

	B	95% CI for *B*		*SE B*	β	Sig.
		LL	UL			
FRENCH STRENGTH ORDER	0.197	-0.113	0.506	0.156	0.128	0.210
TOTAL LANGUAGES	0.216	-0.054	0.485	0.136	0.161	0.116
OFFICIAL LANGUAGE DOMINANCE	0.094	-0.401	0.589	0.249	0.039	0.706
EARLY FRENCH EXPOSURE	-0.002	-0.009	0.004	0.003	-0.070	0.494
FRENCH PROFICIENCY	0.040	-0.283	0.363	0.163	0.025	0.807
SCHOOLING	0.240	0.050	0.430	0.096	0.249	0.014*
CUMULATIVE EXPOSURE CONTEXTS	-0.007	-0.031	0.017	0.012	-0.058	0.573
CUMULATIVE EXPOSURE AMOUNT	5.350^{e-05}	0	0	0	0.042	0.686
AMI	0.015	-0.007	0.037	0.011	0.149	0.171
LANGUAGE KNOWLEDGE IDENTITY RANK	0.039	-0.201	0.279	0.120	0.038	0.746
LANGUAGE PROGRAM IDENTITY RANK	0.150	-0.024	0.323	0.087	0.197	0.090
HF ER	-0.736	-2.501	1.028	0.885	-0.098	0.408
HF RT	-5.390^{e-07}	-0.001	0.001	0.001	0	0.999
LF ER	-0.665	-1.895	0.564	0.616	-0.127	0.284
LF RT	0	-0.001	0.001	0.001	0.024	0.838
NW ER	-0.288	-1.597	1.021	0.657	-0.052	0.662
NW RT	-7.540^{e-06}	-0.001	0.001	0	-0.002	0.984

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient.
*p < .05. ** < .01. ***p < .001.

Language as a Privilege

AMI added statistically significantly to the prediction, $p < .01$. LANGUAGE PROGRAM IDENTITY RANK also added statistically significantly to the prediction, $p < .05$. All other independent variables did not. Regression coefficients and standard errors can be found in **Error! Reference source not found.** below.

	B	95% CI for *B*		*SE B*	β	Sig.
		LL	UL			
FRENCH STRENGTH ORDER	-0.091	-0.445	0.263	0.178	-0.052	0.612
TOTAL LANGUAGES	-0.159	-0.474	0.157	0.159	-0.102	0.321
OFFICIAL LANGUAGE DOMINANCE	-0.108	-0.690	0.474	0.293	-0.038	0.713
EARLY FRENCH EXPOSURE	0.001	-0.007	0.009	0.004	0.034	0.740
FRENCH PROFICIENCY	0.108	-0.268	0.484	0.189	0.058	0.570
SCHOOLING	-0.067	-0.296	0.163	0.116	-0.059	0.565
CUMULATIVE EXPOSURE CONTEXTS	0.007	-0.021	0.035	0.014	0.051	0.620
CUMULATIVE EXPOSURE AMOUNT	8.780^{e-05}	0	0	0	0.058	0.570
AMI	0.035	0.010	0.061	0.013	0.285	0.008**
LANGUAGE KNOWLEDGE IDENTITY RANK	-0.037	-0.310	0.237	0.137	-0.031	0.791
LANGUAGE PROGRAM IDENTITY RANK	-0.244	-0.445	-0.042	0.101	-0.272	0.018*
HF ER	0.543	-1.581	2.666	1.065	0.060	0.612
HF RT	0.001	0	0.002	0.001	0.170	0.150
LF ER	-0.224	-1.687	1.239	0.734	-0.036	0.761
LF RT	0	-0.001	0.002	0.001	0.073	0.540
NW ER	-1.226	-2.819	0.367	0.799	-0.179	0.129
NW RT	0	-0.001	0.001	0	0.051	0.669

Note. Model = "Enter" method in SPSS Statistics; *B* = unstandardized regression coefficient; CI = confidence interval; LL = lower limit; UL = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient.
*p < .05. ** < .01. ***p < .001.

Appendix L

Final Multiple Regression Analysis Assumptions Checks

Monolingualism vs. Multilingualism - MvM

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 2.013.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.786 ($p < .05$). It was further confirmed by VIF values greater than .10.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The review of casewise diagnostics and studentized deleted residuals revealed a case with standard residuals of

3.469 and 4.097 respectively. This participant's data was removed from the multiple regression analyses. Furthermore, 6 leverage values fell above .20, defined as "risky" (Huber, 1981) but none remained above .50, as seen in the preliminary multiple regressions. These participants' data were also removed from the multiple regression analyses. The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (-5.28^{e-15}) and a standard deviation near 1 (.936). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

The R^2 for the overall model of the language ideology MvM was 19% with an adjusted R^2 of 6%, a negligible effect size according to Cohen (1988). FRENCH STRENGTH ORDER, OFFICIAL LANGUAGE DOMINANCE, FRENCH PROFICIENCY, SCHOOLING, AMI, LANGUAGE PROGRAM IDENTITY RANK, HF ER, and HF RT did not significantly predict agreement with MvM ratings, $F(8,50) = 1.465$, $p = .194$.

Language as a Decontextualized, Formal System - LDFS

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 2.189.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The review of casewise diagnostics revealed a case with a standard residual of 3.196. This participant's data was removed from the multiple regression analyses. The check of studentized deleted residuals revealed one case with a residual of 3.693. This participant's data was also removed from the multiple regression analyses. Furthermore, 6 leverage values fell above .20, defined as "risky" (Huber, 1981) but none remained above .50, as seen in the preliminary multiple regressions. These participants' data were also removed from the multiple regression analyses. The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (1.19^{e-15}) and a standard deviation near 1 (.936). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

The R^2 for the overall model of the language ideology LDFS was 11.6% with an adjusted R^2 of 0%, a negligible effect size according to Cohen (1988). FRENCH STRENGTH ORDER, OFFICIAL LANGUAGE DOMINANCE, FRENCH PROFICIENCY, SCHOOLING, AMI, LANGUAGE PROGRAM IDENTITY RANK, HF ER, and HF RT did not significantly predict agreement with LDFS ratings, $F(8,51) = .840$, $p = .573$.

Language as a Tool - LT

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 2.236.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The review of casewise diagnostics and studentized deleted residuals revealed no outliers. However, 6 leverage values fell above .20, defined as "risky" (Huber, 1981) but none remained above .50, as seen in the preliminary multiple regressions. These participants' data were also removed from the multiple regression analyses. The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (-6.18^{e-16}) and a standard deviation near 1 (.936). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

The R^2 for the overall model of the language ideology LT was 16.6% with an adjusted R^2 of 3.5%, a negligible effect size according to Cohen (1988). FRENCH STRENGTH ORDER, OFFICIAL LANGUAGE DOMINANCE, FRENCH PROFICIENCY, SCHOOLING, AMI, LANGUAGE PROGRAM IDENTITY RANK, HF ER, and HF RT did not significantly predict agreement with LT ratings, $F(8,51) = 1.264$, $p = .283$.

Language as a Valuable Complex Skill - LVCS

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 2.251.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the

approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The review of casewise diagnostics revealed a case with a standard residual of -4.293. This participant's data was removed from the multiple regression analyses. The check of studentized deleted residuals revealed two cases with residuals of -3.300 and -5.358. These participants' data were also removed from the multiple regression analyses. Furthermore, 6 leverage values fell above .20, defined as "risky" (Huber, 1981) but none remained above .50, as seen in the preliminary multiple regressions. These participants' data were also removed from the multiple regression analyses. The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed

visually by their approximate normal distribution in the histogram, with a mean near 0 (-6.18^{e-16}) and a standard deviation near 1 (.936). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

The R^2 for the overall model of the language ideology LVCS was 4.5% with an adjusted R^2 of -11.1%, a negligible effect size according to Cohen (1988). FRENCH STRENGTH ORDER, OFFICIAL LANGUAGE DOMINANCE, FRENCH PROFICIENCY, SCHOOLING, AMI, LANGUAGE PROGRAM IDENTITY RANK, HF ER, and HF RT did not significantly predict agreement with LVCS ratings, $F(8,49) = .289$, $p = .967$.

Language as a National Unifier - LNU

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 1.657.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for OFFICIAL LANGUAGE

DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The review of casewise diagnostics and studentized deleted residuals revealed no outliers. However, 6 leverage values fell above .20, defined as "risky" (Huber, 1981) but none remained above .50, as seen in the preliminary multiple regressions. These participants' data were also removed from the multiple regression analyses. The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (-8.74^{e-16}) and a standard deviation near 1 (.936). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

The R^2 for the overall model of the language ideology LNU was 23.6% with an adjusted R^2 of 11.6%, a negligible effect size according to Cohen (1988). FRENCH STRENGTH ORDER, OFFICIAL LANGUAGE DOMINANCE, FRENCH PROFICIENCY, SCHOOLING, AMI, LANGUAGE PROGRAM IDENTITY RANK, HF ER, and HF RT did not significantly predict agreement with LNU ratings, $F(8,51) = 1.969$, $p = .070$.

Language as a Marker of Intelligence - LMI

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 1.804.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a

scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for OFFICIAL LANGUAGE DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The review of casewise diagnostics revealed no outliers. The check of studentized deleted residuals revealed one case with a residual of -3.374. This participant's data was removed from the multiple regression analyses. Furthermore, 6 leverage values fell above .20, defined as "risky" (Huber, 1981) but none remained above .50, as seen in the preliminary multiple regressions. These participants' data were also removed from the multiple regression analyses. The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed

visually by their approximate normal distribution in the histogram, with a mean near 0 (1.30^{e-16}) and a standard deviation near 1 (.936). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

The R^2 for the overall model of the language ideology LMI was 19.8% with an adjusted R^2 of 7.2%, a negligible effect size according to Cohen (1988). FRENCH STRENGTH ORDER, OFFICIAL LANGUAGE DOMINANCE, FRENCH PROFICIENCY, SCHOOLING, AMI, LANGUAGE PROGRAM IDENTITY RANK, HF ER, and HF RT did not significantly predict agreement with LMI ratings, $F(8,51) = 1.571$, $p = .157$.

Language as a Privilege - LP

The assumption of independence of observations was verified with the Durbin-Watson statistic. The independence of residuals was confirmed with a Durbin-Watson statistic of 2.009.

The assumption of linearity between the dependent and independent variables collectively, and the assumption of homoscedasticity of residuals, were verified using a scatterplot of the studentized residuals against the unstandardized predicted values. The linearity between the dependent and independent variables collectively was confirmed visually by the approximate horizontal band of residuals in the scatterplot. The homoscedasticity of residuals was confirmed visually by the constant and even spread of the residuals in the scatterplot.

The assumption of linearity between the dependent and independent variables individually was verified using a series of partial regression plots. The linearity between the dependent and independent variables individually was confirmed visually by the approximate horizonal band in the partial regression plots.

The assumption of multicollinearity was verified by inspecting the Pearson correlation coefficients and VIF values. The absence of multicollinearity was confirmed with correlation coefficients below .70 for all independent variables except for OFFICIAL LANGUAGE

DOMINANCE and FRENCH STRENGTH ORDER, which shared a correlation coefficient of -.767 ($p < .05$). It was further confirmed by VIF values greater than .10.

The assumption of no significant outliers, high leverage points, or highly influential points was verified using casewise diagnostics and studentized deleted residuals. The review of casewise diagnostics and studentized deleted residuals revealed no outliers. However, 6 leverage values fell above .20, defined as "risky" (Huber, 1981) but none remained above .50, as seen in the preliminary multiple regressions. These participants' data were also removed from the multiple regression analyses. The absence of highly influential points was confirmed with no values for Cook's Distance above 1.

The assumption of normal distribution of residuals was verified using a histogram with a superimposed normal curve and a P-P Plot. The normal distribution of residuals was confirmed visually by their approximate normal distribution in the histogram, with a mean near 0 (6.52^{e-16}) and a standard deviation near 1 (.936). It was further confirmed visually by the distribution of the residuals along the diagonal line in the P-P Plot.

The R^2 for the overall model of the language ideology LP was 29.9% with an adjusted R^2 of 18.6%, a small effect size according to Cohen (1988). FRENCH STRENGTH ORDER, OFFICIAL LANGUAGE DOMINANCE, FRENCH PROFICIENCY, SCHOOLING, AMI, LANGUAGE PROGRAM IDENTITY RANK, HF ER, and HF RT did significantly predict agreement with LP ratings, $F(8,50) = 2.661$, $p < .05$.