

The Internalization of a Francophone Identity: Does Being in a French Social  
Environment Matter?

by

Lisa Denise Durocher  
Bachelor of Arts (Honours), Brock University, 2006

A Thesis Submitted in Partial Fulfillment  
of the Requirements for the Degree of

MASTER OF SCIENCE

in the Department of Psychology

© Lisa Denise Durocher, 2008  
University of Victoria

All rights reserved. This thesis may not be reproduced in whole or in part, by photocopy or other means, without the permission of the author.

**Supervisory Committee**

The Internalization of a Francophone Identity: Does Being in a French Social  
Environment Matter?

By

Lisa Denise Durocher  
B.A. (Honours), Brock University, 2006

**Supervisory Committee**

Dr. Frédérick M.E. Grouzet, Supervisor  
(Department of Psychology)

Dr. Robert Gifford, Departmental Member  
(Department of Psychology)

Dr. John O. Anderson, Outside Member  
(Department of Educational Psychology and Leadership Studies)

## Abstract

### Supervisory Committee

Dr. Frédérick M.E. Grouzet, Supervisor  
(Department of Psychology)

Dr. Robert Gifford, Departmental Member  
(Department of Psychology)

Dr. John O. Anderson, Outside Member  
(Department of Educational Psychology and Leadership Studies)

### ABSTRACT

The current study sought to investigate the social-educational environment of francophone-minority students and its importance in developing and maintaining an francophone identity. The purpose was to determine whether the social environment influences francophone identity levels and whether a social environment supports francophone identity over time. Students completed questionnaires at three points in time: before an academic break, after an academic break, and a month after an academic break. The transition from a predominantly French environment to a predominantly English environment during the academic break affected students' identification levels. For some students, the transition from social environments increased their identification with the culture and language, while for other students it decreased their identification. The results suggest that several factors may influence the decreasing levels during the break: practicing French activities, greater internalization levels of an francophone identity, and age.

## Table of Contents

Supervisory Committee .....	ii
Abstract .....	iii
Table of Contents .....	iv
List of Tables .....	vi
List of Figures .....	viii
List of Appendices .....	ix
Acknowledgment .....	x
Dedication .....	xi
Introduction .....	1
Theoretical approach to identity: What is identity? .....	4
Social identity theory .....	5
Ethnolinguistic identity theory .....	6
Self-determination theory .....	7
Identity formation and maintenance: What is specific to context? .....	10
Present study .....	16
Before the academic break .....	17
Following the academic break (identity maintenance) .....	17
One-month follow-up (identity maintenance) .....	17
Method .....	18
Participants .....	18
Procedure .....	18
Measures .....	20
Demographic information .....	20
French practicing activities .....	20
Perceived support of basic psychological needs .....	20
Francophone identity .....	21
Internalization of an identity .....	22
Overview of Analytical Strategy .....	24
Results .....	24
Assumption .....	24
Normality .....	24
Outliers .....	24
Multilinearity .....	24
Homoscedasticity .....	24
Independence of residuals .....	25
Normality of residuals .....	25
Before the academic break: Predicting identity at Time 1 (Hypotheses 1 to 3) .....	25
Following the academic break: Predicting identity at Time 2 (Hypothesis 4-5) .....	27
One month following the academic break: Predicting identity at Time 3 (Hypothesis 6) .....	29
Identity evolution .....	29
Discussion .....	37
Practice and identity .....	28
Basic needs, practice, and identity .....	40
Basic needs, internalization, and identity .....	42

Basic needs and identity growth .....	44
Limitation and future direction .....	47
References .....	51
Appendix A.....	77
Appendix B .....	78

### List of Tables

Table 1.	<i>Descriptive statistics of all variables used from Time 1 to Time 3</i>	57
Table 2.	<i>Correlations between sex, age, francophone identity, internalization, practice, perceived support of the basic needs from parents, teachers and friends</i>	58
Table 3.	<i>Multiple regression coefficients and tests of significance for predicting practice using measures of perceived basic need support from parents, teachers and friends while controlling for age and sex</i>	59
Table 4.	<i>Multiple regression coefficients and tests of significance for predicting internalization using measures of perceived basic need support from parents, teachers and friends while controlling for age and sex</i>	60
Table 5.	<i>Multiple regression coefficients and tests of significance for predicting francophone identity (T1) using measures of internalization, practice, perceived support of basic needs from parents, teacher and friends while controlling for sex and age</i>	61
Table 6.	<i>Differences scores from Time 2 identity subtracted by Time 1 identity</i>	62
Table 7.	<i>Correlations between sex, age, and the following Time 2 variables: francophone identity, internalization, practice, perceived support of basic needs from parents</i>	63
Table 8.	<i>Multiple regression coefficients and tests of significance for predicting internalization using measures of internalization (T1), practice, perceived support of basic needs from parents while controlling for sex and age</i>	64
Table 9.	<i>Multiple regression coefficients and tests of significance for predicting practice using measures of practice (T1), perceived support of basic needs from parents while controlling for sex and age</i>	65
Table 10.	<i>Multiple regression coefficients and tests of significance for predicting francophone identity (T2) using measures of internalization, practice, perceived support of basic needs from parents while controlling for age and sex</i>	66
Table 11.	<i>Differences scores from Time 3 identity subtracted by Time 2 identity</i>	67
Table 12.	<i>Correlations between sex, age, francophone identity (T1, T2, &amp; T3), internalization (T3), practice (T3), perceived basic needs support from parents, teachers and friends (T3)</i>	68

Table 13. <i>Multiple regression coefficients and tests of significance for predicting internalization using measures of internalization (T1 and T2), practice, perceived support of basic needs from parents, teachers and friends while controlling for sex and age</i> .....	69
Table 14. <i>Multiple regression coefficients and tests of significance for predicting practice using measures of practice (T1 and T2), perceived support of basic needs from parents, friends, and teachers while controlling for sex and age</i> .....	70
Table 15. <i>Multiple regression coefficients and tests of significance for predicting francophone identity (T3) using measures of internalization, practice, identity (T2 &amp; T3), perceived support of basic needs from parents, teachers and friends</i> .....	71
Table 16. <i>Hierarchical linear modeling results</i> .....	72

**List of Figures**

<i>Figure 1.</i> Hypothesized Model.....	72
<i>Figure 2.</i> Internalization and Practice as Mediators at Time 1.....	73
<i>Figure 3.</i> Internalization and Practice as Mediators at Time 2.....	74
<i>Figure 4.</i> Interaction of Friends Need Support by Age in Predicting Identity (Time 3).....	75
<i>Figure 5.</i> Internalization and Practice as Mediators at Time 3.....	76

**List of Appendices**

Appendix A: Letter of Invitation .....77

Appendix B: Letter of Information for Consent (Parents/Guardians) .....78

## Acknowledgement

I would like to acknowledge all those who have helped and supported me through this project. I express my sincerest gratitude and thanks to my mentor, Dr. Fred Grouzet, for providing me with endless autonomy support, research competence and relatedness. His valuable encouragement, insight, expertise, and guidance made completion of this thesis possible. I would also like to thank Dr. John Anderson for all his statistics classes and endless help. I will always appreciate your sense of humor, your sense of approachability, and the lifetime warranty in your teachings.

I would like to acknowledge my family, who has provided me with unwavering love, understanding, and support. I am incredibly thankful for the support of Mom, Jay, Danielle, and David for inspiring and encouraging me to always reach my goals. Without them, I would not have grown to be the person I am today.

I am greatly indebted to my Victoria family, Tracy and Frank, who have provided me with endless support and encouragement. I thank you Trace for putting up with the non-stop talking about my thesis and for always being my number one cheerleader. I would also like to thank Stayc for our dungeon nights, the late coffees and teas (thanks to Jackie-O), and the never-ending support and encouragement. Last, but certainly not least, Trina the trooper, your strength and multitasking abilities never failed to cease me. I thank you for all your inspirations and encouragement.

I would also like to express a heartfelt thanks to all my friends, colleagues, and professors have helped me grow and who have contributed to my learning process. I am also extremely appreciative the southern Ontario Francophone community and schools for their time commitment and participation, making this project possible.

## **Dedication**

This work is dedicated to my advisor, Fred, whose endless support has helped me to flourish.

The Internalization of a Francophone Identity:  
Does Being in a French Social Environment Matter?

Beginning in childhood, we start exploring different opportunities and roles in our social environment (Finkenauer, Engels, Meeus, & Oosterwegel, 2002). Given that our social environment is more salient than ever, many influences such as media, parents, and education could have an impact (Deci & Ryan, 2003). For bilingual and multilingual children<sup>1</sup> (i.e., children knowing two or more languages), there is further complexity in their social environment. The numerous influences within a social environment are multiplied among multilingual children and could lead to additional pressures when exploring various roles and opportunities. This process may be more challenging when one of the languages is not dominant within their social environment, which might make exploring and identifying more difficult.

Although a social environment may create pressure to conform to society's roles and norms, such pressure could be particularly influential in linguistic minority contexts (Landry, Allard, Deveau, & Bourgeois, 2005). Individuals living within a linguistic minority context may be stressed when striving to maintain their culture and language while simultaneously trying to adapt to society's roles and norms. Acculturating individuals, for example, strive to maintain their heritage culture and language, and adapt to society (i.e. the host culture). Acculturative stress may arise when one's heritage language is considered a linguistic minority, which may lead to certain challenges in adapting to the host language and maintaining personal heritage language. When one is successfully competent in both languages, has a strong ability to maintain a culture and language while simultaneously holding positive beliefs about a second language, the outcome is additive bilingualism. The consequences, however, of one losing the

---

<sup>1</sup> To save on repetitiveness, children possessing two or more languages will be referred to as multilinguals for the remaining of this thesis.

ability and desire to maintain one language over another results in subtractive bilingualism, in which one has fewer competencies in one language than the other (Landry, Allard, & Théberge, 1991).

According to Landry and colleagues (2005), three main entities play a crucial role in additive bilingualism: society, family, and education. When an entity demonstrates stronger preferences for one language over the other, subtractive bilingualism is a risk, meaning the loss of minority language. In Canada, French and English languages are recognized in the Official Languages Act; however, a larger proportion of people consider English as their first language (i.e. 58% of Canadians; Statistics Canada, 2006). Only 22% (~6.8 million) declared French as their first language on the 2006 Canadian Census, revealing that French and English carry different language distributions. Because a large part of the francophone population resides within Québec, people living in French-minority communities outside Québec face many challenges.

First, the ethnolinguistic vitality of a community plays a central role in language socialization and psycholinguistic development (Landry, Deveau, & Allard, 2006). Ethnolinguistic vitality reflects the number of community resources and social institutions available in a community (Landry, 1995). Community resources (e.g., church, school) and social institutions (e.g., government) accessible to a linguistic group help language socialization and the development of its member, which in turn contributes to a community's ethnolinguistic vitality (Giles, Bourhis, & Taylor, 1977; Landry et al., 2005). Likewise, when a community's ethnolinguistic vitality is weak, there is a risk of limited language socialization and psycholinguistic development (Landry, 1995; Landry et al., 2005). The society surrounding francophone minorities is predominantly English, which often results in fewer French resources

available to the community (e.g. no French church, few French schools) and social institutions (e.g., no government services offered in French). When an francophone community has weak ethnolinguistic vitality, there may be a greater probability of francophone children and adolescents identifying more with the English language and less with the francophone culture and language. English being the “majority” language, it exerts few challenges when learning and maintaining the language (Cummins, 1999; Rossell & Baker, 1996). Young francophones may however have increased difficulty in trying to maintain the French language and consequently the increased risk of losing the ability to maintain their French language skills (i.e., subtractive bilingualism).

Family is therefore important for ensuring language socialization and psycholinguistic development. Through continuous parental and sibling contact, a child can develop auditory, articulatory, lexical, grammatical, and communicative components of language (MacWhinney, 2005). One problem arises, however, when many francophone families are increasingly replacing French with English at home. Only a small proportion of the French-Canadian population transfer their first language to their children (Statistics Canada, 2002). Consequently, many young francophones may not be developing the essential basic communication skills in French. This generation may be at an increased risk of fewer competencies in one language over the other, resulting in a greater vulnerability for subtractive bilingualism.

The school environment may compensate for the limited French contacts within society and family, in hopes of acting as a balancer to ensure additive bilingualism. A bilingual environment such as schools promotes the development of both the first and second language among its students (Cummins, 1999). French schools are the heart of the francophone communities, which can offer students with a French cultural and linguistic ambiance, as well as

French identity models. Such an entity could provide young francophones with the much-needed opportunity to be familiar with the francophone culture and language, in turn allowing them to utilize their French language skills. Teachers and schools provide constant and recurring connection with the francophone language and culture, thus encouraging the French linguistic development (Gérin-Lajoie, 2002).

Schools promote French-practicing activities among young francophones, where oral and written skills can be utilized. Although such an environment does provide francophone children and adolescents with the opportunity and reinforcement for practicing their language, does it ensure the internalization of a francophone identity? In the current study, I extend current bilingual and identity research by examining the development and maintenance of young francophones' identities. Specifically, I attempt to determine whether a social environment is supportive to both practicing activities and internalization, and its influence on identity development and maintenance.

To this end, I concentrated on theories and research pertaining to identity, internalization, and bilingualism in order to (a) investigate the social environment of linguistic minority students and its importance in developing and maintaining an identity and (b) to examine whether a change in an social environment influences identity levels and to test whether a social environment supports the maintenance of an identity over time.

#### *Theoretical Approach to Identity: What is Identity?*

A greater understanding of what an identity is can be found through the various identity research approaches, where each provides a unique overview of its own understanding of what identity is. In psychological research, self and identity are interrelated; several researchers distinguish among the two (Tesser, Felson, & Suls, 2000), while others referred to them as one

(Schwartz, 2008). In the remainder of this thesis, I referred to it as identity. Identity is of great interest to many writers and researchers. It is not something we are born with, but acquire over time and plays a significant role in our everyday life (Ryan & Deci, 2003). Erikson (1980) once said that an identity answers the question of “who am I,” meaning the global sense of self; however, in reality, we have multiple social identities. Ryan and Deci (2003) pointed out that “the range of possible identities available to any individual is larger than before,” suggesting that many contexts and situations have an influence and provide the opportunity to individuals to pursue various social identities. With the help of social groups and organizations, social identities begin to form and play a significant role in life.

*Social identity theory.* According to the social identity theory (SIT; Tajfel, 1972), a person has several “personal selves,” which correspond to many group memberships such as specific contexts that triggers one to think, feel, or behave to a personal or family “level of self” (Turner, Hogg & Oakes, 1989). An individual also has multiple “social identities,” which defines one’s self-concept as a social group member (Abrams, 1992; Tajfel, 1972). Thus, social identity is one’s sense of belongingness or relatedness to a social group, as well as the emotional and significant value attributed to the membership. It is their perception of “us” associated with a group membership (Abrams, 1992). This can be distinguished from personal identity, which reflects self-image, goals, values, and beliefs derived from one’s characteristics (Turner et al., 1989).

SIT is concerned mostly with group situations with three underlying mechanisms to social identification: (1) social categorization, (2) social comparison, and (3) the use of group memberships to increase self-esteem (Abrams, 1992; Swartz, Montgomery, & Brione, 2006). The social psychological process of categorization occurs when one organizes a social

environment by classifying objects, events, and people into specific categories and groups (Abrams, 1992). This allows one to accentuate similarities within groups and categories, and to exaggerate differences. The exaggeration of perceived similarities and differences occurs when it is particularly important or relevant to the person. Social categorization thus allows people to learn to recognize social cues (e.g., behavioural, linguistic) and enables them to allocate themselves and others into specific categories.

Through the second underlying mechanism, social comparisons, individuals evaluate their group (or category) by comparing their group/category (i.e., in-group) with other groups or categories (i.e., out-group), which allows them to evaluate particular abilities, opinions, and experiences (Abrams, 1992; McNamara, 1997). One may compare, for example, the relative status of their group by evaluating their group with other groups based on power and prestige. When the in-group is perceived more positively, different, and better than the out-group, one's social identity improves (Abrams, 1992). However, if the in-group is perceived negatively, a person's social identity can decrease and as a result, the person will distance themselves away from that particular group (McNamara, 1997). The third psychological process entails people's motivation to use group memberships as a source of self-esteem and positive self-evaluation (Abrams, 1992). In other words, people are motivated to maintain a positive self-image, so if a group does not compare favourably with others, one may seek to leave the group in order to maintain self-esteem and self-evaluation. Sometimes, however when it is impossible to leave a particular group, an individual may adopt self-enhancing strategies, such as comparing a group to a lower status group in order to make one's group look more favourable.

*Ethnolinguistic identity theory.* Ethnolinguistic identity theory (Giles, et al., 1977) is a theory derived from SIT that also conceptualizes different social identities. Such a theory is

unique because it investigates the ethnolinguistic vitality of a specific community; that is, the number of community resources (e.g., church, school) and social institutions (e.g., government), and its accessibility to a linguistic group (Giles et al., 1977; Landry et al., 2005). When a community has strong ethnolinguistic vitality, there is a higher probability of its language socialization, psycholinguistic development, and identification (Landry, 1995; Landry et al., 2005). Likewise, when a community's ethnolinguistic vitality is weak, there is a greater risk of the language socialization, psycholinguistic development, and identification being limited.

Allard, Landry, and Deveau (2005) explored what effects ethnolinguistic vitality has on students' ethnolinguistic engagement. Five hundred and two students ranging from grade nine to twelve from Nova Scotia and New Brunswick participated in their study. The three participating schools had varying degrees of ethnolinguistic vitality in the areas: south-west Nova Scotia with weak vitality, south-east New Brunswick with moderate vitality, and north-east New Brunswick with strong vitality. Students from high ethnolinguistic vitality communities had higher scores of ethnolinguistic engagement when compared to students from moderate or weak communities. Students residing within a community with weak ethnolinguistic vitality had the lowest engagement scores. These results imply that psycholinguistic engagement strongly relates to a community's ethnolinguistic vitality, which is represented by the proportion of linguistic contacts. It is however important to note that ethnolinguistic vitality is not a predictor for every member of a community because people have varying degrees of cultural internalization.

*Self-determination theory.* According to self-determination theory (SDT; Deci & Ryan, 2000), a person may have multiple identities, each varying in different degrees of internalization. For example, Alexandrine identifies herself as a mother, professor and French-Canadian; however, her identification as French-Canadian may only be skin deep, having no value (i.e., no

internalization), while her identity as a mother assimilates closely with the self, thus having a deeper internalization. Through exploration and imitation of social roles and practice, we begin to internalize certain aspects of ourselves and acquire different identities (Ryan & Deci, 2003). Many social pressures and constraints in society prevent the internalization of an identity, while interactions with others can support the internalization process. SDT theorists investigate whether a social environment is supportive of individuals' basic psychological needs (Deci & Ryan, 1985; 2002). First, an identity can be accepted when there are feelings of connectedness and closeness with others within a social context or group, therefore satisfying the need for relatedness. Second, the need for competence involves adopting an identity that provides the feelings of efficiency through engaging in challenging tasks and gaining. Third, identities can satisfy the need for autonomy, in which people develop a sense of choice, personal interest and initiative. Ryan and Deci (2003) argue that it is through the basic psychological needs that identities are internalized in varying degrees.

Identities may form from sheer interest or curiosity, therefore representing *intrinsic internalization* identity formation (Ryan & Deci, 2003). In reality, however, we are exposed to many identities that may not be intrinsically motivating, suggesting that several roles, responsibilities and tasks influence the varying degrees of identity internalization. It is possible to have the absence of internalization, signifying that a person may find little value for the desired outcome and will have *amotivated internalization* towards the internalization of that identity. According to SDT, the varying degrees of identity formation reflect the degree to which a "behaviour or identity has been internalized to the self." (p 257) Some degree of internalization will occur when a "person is able to enact the behaviours and finds them instrumental for desired outcomes" (Ryan & Deci, 2003, p. 257). This defines *external*

*internalization*, which represents the least autonomous and self-determined type of internalization (Deci & Ryan, 1985; 2002). Little internalization occurs when one is dependent and behaves because of rewards and punishments administered by others (Ryan & Deci, 2003). *Introjected internalization* involves the internalization of the external regulation, where it is not accepted as one's own regulation (Deci & Ryan, 2002). Ryan and Deci (2003) asserts that a "person experiences rewards and punishments, typically in the form of self-esteem-related feelings and appraisals, and it is these contingent self-evaluations and their affective consequences that regulate behavior" (p. 258). An individual typically internalizes introjectedly to avoid feelings of guilt or shame, such as avoiding feeling like a bad person (Deci & Ryan, 2002).

A greater degree of internalization occurs in *identified* internalization (Ryan & Deci, 2003). In this case, an individual feels a sense of choice or volition about internalization and can identify it as personally important and valuable (Deci & Ryan, 2002). Identified internalization is therefore regulated autonomously because the person has the choice and volition. Although identified is an autonomous form of internalization, SDT indicates that it is relatively isolated and compartmentalized within the psyche and only identifications that are "well integrated within the psyche represent the full endorsement of the self" (Ryan & Deci, 2003, p. 258). *Integrated internalization* is assimilated within the psyche, because it is the most autonomous form; although these internalizations are performed volitionally, they are considered extrinsic because they are executed to attain personally important outcomes instead of those purely related to pleasure and interest (Ryan & Deci, 2000). *Integrated* is an advance form of regulation and many researchers assume children and adolescents are too young to achieve a sense of internalization for various types of activities (Ryan et al., 1991). Because our sample was

children and adolescents, integrated regulation was not investigated and will not be discussed further.

*Summary.* Identity can be seen as a global concept, however, in reality, we have multiple identities. According to social identity theory (SIT), a person has several “personal selves” corresponding to many group memberships, triggering how one may think, feel or behave to a personal or family “level of self” (Turner et al., 1989). An individual also has multiple “social identities” defining one’s self-concept as a social group member (Abrams, 1992). The ethnolinguistic identity theory is a derivation from SIT, which claims that one may identify further with a particular ethnolinguistic group, depending on the ethnolinguistic vitality of a specific community (Landry et al., 2005). Thus, one may identify with more than one community, depending on the number of community resources and social institutions accessible to the linguistic groups. Self-determination theory (Deci & Ryan, 2000) also indicates that identity may have varying degrees of internalization. Through exploration and imitation of social roles and practice, we may begin to internalize different aspects of ourselves and acquire different identities (Ryan & Deci, 2003).

#### *Identity Formation and Maintenance*

The development of an identity during childhood and early adolescence is caused primarily by the interplay between biological, psychological, and societal influences. Long before visible signs of puberty are apparent, increased hormonal changes occur within one’s body (Kroger, 2007). This process can begin as early as seven years old for girls and eight for boys. The rapid bodily changes, along with maturity, bring out new questions surrounding one’s identity. At this time, many identity concerns surround affiliation and abandonment, that is, being accepted or left behind by others. Thus, it seems that the need for relatedness, being

recognized and acknowledged, and supported by one's family and friends are particularly important in identity formation.

The development and stability of an identity has been much debated among researchers (Meeus, Iedema, & Helsen, 1999; Waterman, 1999). Some adopt a life-long process perspective, in which identity formation begins in childhood and continues throughout life (Finkenauer et al., 2002; Smith, 1991), while others believe that once an identity is developed, it remains stable thereafter (Meeus et al., 1999). In self-processes research, a hierarchy of self has been proposed, as a unitary concept of self is insufficient to encompass such a complicated process (Marsh & Shavelson, 1985). In viewing these arguments from a hierarchical perspective, there is validity in both the life-long process and stable perspective, but from different levels. Marsh and Shavelson (1985) propose a hierarchy of self-concept, with global, academic and non-academic as the varying levels. Identity can exist at three different levels: the global level, the contextual level, and the situational level.

Presenting identity as a stable entity adopts the highest level of the hierarchy, the global level, signifying that a person has developed a global (or general) identity. This level reveals that the self remains stable across contexts, situations, and circumstances; it is part of who we are. Viewing identity as a life-long process adopts the contextual level, revealing that different contexts (e.g. education, leisure) may influence our identity. We have varying motivations to different contextual environments, which can, in turn influence what and how we identify. According to SIT, we have multiple social identities (i.e., contextual) that help define who we are (i.e., our global identity; Abrams, 1992). When studying identity at the situational level, it is investigated at a particular time during a particular activity. At this level, identity is responsive to the environment, and thus considered relatively unstable. Clement and colleagues (2001)

adopt a situated-identity approach, in which identities are composed of numerous self-representations and self-categorizations, indicating that different social determinants can influence our identity (Clement, Noels & Deneault, 2001). Clement and Noels (1992), for example, investigated participants' daily identification levels and situational characteristics. Differences in identification across a variety of situations occurred, thereby demonstrating that a situated approach to identity is valid and that different situational characteristics can influence identification at a specific point in time. It is important to distinguish among the different identity levels because "the range of possible identities available to any individuals is larger than before" and "the latitude given to individuals to pursue different identities is considerable" (Ryan & Deci, 2003, p. 253). Schwartz (2008) further pointed out that "there clearly is identity activity occurring during early adolescence" (p. 10), thus distinguishing among different identity levels become more significant as identity is influence by contexts in the family, peer and school domain.

Among multilinguals, however, numerous situations and social-contexts have an influence on how one may identify with a culture over another. When a language is dominant within society, for example, developing children and adolescents find it relatively easy to identify with because their social environment is supportive of their basic needs (Landry, 1995). However, when a language is not dominant within society, identification with that language is more challenging, because one's basic needs may not be satisfied. Downie, Magneau, Kostner, and Liodden (2006) evaluated how the effects of young adults with a multicultural identity influenced their daily social interactions. Individuals who adopted a chameleon-like approach towards their cultural identity believed that their heritage culture was less valued by others and also reported lower well-being. Individuals who perceived their heritage culture was less valued

may not have their basic needs satisfied, which may have led to their chameleon-like identity. The negative effects on one's well-being by compartmentalizing one's ethnic minority identity has also been shown in Downie, Koestner, ElGeledi, and Cree (2004). They investigated tricultural individuals' internalization process, their basic need satisfaction, and its association with well-being. They found that individuals with greater internalization reported greater fulfillment of their basic needs and positive well-being. In contrast, individuals who reported less internalization, reported that their basic needs were unfulfilled and negative well-being. Downie et al.'s (2004; 2006) research points towards the importance of considering individuals' needs for autonomy, competence and relatedness. Unfortunately, among linguistic minority environments, the need for relatedness and connectedness may prove to be more difficult when a social context or group does not speak that language or understand the complexities of bilingualism. Among developing children and adolescents this is particularly important because they are striving for affiliation and autonomy (Keagan, 1982).

Providing children and adolescents with practicing activities may help utilize their language and development, while meeting their needs for connectedness and autonomy. Practicing activities may also help develop language proficiency and competence. Research among monolingual children and adolescents confirms that home and school experiences greatly influence vocabulary acquisition (Tabors, Roach & Dickenson, 2001; Uchikoshi, 2006). Social contexts, such as schools, allow for daily interactions with teachers and peers through reading and instruction time, while at home, there is reading time, television viewing, parental and sibling contact, Internet, and music. Tabors et al. (2001) found that children who live in literacy-rich home and school environments learn more words that are new and improved their lexicons more, compared to children who live in literacy-poor home and school environments. Thus,

such social environments among monolingual children and adolescents provide support for practicing activities and help utilize and increase competency in their language, and help develop connectedness with others and autonomy.

Fewer studies, however, have examined how home and school practicing activities among multilinguals influence language proficiency. Cummins (1981) suggests that additive bilingualism is encouraged with parent-child activities or teacher-student activities such as reading stories and spending time in both languages. Among Spanish-English bilingual children, Spanish use at home was significantly related to the performance in that language (Gutiérrez-Clellen & Kreiter, 2003). It thus seems that home language-practicing activities are important among bilingual children. Kalia (2007) further examined language-practicing activities, by investigating the role of book-reading practices in Indian bilingual children's English language and literacy development. Book-reading practices strongly related to children's English language skills (Kalia, 2007). This highlights the importance of home book reading practices among bilingual parents in their children's English language literacy development. Although both Gutiérrez-Clellen and Kreiter (2003) and Kalia (2007) highlight the importance of practicing activities among multilingual children, neither study investigated minority homes nor school languages. To my knowledge, no research has explored how home and school practicing activities of a minority language among multilinguals influences their language proficiency. This may be why indirect evidence was used to get a better perspective. Nevertheless, Gutiérrez-Clellen and Kreiter's (2003) and Kalia's (2007) studies are important because they demonstrate that practicing activities among multilinguals are important.

Previous research has not examined how practicing activities may influence language identity. Such research is crucial because many bilingual children and adolescents are faced with

the pressure of having to identify with two languages, where these pressures can greatly influence their perceptions towards their social environments, as well as their motivations toward practicing activities and identification. A social environment that may not support one's basic needs for autonomy, competence, and relatedness could lower motivational levels and practicing activities, which may in affect one's identification levels. Canadian francophones, for example, face such challenges when children may not feel that they have the choice to speak French, may not feel competent in their French written or oral skills, or may not feel close to their Francophone friends or teacher. Such children may be less motivated to engage in French reading or writing, and ultimately may identify less with the culture and language. Therefore, it is important to research how a social environment can be supportive of one's need for autonomy, competence and relatedness, in turn nurturing the internalization of an identity.

Although several social environments may influence the internalization of a francophone identity, francophone schools in linguistic minority environments could play a major role in the satisfaction of the basic needs, the encouragement of practicing activities, and the internalization of a francophone identity. Nevertheless, breaks from the academic environment may have significant effects, particularly when the society surrounding francophone students is primarily English. Previous studies among monolingual students have examined the effect of the summer break on math and spelling performance of second- through fifth-grade students, finding that the younger students had regressed in spelling while the older students had regressed in math (Allinder, Fuchs, Fuchs, & Hamlett, 1992). More recently, Cooper, Nye, Charlton, Lindsay, and Greathouse (1996) conducted a meta-analysis, which revealed that the summer holidays equalled about a one month loss of class time; the effect was greater for math than reading and spelling. The authors' suggested explanation was the different opportunities available to practice varying

academic material over the summer, such as reading practice being easier than math practice (Cooper et al., 1996). Thus, research has demonstrated that a summer break can have effect on reading, writing, and math skills among monolingual students, but no previous research has investigated the effects of a break in the academic environment among bilingual students living in a minority context; that is, a change from their predominantly French social environment to a predominantly English social environment.

### *Present Study*

The aim of the present study was to investigate the socio-educational environment of francophone minority students and its importance in developing and maintaining an francophone identity. Because children are still developing their identity, I was interested in seeing which social environment (i.e. academic, family, friends) facilitate the identification process. I was interested in examining students' francophone identity in an attempt to determine how different social environment influence how francophone students who live in minority contexts identify with their francophone culture and language. More importantly, I wanted to investigate whether a change in one social environment influences francophones' identity levels and to examine whether social environment supports francophone identity over time. The participants completed questionnaires at three points in time, before the holiday break (early December), after the holiday break (early January) and in early February. The holiday break was unique in that students are outside of the academic environment for two weeks, allowing a test of the maintenance of francophone identity as students move from a predominantly French social environment to a predominantly English social environment. The following hypotheses were proposed for each time measured.

*Before the academic break.* In December (Time 1), students were asked to complete questionnaires about their social environment, basic psychological needs, internalization of an identity, French practicing activities, and francophone identity. First, I hypothesized that a social environment supportive of students' basic psychological needs would influence greater French practicing activities (Hypothesis 1). Second, I hypothesized that a social environment supportive of students' basic psychological needs would influence a greater internalization of a francophone identity (Hypothesis 2). Third, I hypothesized that practicing activities and internalization would in turn influence identity (Hypothesis 3).

*Following the academic break (identity maintenance).* The participants were asked to complete questionnaires about their social environment, basic psychological needs, internalization, practicing activities during the Christmas holiday, and identity. First, I hypothesized that a social environment that is supportive of students' basic psychological needs would contribute to internalization (Hypothesis 4). I further hypothesized that social environment supportive of students' basic psychological needs for autonomy, competence and relatedness would contribute to practicing activities and internalization, which in turn would influence identity maintenance from Time 1 to Time 2 (Hypothesis 5).

*One-month follow-up (identity maintenance).* At Time 3, the participants completed measures from Time 1, and practicing activities during the past month. It was hypothesized that social environment that is supportive of students' basic psychological needs for autonomy, competence and relatedness would contribute to both internalization and practicing activities, which would in turn influencing identity maintenance from Time 1 to Time 3 (Hypothesis 6). I further hypothesized that the social environment would also directly influence practicing

activities, and in turn would influence identity maintenance from Time 1 to Time 3 (Hypothesis 7; Figure 1).

## Method

### *Participants*

Invitation letters were sent to fifteen elementary schools belonging to French school boards (Appendix A). Two schools in Southern Ontario expressed interested in participating in the study. Upon receiving consent from the participating schools, all students ranging from grade 3 to grade 8 participated in the current study. Two hundred and seventy-six participants were recruited. They were students ranging from grade three to eight in two French elementary schools in southern Ontario, Canada. The participating schools belong to French school boards, in which 100% of class time (other than English class) is spent speaking in French. All participants know French. The average age of the students was 10.50 ( $SD = 1.73$ ).

Of 65 students from School A, 45 participants participated from Time 1, 50 from Time 2, and 48 from Time 3. No parental consent forms were returned on which parents wished that their children's data not be analyzed. However, on five permission forms students indicated 'no' on their envelopes for all three times (7.7%). All remaining students had no parental permission forms returned to their teachers (15.4 %).

Of 305 students from School B, 198 participants participated from Time 1, 200 from Time 2, and 187 from Time 3. Sixteen parental consent forms were returned on which parents wished that their childre's data not be analysed (5.2%). However, on five permission forms students indicated 'no' on their envelopes for all three times (1.6%). All remaining students had no parental permission forms returned to their teachers (27.5%).

### *Procedure*

In order to avoid social exclusion and breaches of anonymity, the present study was presented as a classroom activity in which all students participated. Prior to starting the activity, the researcher asked each student to write a matching code on their envelope: (1) the first three letters of their dad's first name, (2) the first three letters of their mom's first name and (3) their day of birth. The matching code ensures that the responses would remain anonymous while allowing the researchers to match responses across time.

After the students wrote their code on their envelope, the researcher began the classroom activity with the students. For students within grade 3 to 6, the questions were read aloud, ensuring that the activity was done all together as a class, while ensuring that students fully understood each question. At the same time, the researcher assured that all student questions or concerns were addressed. The students were asked to complete the activity in silence. Students in grade 7 and 8 were invited to complete the activity independently and in silence, raising their hands for any questions or concerns they may have. The researcher asked them place the booklet in their envelope. The researcher asked students for their permission to open their envelopes and use their answers for the study. If students wished to give their permission, they wrote a "oui" or a check mark on their envelope, and if they did not grant their permission, they indicated a "non" or an "X". The same procedures were used for Time 2 and Time 3.

Although each student was responsible for giving the researchers permission, parents were also asked to give their consent (Appendix B). Parental information letters were sent home with the children prior to the commencement of the study, outlining the objectives and procedures of the study. The parents were asked to return a letter to their child's teacher, indicating the child's matching code, as well as whether they granted the researchers permission

to analyze their child's responses. In order for the researchers to open the participant's envelope, both parental permission and child permission were required. All participants were treated in accordance with the "ethical principles of psychologist and code of conduct (American Psychological Association, 2001).

### *Measures*

*Demographic information.* A demographic questionnaire assessed participants' age, sex, grade, and language spoken at home (either by them or their family). All questions were asked in French.

*French-practicing activity.* Different practicing activities were assessed by asking participants the degree to which they speak to their parents, siblings, extended families, school friends and out-of-school friends in French, English and/or another language, as well as the degree to which they watch French TV, listen to French music, read French books, use French internet. Similarly, participants also indicated the extent these French activities were used over the Christmas holidays (Time 2) and since the Christmas holidays (Time 3). One's French practicing activities were evaluated based on participants' answers that range from one (i.e. "no") to five ("yes, all the time"), providing an average French practicing activity score. The questionnaire was in French.

*Perceived support of the basic psychological needs.* Based on the Basic Need Satisfaction in General Scale (Williams & Deci, 1996), a perceived support of the basic psychological needs questionnaire was created to assess the degree to which support of autonomy, competence and relatedness were satisfied by teachers, friends and parents. Each perceived support scale starting with the statement "When I am with my parents/teachers/friends," followed by 9 items for teachers, 9 items for parents, and 8 items for

friends. For each item, participants were asked to rate their degree of support on a 5-point scale, ranging from one (i.e. "no") to five (i.e. "yes, all the time"). Examples of items were: "I feel I have the choice to express myself in French" (autonomy support); "I feel they help me to improve my French capacities" (competence), "I feel I have a good relationship with my parents/teacher/friends" (relatedness). The questionnaire was in French. A maximum likelihood factor analysis revealed a one-factor solution for both parents and teachers; therefore, the scores were combined, so that higher score reflects greater perceived satisfaction of the basic psychological needs for parents and teachers. Maximum likelihood factor analyses did reveal a two-factor solution for friends at Time 1; however, all analyses were conducted with a global score as well as a two-factor solution, where there was no difference within the scores. As such, the global score was used because there was no result difference and for consistency purposes. Reliabilities for the scales were at Time 1 (parents:  $\alpha = .77$  for 9 items; teacher:  $\alpha = .75$  for 9 items; friends:  $\alpha = .63$  for 8 items), at Time 2 (parents:  $\alpha = .78$  for 9 items), and at Time 3 (parents:  $\alpha = .82$  for 9 items; teacher:  $\alpha = .78$  for 9 items; friends:  $\alpha = .78$  for 8 items).

*Francophone identity.* Identity was assessed by asking participants to indicate the degree to which they felt francophone and anglophone, the degree to which they expressed themselves in French and English, and the degree to which they want to continue expressing themselves in French and English and be francophone or anglophone.<sup>2</sup> Participants were asked to rate this on a 5-point scale on four items, ranging from one (i.e. no) to five (yes, all the time). Similar to the social environment scale, a francophone identity score was provided. A higher francophone identity score indicates that the participant predominantly identifies as francophone. Reliabilities

---

<sup>2</sup> Because this study's hypotheses focused on francophone identity, anglophone identity was not explored and will not be discussed further.

for identity for the 4-items at each time were .76, .74, and .78, respectively. The questionnaire was in French.

*Internalization of an identity.* A method developed by Chirkov, Ryan, Kim, and Kaplan (2003) and further adapted by Downie et al. (2004, 2007) was used to assess the degree of internalization of identity. Participants were asked reasons for why they felt francophone or anglophone, why they expressed themselves in French and why they would like to continue expressing themselves in French and be francophone. The degree of internalization was assessed by asking participants to choose among four possible internalization levels for participating in the francophone language and culture: External regulation for family “because my family asks me to,” external regulation for teachers “because my teacher asks me to,” introjected regulation “because if I didn’t, I would feel bad and I feel I do not have the choice,” identified regulation “because I feel it is exactly who I am and it is what I want” and intrinsic motivation “because I find it fun.” An internalization index was calculated, based on Ryan and Connell (1989):  $(2 \text{ Intrinsic} + (1 \text{ Identified} - \text{Introjected} - 2(\text{External-teacher}) + (\text{External-parents})/2)$ . Higher values indicate greater internalization of an francophone identity. Reliabilities for internalization of identity (3 items) were the following for each time: .88, .88, and .90, respectively.

#### *Overview of Analytical Strategy*

Any relationship between independent and dependent variables should have the statistical assumptions tested before conducting any hypothesis testing. As such, preliminary analyses of the assumptions of normality, outliers, multicollinearity, homoscedasticity, independence and normality of residuals were conducted. Next, the internal reliability analyses were conducted on the measures in order to determine whether the items were performing adequately and could be retained. Subsequently, maximum likelihood factor analyses using direct oblimin rotation

investigated the factor structure of the retained items was used to estimate the number of manifest variables, scree plots, eigenvalues, component loadings were explored. Next, multiple regressions were performed to test hypotheses 1 through 6.

The last hypothesis (Hypothesis 7) was tested using hierarchical linear modeling (HLM). Some advantages of HLM involve its flexibility in research design, in that not every participant is required to have the same number of waves and the design may be multilevel (e.g., time within students), or the advantage of identifying temporal patterns in the data, such as determining whether the general pattern is linear or non-linear. Another advantage of HLM is its ability to include time-varying predictors or interactions with time. Given HLM advantages in analyzing longitudinal data, we investigated the last hypothesis that a social environment that is supportive of needs would contribute to internalization and practice, in turn having an on influence identity maintenance (Time 1, 2, 3), using HLM. The following HLM equations were predicted as our final model<sup>3</sup>:

Level-1:

$$\text{Identity} = \beta_0 + \beta_1 (\text{Time}) + \beta_2 (\text{Time}^2) + \beta_3 (\text{Internalization}) + \beta_4 (\text{Practice}) + E$$

Level-2:

$$\beta_0 = \gamma_{00} + \beta_{01} (\text{Sex}) + \gamma_{02} (\text{Age}) + \gamma_{03} (\text{Needs\_parents}) + \gamma_{04} (\text{Needs\_teacher}) + \gamma_{05} (\text{Needs\_friends}) + r_0$$

$$\beta_1 = \gamma_{10} + \gamma_{11} (\text{Sex}) + \gamma_{12} (\text{Age}) + \gamma_{13} (\text{Needs\_parents}) + \gamma_{14} (\text{Needs\_teacher}) + \gamma_{15} (\text{Needs\_friends}) + r_0$$

$$\beta_2 = \gamma_{20} + \gamma_{21} (\text{Sex}) + \gamma_{22} (\text{Age}) + \gamma_{23} (\text{Needs\_parents}) + \gamma_{24} (\text{Needs\_teacher}) + \gamma_{25} (\text{Needs\_friends})$$

$$\beta_3 = \gamma_{30}$$

$$\beta_4 = \gamma_{40}$$

---

<sup>3</sup> Because the study's sample size was restricted and the number of degrees of freedom, random variance components could only be tested on the level-2 intercept and time equations.

## Results

### *Assumptions*

The means and standard deviations of all variables are presented in table 1. The preliminary analyses conducted involved testing the assumptions of normality, outliers, multicollinearity, homoscedasticity, independence, and normality of residuals.

*Normality.* The assumption of normality was investigated by plotting histograms with a superimposed normal curve. In addition, normal PP plots, skewness and kurtosis were examined. Although the kurtosis of perceived basic need support by teachers at Time 1 and 3 was relatively higher compared to others (i.e.  $\sim +2$ ), many researchers consider that a kurtosis  $\pm 3$  remains a good indicator of normality (Tabachnick & Fidell, 2007). The tests revealed that all variables were normally distributed.

*Outliers.* In order to check for outliers, the variables were standardized. To be considered an outlier, the case number had to be greater  $\pm 3$  (Tabachnick & Fidell, 2007). All scores were within acceptable limits, indicating that there were no outliers present. Therefore, this indicates that there was no inflation in error influencing the regression line.

*Multicollinearity.* Correlational analyses were conducted to investigate whether any of the predictors were highly correlated with each other. All correlations were reasonable, which indicates that the regression coefficients will not have large standard errors caused by this.

*Homoscedasticity.* Plotting the standardized residual against the standardized predicted value tested the assumption of homoscedasticity. This provides information about the variance of the residuals around the regression line and whether it is constant. The assumption of constant variance of the residuals regardless of the value of X was met, indicating that homoscedasticity

was met. This provides valuable information in regards that the regression coefficients remaining unbiased, and the standard errors and significance tests will be similar to the correct values.

*Independence of Residuals.* The residuals must demonstrate no relationship with any cases in the sample to indicate that they are independent. This assumption was tested using the Durbin-Watson measure, which must be in between 1.5 and 2.5 to indicate that the residuals are independent. Durbin-Watson was between this value; therefore, this assumption was met.

*Normality of Residuals.* The normal distribution and PP-plot demonstrated that the residuals around the regression line were normally distributed.

*Before the Academic Break: Predicting Identity at Time 1 (Hypotheses 1-3).*

A multiple regression analysis was conducted to determine whether basic need support from parents, teachers and friends was predictive of practice, while controlling for age and sex (Hypothesis 1). Correlations among all variables investigated in hypothesis 1 to 3 are presented in Table 2. Practice was significantly and negatively correlated with age ( $r = -.28$ ), and positively correlated with basic need support from parents ( $r = .59$ ), teachers ( $r = .30$ ), and friends ( $r = .52$ ). Results from the multiple regression analyses are presented in Table 3. Taken together, the five predictors account for 42.1% of the variability in practice ( $F(5, 204) = 29.82, p < .001$ ). Basic need support from parents was a significant predictor ( $\beta = .47$ ) and accounted for 11.56% of the variability in practice. Similarly, basic need support from friends was a significant predictor in practice ( $\beta = .40$ ), which uniquely accounting for 6.66% of the variance. Apparently, basic need support from parents and friends are important predictors in practicing activities.

In order to determine whether basic need support from parents, teachers, and friends were predictive of internalization (Hypothesis 2), a second multiple regression was conducted.

Internalization was significantly and positively correlated with basic need support by parents ( $r = .19$ ), teachers ( $r = .13$ ), and friends ( $r = .32$ ), and practice ( $r = .22$ ). The results from the regression analysis for hypothesis 2 are presented in Table 4. Taken together, the five predictors accounted for 11.50% of the variability in internalization ( $F(5,204) = 5.30, p < .001$ ). Basic need support from friends was a significant predictor ( $\beta = .31$ ) and uniquely accounted for 4.84% of the variance in internalization. Basic need support from parents and teachers were not significant predictors. Apparently basic need support from friends is an important component in the internalization of francophone identity.

A third multiple regression analysis was conducted to determine whether internalization, practice were predictive of francophone identity at Time 1 (Hypothesis 3).<sup>4</sup> From Table 2, it is evident that identity was significantly and positively associated with basic need support by parents ( $r = .58$ ), teachers ( $r = .35$ ) and friends ( $r = .47$ ), practice ( $r = .67$ ), and internalization ( $r = .47$ ). Results of the regression analysis are presented in Table 5. Taken together, the six predictors account for 60.6% of the variability in francophone identity ( $F(6,203) = 51.977, p < .001$ ). Internalization was a significant predictor ( $\beta = .35$ ) and uniquely accounting for 10.50% of the variability of francophone identity. Practice was also a significant predictor ( $\beta = .399$ ) and explained 7.18% of the variance in francophone identity. A supportive parental social environment was also a significant predictor ( $\beta = .22$ ) and accounted for 2.34% of the variability. Age and basic needs support from teachers and friends were not significant predictors. Thus, it appears that internalization, practice and basic needs support from parents are important predictors of an francophone identity.

---

<sup>4</sup> Two-way interactions were tested, however, none were found to be significant.

In predicting practicing activities (Hypothesis 1) and internalization (Hypothesis 2), the results demonstrate that the basic needs are associated with the predictors. This essentially involved the initial test of our hypothesized model (Figure 1). Next, I tested whether internalization and practice mediated the relation between basic needs and identity. The results revealed an indirect mediational effect; when practice and internalization are included in the regression analysis, there is a reduction in the effect of basic needs. This provides initial evidence in the support of the hypothesized model that practicing activities and internalization mediate the relations between the basic needs and identity (Figure 2).

To summarize the results from Time 1, when the social environment supports of basic needs, there is an association with practicing activities (Hypothesis 1). Specifically, when friends and parents are supportive of the basic needs, there is a positive association with practicing activities. Second, when friends are supportive of the basic needs, there is also a positive association with internalization (Hypothesis 2). Third, internalization and practicing activities are in turn associated with identity (Hypothesis 3).

*After the Academic Break: Predicting Identity at Time 2 (Hypotheses 4-5)*

In Table 1, it can be seen that students' mean identity levels decreased by .04 from Time 1 to Time 2. This suggests that some students had increasing scores, others had decreasing scores and some may have stayed the same. Difference scores were calculated, where students having the available data for both Time 1 and Time 2, their Time 2 identity score was subtracted by their Time 1 identity score. A frequency analysis was conducted in order to get a clearer picture of the percentage of identity scores that increased, decreased, or stayed the same. Results are presented in Table 6. It can be seen that approximately forty percent of students had decreasing scores from Time 1 to Time 2, 35% had increasing scores, and 25.4% had no

difference. When the difference scores are disaggregated by age, younger students reveal a higher percentage of decreasing scores; however, by age 12, students have a higher percentage of increasing scores (Table 6).

In order to get further information on these results, multiple regression analyses were conducted. First, a multiple regression was conducted in order to determine whether parental basic need support at Time 2, practice at Time 2, and internalization at Time 1 were predictive of internalization at Time 2, controlling for age and sex (Hypothesis 4). Correlations among all variables investigated in hypotheses 4 and 5 are presented in Table 7. Internalization was negatively associated with sex ( $r = -.19$ ) and positively correlated with parental basic need support ( $r = .34$ ) and practice ( $r = .17$ ). The results of the multiple regression can be seen in Table 8. Together, the five predictors accounted for 48.1% of the variability in internalization ( $F(5, 211) = 39.163, p < .001$ ). Internalization at Time 1 was statistically significant ( $\beta = .62$ ) and accounted for 35.28% of the variance of internalization at Time 2. Parental basic need support was also a significant predictor ( $\beta = .22$ ) and uniquely accounted for 3.24% of the variability. Apparently, parental need support is an important predictor in the maintenance of internalization.

A second multiple regression was conducted to determine whether parental basic need support at Time 2 and practice at Time 1 were predictive of practice at Time 2 while controlling for sex and age. The results of the multiple regression can be seen in Table 9. Together, the four predictors account for 70.6% of the variability in practice ( $F(5, 205) = 98.067, p < .001$ ). Practice at Time 1 was statistically significant ( $\beta = .71$ ) and uniquely accounted for 37.45% of the variance of practice at Time 2. Parental basic need support was also significant ( $\beta = .26$ ) and uniquely accounted for 5.01% of the variability. Apparently, parental need support is an important predictor in the maintenance of practice.

A third multiple regression analysis was conducted to determine whether practice at Time 2, internalization at Time 2, support of basic needs from parents at Time 2, identity at Time 1 were predictive of a francophone identity at Time 2 while controlling for age and sex (Hypothesis 5).<sup>5</sup> Identity was negatively correlated with sex ( $r = -.17$ ) and positively associated with parental basic need support ( $r = .48$ ), practice ( $r = .49$ ), and internalization ( $r = .53$ ). The results from the regression analysis are presented in Table 10. Together, the five predictors accounted for 47.9% of the variability in identity at Time 2 ( $F(5,237) = 46.643, p < .001$ ). First, identity at Time 1 was a significant predictor ( $\beta = .51$ ) and uniquely accounted for 13.90% of the variability of identity at Time 2. Second, practice was also a significant predictor ( $\beta = .15$ ) and accounted for 1.12% of the variance of identity. Third, internalization was a significant predictor ( $\beta = .23$ ) and explained 4% of the variance. Finally, age was a significant predictor ( $\beta = .18$ ) and accounted for 3.17% of the variability. It thus appears that a child's age, practice and internalization are all important in identity change.

In conducting the previous three regression analyses, the results provide further evidence for the hypothesized model (Figure 1). Results suggest internalization and practicing activities mediate the relationship between parental basic need support and identity change (Figure 3). To summarize analyses from Time 2, for the maintenance of internalization and practice, parental basic need satisfaction was an important component (Hypothesis 4). Concerning identity change over the academic break, the results revealed that older children, more practicing activities, and higher internalization helped identity change (Hypothesis 5).

---

<sup>5</sup> Two-way interactions were tested, however, none were found to be significant.

*One Month Following the Academic break: Predicting Identity at Time 3 (Hypotheses 6-7).*

In Table 1, it can be seen that students' mean identity levels were maintained from Time 2 to Time 3. This suggests that some students had increasing scores, others had decreasing scores and some may have stayed the same. Difference scores were calculated, where students having the available data for both Time 2 and Time 3, their Time 3 identity score was subtracted by their Time 2 identity score. A frequency analysis was conducted in order to get a clearer picture of the percentage of identity scores that increased, decreased, or stayed the same. Results are presented in Table 6. It can be seen that approximately 39% of students had decreasing scores from Time 2 to Time 3, 37% had increasing scores, and 23.7% had no difference. Difference scores disaggregated by age are presented in Table 11.

In order to get further information on these results, multiple regression analyses were conducted. A multiple regression was conducted in order to determine whether basic need support by parents, teachers, and friends (Time 3), practice (Time 3), and internalization (Time 1 and 2) were predictive of internalization (Time 3) while controlling for age and sex. Correlations among the variables are presented in Table 12 and results from the multiple regression in Table 13. Together, the eight predictors account for 52.9% of the variability in practice ( $F(8, 179) = 27.302, p < .001$ ). Internalization at Time 1 ( $\beta = .25$ ) and at Time 2 ( $\beta = .52$ ) were significant predictors of internalization at Time 3. Parental basic need support was also significant ( $\beta = .38$ ) and uniquely accounted for 2.28% of the variability. Basic need support of friends was significant ( $\beta = .20$ ) and accounted for 1.96% of the variability. Apparently, parental need support and basic need support of friends are an important predictor in the maintenance of internalization.

A second multiple regression was conducted to determine if basic need support from parents, teachers and friends (Time 3) and practice (Time 1 and 2) were predictive of practice at Time 3 while controlling for sex and age. The results of the multiple regression can be seen in Table 14. Together, the seven predictors account for 74.6% of the variability in practice ( $F(7, 179) = 75.127, p < .001$ ). Practice at Time 1 ( $\beta = .51$ ) and Time 2 ( $\beta = .33$ ) were statistically significant. All other predictors were non significant.

A third multiple regression was conducted in order to determine whether perceived parental, teacher and friend support (Time 3), practice (Time 3), internalization (Time 3) and identity (Time 1 and 2) were predictive of identity at Time 3 (Hypothesis 6).<sup>6</sup> Results from the multiple regression can be seen in Table 15. Together, the nine predictors and interaction accounted for 68.4% of the variability in identity at Time 3 ( $F(11, 175) = 34.510, p > .001$ ). First, identity at Time 2 was a significant predictor ( $\beta = .40$ ) and accounted for 6.30% of the variability in identity at Time 3. Second, age was a significant predictor ( $\beta = .51$ ) and accounted 3.96% of the variability. Third, parental basic need support ( $\beta = .23$ ) was significant and accounted for 1.56% of the variability. Basic need support by friend was also significant ( $\beta = .76$ ), which accounted for 1.13% of the variance. Finally, internalization was found to be significant ( $\beta = .89$ ) and accounted for 2.22% of the variability. Further, one significant interaction emerged, friend need support and age accounted for 0.79% (Figure 3). A similar trend emerged from both children and pre-adolescent, when one perceived low basic need support from their friends, one demonstrated low internalization and identity levels. However, when children and pre-adolescents perceived their friends as supporting their basic need support, they had higher internalization and identity levels. Thus seems that age, parental and friend need

---

<sup>6</sup> Two-way interactions were tested; one was found to be significant: age by friends need support, which will be discussed further.

support, internalization, and friend need support by age all seem to be important predictors of identity at Time 3.

In conducting the previous three regression analyses, the results provide partial evidence for the hypothesized model (Figure 1). Results suggest internalization did mediate the relationship between basic need support and identity change (Figure 4). Basic need support from parents and friends directly influenced identity change. Basic need support however was not associated with practicing activities. Furthermore, practicing activities were not related to identity change at Time 3.

### *Identity Evolution*

The last hypothesis required the use of hierarchical linear modeling (HLM). One advantage of using HLM over regression analyses is its tendency to take into account nesting effects, such that time is nested within students, students are nested within classrooms, and classrooms are nested within schools. Another advantage involves its flexibility in research design, that is, not every participant is required to have the same number of waves and the design may be single level (individual level) or multilevel (e.g., time within students), or the advantage of identifying temporal patterns in the data, such as determining whether the general pattern is linear or non-linear.

The HLM analysis had five individual-level variables: (a) the outcome  $Y_{ti}$ , a measure of francophone identity (Identity); and (b) four predictors, (Time), time variable centered at 0, ( $\text{Time}^2$ ), which is the TIME predictor squared, (Internalization), students' mean internalization levels, and (Practice), students' mean practice levels. Time-level variables include (Age) students' ages, (Sex), an indicator variable taking on a value of one for males and zero for females, (Needs\_parents), students' ratings perceived level of support of basic needs by their

parents at each time assessed, (Needs\_teachers), students' ratings of perceived support of basic needs by their teachers at each time assessed, and (Needs\_friends)<sub>t</sub>, students' ratings perceived support of basic needs by their friends at each time assessed.

An unconditional, or baseline model provides useful empirical evidence for determining preliminary information about how much variance in the outcome variable, Y(Identity)<sub>ti</sub>, lies within and between individuals, as well as useful baseline statistics for evaluating subsequent level-2 models. The baseline model is:

$$Y(\text{Identity})_{ti} = \beta_{oi} + E_{ti}$$

$$\beta_{oi} = \gamma_{oo} + r_{oi}$$

This model characterizes identity within each student with only the intercept,  $\beta_{oi}$ , which in this case is the mean. At level-2, each individual's mean identity,  $\beta_{oi}$ , is represented by the grand mean,  $\gamma_{oo}$ , and random error,  $r_{oi}$ . From Table 16, we see that the estimate for the grand mean equals 3.55 ( $\gamma_{oo}$ ) and has significant variability ( $r_{oi}$ ). At level-1, the variance component ( $E_{ti}$ ) equals 0.27. Because both variability components were significant, students' identity levels are shown to vary significantly at baseline.

It is also useful to calculate the intraclass correlation, which is a calculated percentage of variance in the outcome variable between individuals (Raudenbush & Bryk, 2002). The proportion of variance in identity between individual calculations can be seen below:

$$\text{Rho} = \tau_{oo} / (\tau_{oo} + E_{ti}) = 0.60 / 0.60 + 0.27 = 0.69^7,$$

indicating that about 69% of the variance in identity is between individuals.

Having identified a baseline model, we can elaborate the following model to include a Time predictor<sup>8</sup>. Model A is depicted by the following equations:

---

<sup>7</sup> At level-2,  $\tau_{oo}$  represents the variance of the true student means,  $\pi_{oi}$ , around the grand identity mean ( $\beta_{oo}$ ).

$$Y(\text{IDENTITY})_{ti} = \beta_{oi} + \beta_{1i} (\text{Time}) + E_{ti}$$

$$\beta_{oi} = \gamma_{oo} + r_{oi}$$

$$\beta_{1i} = \gamma_{10} + r_{1i}$$

where  $\gamma_{oo}$  is the intercept and  $\gamma_{10}$  is the effect of Time on  $\beta_{1i}$ . Table 16 provides the estimates, fixed effects, and variances of the random effects. From Table 16, I see that there is no significant association between Time ( $\beta_{1i} = -.02$ ) and identity; however, Time has a significant variability component ( $r_{oi} = 0.27$ ), indicating that there is still significant variability between times. The residual variance between students ( $\tau_{oo} = 0.56$ ) has decreased since the baseline model ( $\tau_{oo} = 0.60$ ), and remains significant. In comparing the  $\tau_{oo}$  estimates from the current model and the baseline model, I can see how much variance the current model accounts for at Level-2. The proportion of variance explained by the model is:

$$\begin{aligned} & \tau_{oo} (\text{Baseline}) - \tau_{oo} (\text{Model A}) / \tau_{oo} (\text{Baseline}) \\ & = 0.60 - 0.56 / 0.60 = 0.07 \end{aligned}$$

meaning that 7% of the total variance is accounted for by between-group differences. It is also useful to calculate how much variance the current model accounts for at Level-1 by comparing the  $\sigma^2$  estimates. Thus the proportion of variance explained at Level-1 is

$$\begin{aligned} & \sigma^2 (\text{baseline}) - \sigma^2 (\text{Model A}) / \sigma^2 (\text{Baseline}) \\ & = 0.27 - 0.20 / 0.27 = 0.26 \end{aligned}$$

thus by adding Time as a predictor of identity reduced the within-student variance by 0.26, concluding that Time accounts for about 26% of the time-level variance in the outcome.

---

<sup>8</sup> Time was centered so that Time 1 = -1, Time 2 = 0, and Time 3 = 1. Time was centered in accordance with our prediction that there was a decrease after the academic break, and then an increase.

Model A helped test the linearity of our slope, Model B helped test the curvilinearity of the slope revealed that the model can now be expanded to incorporate a second predictor, Time<sup>2</sup>.

Model B is depicted by the following equations:

$$Y(\text{IDENTITY})_{ti} = \beta_{oi} + \beta_{1i} (\text{Time}) + \beta_{2i} (\text{Time}^2) + E_{ij}$$

$$\beta_{oi} = \gamma_{0o} + r_{oi}$$

$$\beta_{1i} = \gamma_{1o} + r_{1i}$$

$$\beta_{2i} = \gamma_{2o}$$

where  $\gamma_{0o}$  is the intercept and  $\gamma_{1o}$  and  $\gamma_{2o}$  are the effect of Time and Time<sup>2</sup> on  $\beta_{oi}$ . Because we are restricted in sample size and the number of degrees of freedom, Time<sup>2</sup> random variance components could not be tested. Time represents the growth rate, whereas Time<sup>2</sup> captures the curvature of each student's growth rate. Table 16, we see that the average growth rate is close to zero and the curvature is negative, but very small. Time variance component ( $r_{oi} = 0.27$ ), however, remains statistically significant, indicating that there is still significant variability among students. The residual variance between students ( $\tau_{oo} = 0.56$ ) remains stable and significant since Model A.

With the linearity and curvilinearity of identity tested, I moved on to testing psychological independent variables. The previous model was elaborated to include internalization and practice; both predictors were tested simultaneously as neither predictor has precedence over the other. Model C is represented by the following equations:

$$Y(\text{IDENTITY})_{ti} = \beta_{oi} + \beta_{1i} (\text{Time}) + \beta_{2i} (\text{Time}^2) + \beta_{3i} (\text{Internalization}) + \beta_{4i} (\text{PRACTICE}) + E_{ij}$$

$$\beta_{oi} = \gamma_{0o} + r_{oi}$$

$$\beta_{1i} = \gamma_{1o} + r_{1i}$$

$$\beta_{2i} = \gamma_{2o}$$

$$\beta_{3i} = \gamma_{3o}$$

$$\beta_{4i} = \gamma_{4o}$$

As can be seen from Table 16, all Level-1 variables are statistically significant. The intercept ( $\beta_{0i} = 2.08$ ) remains significantly positive, with significant variations between students. Both the average growth rate ( $\beta_{1i} = -.38$ ) and the curvature ( $\beta_{2i} = .61$ ) became significant with the additional predictors. I see that the average growth rate is negative and the curvature is positive. This indicates that the students' average identity growth rate from Time 1 to Time was negative, but having a positive curvature indicates it tends to increase from Time 2 to Time 3.

Time ( $\beta_{1i}$ ) variance component ( $r_{0i} = 0.19$ ) remains statistically significant, indicating that there is still significant variability among students. Both internalization ( $\beta_{3i} = 0.08$ ) and practice ( $\beta_{4i} = 0.48$ ) were significantly associated with identity.

Subsequently, sex and age were tested independently for the intercept (Model D), Time (Model E) and Time<sup>2</sup> (Model F). Table 16 illustrates the results from these models. When testing sex and age for the intercept in Model D, results revealed that when conditioning the intercept, only sex ( $\gamma_{01} = 0.25$ ) was statistically significant. When conditioning Time with sex and age in Model E, only age ( $\gamma_{12} = 0.06$ ) was significant. Neither sex nor age were statistically significant for Model F. All non significant variables were excluded from the following models.

In order to determine whether perceived basic need support has an overall influence on students' identification levels, our model was elaborated to include perceived basic need support by parents, teachers and friends at the intercept level. Model G is depicted by the following equations:

$$Y(\text{IDENTITY})_{ti} = \beta_{0i} + \beta_{1i} (\text{Time}) + \beta_{2i} (\text{Time}^2) + \beta_{3i} (\text{Internalization}) + \beta_{4i} (\text{Practice}) + E_{ij}$$

$$\beta_{0i} = \gamma_{00} + \gamma_{01} (\text{Sex}) + \gamma_{02} (\text{Needs\_Parents}) + \gamma_{03} (\text{Needs\_Teacher}) + \gamma_{04} (\text{Needs\_Friends}) + r_{0i}$$

$$\beta_{1i} = \gamma_{10} + r_{1i}$$

$$\beta_{2i} = \gamma_{20}$$

$$\beta_{3i} = \gamma_{30}$$

$$\beta_{4i} = \gamma_{40}$$

As can be seen from Table 16, all Level-1 predictors remain significant when conditioning the intercept. The average growth rate remains negative with positive curvature. Among the conditioning predictors, it is clear that perceived basic need support by parents ( $\beta_{2i} = 0.23$ ) and friends ( $\beta_{4i} = 0.14$ ) were statistically significant, revealing that when students reveal believe their basic needs are supported by parents and/or friends, their overall identity increases by at least 0.14 points. Time ( $\beta_{1i}$ ) variance component ( $r_{oi} = 0.05$ ) remains statistically significant, indicating that we still have significant variability among students with respect to their growth trajectories.

Because one of main hypotheses involved testing whether perceived basic need support by parents, teachers and friends influence students identification growth, the previous model was elaborated to include perceived basic need support by parents, teachers and friends on the Time slope. Model H is represented by the following equations:

$$Y(\text{IDENTITY})_{ti} = \beta_{0i} + \beta_{1i} (\text{Time}) + \beta_{2i} (\text{Time}^2) + \beta_{3i} (\text{Internalization}) + \beta_{4i} (\text{Practice}) + E_{ij}$$

$$\beta_{0i} = \gamma_{00} + \gamma_{01} (\text{Sex}) + \gamma_{02} (\text{Needs\_Parents}) + \gamma_{03} (\text{Needs\_Friends}) + r_{oi}$$

$$\beta_{1i} = \gamma_{10} + \gamma_{11} (\text{Age}) + \gamma_{12} (\text{Needs\_Parents}) + \gamma_{13} (\text{Needs\_Teacher}) + \gamma_{14} (\text{Needs\_Friends}) + r_{1i}$$

$$\beta_{2i} = \gamma_{20}$$

$$\beta_{3i} = \gamma_{30}$$

$$\beta_{4i} = \gamma_{40}$$

From Table 16, the average growth rate remains negative ( $\beta_{10} = -1.27$ ) meaning that across time, on average, identity scores tends to decrease by 1.27 points over time. Age was also significant and positive ( $\gamma_{11} = 0.06$ ), indicating that older students identity scores tend to decrease at a slower rate over time. Perceived basic need support by teachers was also significant ( $\gamma_{13} = 0.09$ ), indicate that the negative growth trajectory is less steep when a student perceives that their

basic needs are supported by their teachers, specifically, across time their identity scores tend to decrease by 1.18 points over time. Time ( $\beta_{1i}$ ) variance component ( $r_{oi} = 0.05$ ) remains statistically significant, indicating that we still have significant variability among students with respect to their growth trajectories.

To test whether perceived basic need support has an influence on the curvature of the growth trajectories, our model was elaborate once again to include perceived basic need support by parents, teachers and friends on the Time<sup>2</sup> slope. None of the correlates were statistically significant in Model I (see Table 16), and will be excluded from the final model. Our final model is represented by the following equations:

$$Y(\text{IDENTITY})_{it} = \beta_{oi} + \beta_{1i}(\text{Time}) + \beta_{2i}(\text{Time}^2) + \beta_{3i}(\text{Internalization}) + \beta_{4i}(\text{Practice}) + E_{ij}$$

$$\beta_{oi} = \gamma_{o0} + \gamma_{o1}(\text{Needs\_Parents}) + \gamma_{o2}(\text{Needs\_Friends}) + r_{oi}$$

$$\beta_{1i} = \gamma_{10} + \gamma_{11}(\text{Age}) + \gamma_{12}(\text{Needs\_Teacher}) + r_{1i}$$

$$\beta_{2i} = \gamma_{20}$$

$$\beta_{3i} = \gamma_{30}$$

$$\beta_{4i} = \gamma_{40}$$

Perceived parental basic need support ( $\gamma_{o1} = 0.24$ ) was positively related to overall identity, indicating that when students believed that their basic needs are being supported by their parents, their overall identity score increases by 0.24. Also, perceived basic need support by friends is positively associated with identity ( $\gamma_{o2} = 0.14$ ), revealing that students perceiving their basic needs are support by their friends, increased their overall identity by 0.14, controlling for the effect of parental need satisfaction.

Concerning the growth trajectory, there is a tendency for this slope to be negative across time ( $\gamma_{10} = -1.25$ ). The variations in the individual growth trajectories were models as a function

of age and teacher need support. Age had a significant effect on the deceleration of individuals' growth trajectories across time ( $\gamma_{11} = 0.06$ ), revealing that as students age, the decreasing effects of their identity levels tend to, on average, be less pronounced. Similarly, perceived basic need support by teachers also had a reverse effect on the deceleration of students' growth trajectory. Specifically, students who perceived that their teachers are supporting their basic needs tend to weaken the effect by 0.09. Time variability component remained statistically significant ( $r_{oi} = 0.05$ ), revealing that there is still significant variability among students' identity levels across time. The residual variance between students ( $\tau_{oo} = 0.15$ ) decreased significantly compared to the baseline model ( $\tau_{oo} = 0.60$ ), and remains statistically significant. In comparing the  $\tau_{oo}$  estimates from the final model and the baseline model:

$$\begin{aligned} & \tau_{oo} (\text{Baseline}) - \tau_{oo} (\text{FINAL}) / \tau_{oo} (\text{Baseline}) \\ & = 0.60 - 0.15 / 0.60 = 0.75 \end{aligned}$$

we see that the final model accounts for .75 variance at level-2, meaning that 75% of the between-individual variance in identity is accounted for in our level-2 predictors. Further, in comparing the  $\sigma^2$  estimates, I can calculate how much variance in the final model is accounted for by level-1. The proportion of variance explained at Level-1 is

$$\begin{aligned} & \sigma^2 (\text{baseline}) - \sigma^2 (\text{FINAL}) / \sigma^2 (\text{Baseline}) \\ & = 0.27 - 0.18 / 0.27 = 0.33 \end{aligned}$$

Thus I see that by adding Time, Time squared, internalization and practice as a predictors of identity reduced the within-student variance by 0.33, concluding that the predictors account for about 33% of the time-level variance in identity.

## Discussion

The current study sought to investigate the social environment of francophone minority students and its importance in developing and maintaining an francophone identity. As children are developing, we were interested in seeing which kind of social environment facilitates the identification process. A further objective was to examine whether a change in the social environment influences identity levels occurs and whether a social environment can support identity levels over time. Francophone students living in minority contexts are faced with changes in their social environment when school is on break. During this time students face a change from a predominantly French social environment to a predominantly English social environment. The present study examined the change in social environments over the Christmas holiday break, when students were outside the academic environment for two weeks. This allowed us to test the maintenance of a francophone identity as students' transition from a predominantly French social environment to a less predominantly French social environment.

### *Practice and Identity*

The development and maintenance of any language requires oral and written experience. Through practicing activities, one begins to utilize language skills, proficiency and competence. Previous research among monolingual students has demonstrated that home and school experiences greatly influence vocabulary acquisition (Tabors et al., 2001; Uchikoshi, 2006). A smaller quantity of studies among bilinguals has shown that practicing activities is associated with language proficiency (Gutiérrez-Clellen & Kreiter, 2003; Kalia, 2007). The study sought to investigate how practicing activities among multilinguals' living within a minority language social environment influences their language identification. The results showed that practicing activities helps multilingual students living in a French minority context identify with the

francophone culture and language. Such results are consistent with monolingual research (Tabors et al., 2001; Uchikoshi, 2006) and bilingual research (e.g., Cummins, 1981; Gutiérrez-Clellen & Kreiter, 2003; Kalia, 2007) that indicates that practicing activities influences language proficiency, ability, and identification.

A monolingual social environment provide continuous practicing activities with their language, where daily interactions with parents, teachers, and peers provide an opportunity to enhance language skills and competency, while helping to build a connectedness with others. A social environment among multilingual however can be quite different, particularly when children and adolescents are not provided with continuous language practicing activities. When one language is not dominant in society (i.e., “minority”), practicing activities and identification may prove to be more difficult because of inconsistent exposure to one language over another. For example, the daily interactions with parents, teachers, and peers may be in the “majority” language more often than the “minority” language (Cummins, 1981). There are fewer challenges in learning and maintaining the “majority” language as it is continuously within society (Cummins, 1991; 1999; Rossell & Baker, 1996). When faced with inconsistent language exposure to the “minority” language, individuals living in such social-contexts may find practicing activities for this language more difficult and challenging to maintain.

Francophone minority children and adolescents have less of an opportunity to practice their language skills as the majority of daily interactions and social activities are in English. During such a crucial time of identity development, francophone children and adolescents may be faced with the pressure of having to identify with two languages. When the majority of practicing time is spent in English, francophones can feel social pressures intensify, which can influence their perceptions of their social environments and their motivations towards practicing

activities and identification. The results suggest that when students have less French practicing activities it affects their identification with the language and culture. The francophone population in Southern Ontario is ethnolinguistically weak. Few community resources and society institutions are accessible to French youth (Landry et al., 2005). Having a weak ethnolinguistic vitality indicates that there is a lower probability of French socialization, psycholinguistic development, and unfortunately, as our results indicate, lower identification. Such results are consistent with those found by Allard et al. (2005), who found that students living within a community with weak ethnolinguistic vitality had the lowest engagement scores.

Although living within a French minority community affects ones practicing activities, psycholinguistic development and language socialization, the results indicated that when francophone students do practice their language skills, they have higher levels of identification with the francophone culture and language. Among bilinguals, language exposure does influence language performance (Gutiérrez-Clellen & Kreiter, 2003). The present study further showed that language exposure and practicing activities are associated with how one identifies with a culture and language.

#### *Basic Needs, Practice, and Identity*

The results suggest that when some francophone students who live in a minority setting have less practicing activities, there is an influence on their identification with the language and culture. Identifying with a minority language and culture may be more challenging for some students because of the limited number of community resources and social institutions (Landry et al., 2005; Giles, et al., 1977). As a result, the French social environment may have more difficulty supporting individuals' basic psychological needs for autonomy, competence, and relatedness. The results from the present study revealed that when a student perceives a social

environment as supporting their basic psychological needs, one is more likely to engage in practicing activities, which in turn influenced identification levels. It seems that for some students, despite having the additional pressures of having two languages to identify with, when a social environment is supportive of the belongingness to a culture, language competence, and supports language autonomy, it can influence practicing activities and facilitate identification.

The results are consistent with self-determination theory (SDT; Ryan & Deci, 2002), which has shown that when a social environment is supportive of an individual's basic psychological needs one's incentive for activities increase (Deci & Ryan, 2000; 2002; Ryan & Deci, 2003). SDT posits that individuals have the basic tendencies to strive for their fundamental needs of autonomy, competence, and relatedness (Ryan & Deci, 2003). An indication that one's basic psychological needs are being fulfilled is when one experienced autonomy, competence, and relatedness in given a social environment. The results from the present study demonstrated that the perception that parents were satisfying the basic psychological needs towards practicing activities increased some students' francophone identity levels. It seems that when a child and adolescent is provided with supportive social environment, it may help language development and socialization, while meeting the needs for relatedness with others, language autonomy and competence. The daily interactions with family members can help language socialization, development, and identification. It thus appears that an identity may be responsive to a particular social environment, where different social environmental characteristics can influence identification.

During such an influential time of life, where young francophones are in the process of developing their identity, another social environment characteristic that influences identification is interactions with French friends. The results revealed that when students perceived that their

friends are supportive of their basic psychological needs towards practicing activities, they identified more closely with the francophone culture and language. Among multilingual children and adolescents, this relation may be more significant as they are faced with societal pressures of having to identify with more than one language. Social pressures may influence individuals' perceptions of their social environment and their internalization process. Having supportive friends may counteract stressful pressures and challenges in a linguistic minority and reinforce identification.

### *Basic Needs, Internalization, and Identity*

The internalization process helps explain how one's motivation can range from unwillingness or refusal to personal importance or commitment (Deci & Ryan, 2000). The current study's results showed that when students reported that their basic needs were not being supported, they reported lower levels of internalization, which in turn were associated with lower identity levels. This indicates when an individual felt that the social environment was not supporting the basic needs, little or no internalization may occur, and as a result, one may refuse or may be unwilling to identify with the francophone language and culture. However, when students perceived their basic needs were being supported, they reported higher levels of internalization, and in turn a greater sense of personal importance or commitment when identifying as francophone. The results are consistent with the self-determination theory (SDT; Deci & Ryan, 2000; Ryan & Deci, 2003), where greater levels of internalization are associated with higher levels of persistence, self-perceptions, and engagement.

During the transition between social environments, results suggest that when students have their basic needs satisfied, there was a greater degree of internalization, where several students were able to maintain or increase their identification levels with the francophone culture

and language. These students feel a sense of choice or volition about their language and culture, which in turn has an effect on how they identify it as personally important and valuable. Clearly, identifying as Francophone closely assimilated with their sense of self. In contrast, students reporting that their basic needs were not supported during this transition felt little value or desire in identifying with the francophone culture and language, where some students reported decreasing identity levels. It thus seems that the internalization process is not stable and showing it may be dependent on context. Some students who had little or no internalization identified less with the francophone culture and language when such social environment is surrounding them. During the school year, much of a student's day is spent at school or at home completing homework. When some students feel they are being rewarded for participating in French activities or completing homework and punished for not, their internalization may be restricted. According to SDT, regulations with little internalization are either dependent on instrumental rewards or to avoid guilt or shame. Several students who find no value in or desire for the francophone culture and language may in fact show higher identity levels when in that social environment because of the instrumental rewards or in order to avoid the same and guilt.

Although a school environment may compensate for the limited French contacts within society and family by providing young francophones with a social environment in which oral and written skills can be utilized, the results suggest that this may not be enough. Individuals should also internalize the francophone culture and language in order to maintain their francophone identity. Francophone families too often replace French with English, which ultimately affects their children's first language, with the risk of having fewer competencies in one language over another. Through exploring and imitating of social roles, we begin to internalize certain aspects of ourselves (Ryan & Deci, 2003). Yet, when one social environment is restricted, one may feel

pressured or guilt into exploring and imitating, limiting basic needs satisfaction and internalization.

### *Basic Needs and Identity Growth*

Breaks from an academic environment affect academic performance (Allinder et al., 1992). One particular meta-analysis revealed that during the summer holidays, students lost about one month's worth of class time learning (Cooper et al., 1996). Given these findings showing the academic breaks can affect reading, writing, and mathematical skills among monolingual students, I sought to investigate the effects of a break in the academic environment among multilingual students to their level of identification with the minority language. Multilingual students provide the unique opportunity to investigate the maintenance of their francophone identity outside of the academic environment. The results revealed that the transition from a predominantly French social environment to a predominantly English social environment did affect some students' identification levels. For example, some students reported higher identification with the francophone culture and language before the academic break than following the academic break. The academic environment for French-minority students may help compensate for weak ethnolinguistic society where there are limited French community resources. The academic environment also provides students with a culture and linguistic ambiance, as well as identity models where students' basic needs can be satisfied. Consequently, such a break for some students is a "break" from their opportunity to be familiar with the culture and French language. Results also revealed that some students they reported higher identification following the academic break while others were able to maintain their identity levels. This suggests that the break from the academic environment does not affect everyone the same, more often the older participants. A higher percentage of older students were able to maintain their

identity levels and while for some, they had increasing identity levels during the break. This suggests the academic break may be more sensitive for students who are in the process of developing their cultural identity.

The results however did suggest that several factors do tend to counteract the decreasing identity levels during the break. First, when students practice and utilize their French language skills, there was evidence that they were able to maintain or increase identity levels than those who did not practice. When outside of the academic environment, some francophone students may perceive their basic needs as being less supported as they have less of an opportunity to practice their language skills and may be faced with the additional social pressures. For some students, the transition into a predominantly English social environment may affect their language competency skills and their sense of relatedness with the francophone culture and language. However, among other students perceiving the satisfaction of their basic needs were involved in practicing their language skills, which in turn helped to maintain or increase their language competency skills, their autonomy and relatedness with the culture. This is consistent with previous research among bilinguals, which shows that language exposure and practicing activities helps students maintain or increase their language engagement (Cummins, 1991; Landry et al., 2005).

Contrary to the popular belief that practice is everything, the current research revealed that students' internalization levels were also a factor that helped to maintain or increase identity levels during their social transition. For some students with greater internalization levels, they were able to maintain or increase identification levels over the holidays. This suggests that when a student has a deeper internalization with the francophone culture and language; there is a greater sense of importance and commitment. When a student finds the culture and language

important and has a sense of commitment, the transition between social environments may be easier. This further suggests that when a student has little to no internalization with the francophone culture and language, trouble maintaining or increasing a identity throughout the academic break may arise. Lower levels of internalization have been shown in past research to be associated with lower levels of persistence, lower self-perceptions, and engagement (Deci & Ryan, 2000, 2002; Ryan & Deci, 2003). Thus, it seems with less internalization does identity become less stable and may become dependent on context. Students with lower levels of internalization reported higher levels of identification when within the French social environment. They further showed that a break from this social environment, they had lower levels of identification.

Another factor that seems to influence the decreasing levels of identity caused by an academic break was a student's age. As children and young adolescents are developing their identity, it seems that the identity maintenance or increase was greatest among older children and young adolescents. It seems that the transition between social environments may be hardest for some young francophone children. Younger francophones may be most influenced by a social environment and the academic environment may be most important for some young children in the process of developing their culture and language identification. For some students, the continuous teacher and peer contact may provide them with them with the much-needed opportunity to become familiarized with the francophone culture and language, which helps with identification. Children however with a deeper internalization and participate in practicing activities, the difficult transition may be less stressful. Although there were a higher percentage of young students with decreasing identification levels, some students were able to maintain or increase their identity levels. These young students may have been provided with practicing

activities over the holiday or may have a deeper internalization of the culture and language, which helped maintain or increase their identification levels.

### *Limitations and Future Directions*

Although the present results provided insight into language and culture identification and the effects of social change, some limitations should be taken into consideration when interpreting these findings. First, although we used a longitudinal design, it would be nevertheless inappropriate to infer causal relationships. In order to infer causal relationships, one would need an experimental design. Although the current study did test the transition from a predominantly French social environment to a predominantly English social environment, the academic break was only for two weeks. A longer longitudinal study over the summer break would provide a clearer picture about the effects of social change on young minority students' identification levels. Furthermore, the data collected during the current study came from self-report measures. Self-report measures allow the administration among a larger sample of students; however, such measures have been shown to be influenced by social desirability and bias. The results would therefore need to validate with alternate methods of data collections, such as the implicit association task, personal diaries, or parent or teacher ratings.

Second, while the present study's aim was to investigate developing students identity levels, the sample are largely made up of young Southern Ontario students. Given such a developmental time in their lives, younger children may be more influenced by others, and the presence of their school peers or teacher may have an effect on their answers given on the questionnaire. All teachers were present during the administration of the questionnaire, which may explain the weaker relationship between identity and perceived support by teachers on the basic psychological needs. Similarly, the present sample was mostly made up of Canadian

Caucasian children and adolescents. It would be important and interesting to investigate how other ethnic groups (e.g., Africans) report their francophone identity and the influence of the social environments. Ethnic or racial difference might moderate the strength and direction of the influence of the social environment on identity.

In future research, it would be important to investigate the effects of social environments on identity using other methods, particularly to evaluate the maintenance of francophone identities using the implicit association test. Young children and adolescents would be less influenced by social desirability and experimenter bias using implicit methodology techniques. For example, evaluating young francophones identities using the implicit associations test on laptop computers in different social environments could help provide a clearer picture as to how specifically which environment greatly influences their identity levels. With the use of technology, students could complete the implicit association task in the schoolyard, in the classroom, and at home, in order better understand the internalization process and how it could change depending on the social environment.

In sum, the present research contributes to the current literature in demonstrating that a supportive social environment can contribute to the development and maintenance of an identity. However, additional research is required to provide a complete picture of the complex relationship between developing students' identity levels, identity maintenance, and a supportive social environment.

## References

- Allard, R., Landry, R., & Deveau, K. (2005). Conscientisation ethnolangagière et comportement engage en milieu minoritaire. *Francophonie d'Amérique*, 20, 95-109.
- Allinder, R. M., Fuchs, L. S., Fuchs, D., & Hamlett, C. L. (1992). Effects of summer break on Math and spelling performance as a function of grade level. *The Elementary School Journal*, 92, 451-460.
- American Psychological Association (2002). *Publication Manual of the American psychological Association (5<sup>th</sup> ed.)*. Washington, DC: American Psychological Association.
- Chirkov, V. I., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality and Social Psychology*, 84, 97-110.
- Clement, R. & Noels, K. A. (1992). Towards a situated approach to ethnolinguistic identity: The effects of status on individuals and groups. *Journal of Language and Social Psychology*, 11, 203-232.
- Clement, R., Noels, K. A. & Deneault, B. (2001). Interethnic contact, identity, and psychological adjustment: The mediating and moderating roles of communication. *Journal of Social Issues*, 57, 559-578.
- Cooper, H., Nye, B., Charlton, K. & Lindsay, J. (1996). The effects of summer vacation on achievement test scores: A narrative and meta-analytic review. *Review of Educational Research*, 66, 227-268.
- Cummins, J. (1981). Empirical and theoretical underpinnings of bilingual education. *Journal of Education*, 163, 16-30.

- Cummins, J. (1991). The development of bilingual proficiency from home to school: A longitudinal study of Portuguese-speaking children. *Journal of Education, 173*, 85-98.
- Cummins, J. (1999). Bilingual education in the United States: Power, Pedagogy, and Possibility. *The Review of Education, Pedagogy and Cultural Studies, 20*, 255-270.
- Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self determine in human behaviour*. Plenum Press: New York.
- Deci, E. L. & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry, 11*, 227-272.
- Deci, E. & Ryan, R. (2002). *Handbook of self-determination theory*. New York: University of Rochester Press.
- Downie, M., Chua, S. N., Koestner, R., Barrios, M., Rip, B. & M'Birkou, S. (2007). The relations of parental autonomy support to cultural internalization and well-being of immigrants and sojourners. *Cultural Diversity and Ethnic Minority Psychology, 13*, 241-249.
- Downie, M., Koestner, R., ElGeledi, S. & Cree, K. (2004). The impact of cultural internalization and integration on well-being among tricultural individuals. *Personality and Social Psychology Bulletin, 30*, 305-314.
- Downie, M., Mageau, G. A., Koestner, R., & Liodden, T. (2006). On the risk of being a cultural Chameleon: Variations in collective self-esteem across social interaction. *Cultural Diversity and Ethnic Minority Psychology, 12*, 527-540.
- Erikson, E.H. (1980). *Identity and the life cycle*. New York: Norton.
- Finkenauer, C., Engels, R. C. M. E., Meeus, N., & Oosterwegal, A. (2002). Self and identity in early adolescence: The pains and gains of knowing who and what you are. In Brinthaupt,

- T., & Lipka, R.D. *Understanding early adolescent self and identity: Application and intervention (pp. 25-56)*. Albany, NY: State University of New York Press.
- Giles, H., Bourhis, R. Y., & Taylor, D.M. (1977). Towards a theory of language in ethnic group relations. In H. Giles (Ed.), *Language, ethnicity and intergroup Relation*. New York: Academic Press.
- Gérin-Lajoie, D. (2002). Le rôle du personnel enseignant dans le processus de reproduction linguistique et culturelle en milieu scolaire francophone en Ontario. *Revue des sciences de l'éducation*, 28, 125-146.
- Gutiérrez-Clellen, V .F., & Kreiter, J. (2003). Understanding child bilingual acquisition using parent and teacher reports. *Applied Psycholinguistics*, 24, 267-288.
- Hogg, M. A., & Turner, J. C. (1985). Interpersonal attraction, social identification and psychological group formation. *Journal of Social Psychology*, 15, 51-66.
- Kalia, V. (2007). Assessing the role of book reading practice in Indian bilingual children's English language and literacy development. *Early Childhood Education Journal*, 35, 149-153.
- Kroger, J. (2007). *Identity development: Adolescence through adulthood (2<sup>nd</sup>)*. Thousand Oaks, CA: Sage.
- Landry, R. (1995). Le present et l'avenir des nouvelles générations d'apprenants dans nos écoles françaises. *Éducation et Francophonie*, 22, 13-24.
- Landry, R., Allard, R., Deveau, K. & Bourgeois, N. (2005). Autodétermination du comportement langagier en milieu minoritaire: Un modèle conceptuel. *Francophonie d'Amérique*, 20, 63-78.

- Landry, R., Allard, R. & Th  berge, R. (1991). School and family French ambiance and the bilingual development of francophone Western Canadians. *The Canadian Modern Language Review*, 47, 878-915.
- Landry, R., Deveau, K., & Allard, R. (2006). Vitalit   ethnolinguistique et construction identitaire: le cas de l'identit   bilingue. *  ducation et Francophonie*, 24, 54-78.
- MacWhinney, B. (2005). Language Development, In M.H. Bornstein, & M. E. Lamb (Eds.), *Developmental science: An advance textbook (5<sup>th</sup> ed.)*, Mahwah, NJ: Lawrence Erlbaum Associates.
- Marsh, H. W. & Shavelson, R. (1985). Self-Concept: Its multifaceted, hierarchical structure. *Educational Psychologist*, 20, 107-124.
- McNamara, T. (1997). What do we mean by social identity? Competing frameworks, competing discourse. *TESOL Quartely*, 31, 561-566.
- Meeus W., Iedema, J., & Helsen, M. (1999). Patterns of adolescent identity development: Review of literature and longitudinal analysis. *Developmental Review*, 19, 419-461.
- Rossell, C. H. & Baker, K. (1996). The educational effectiveness of bilingual education. *Research in the Teaching of English*, 20, 1-74
- Ryan, R. M. & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Ryan, R. M. & Deci, E. L. (2003). On assimilating identities to the self: A self-determination theory perspective on internalization and integrity within cultures. In M.R. Leary, & J. P. Tangney (Eds.), *Handbook of Self and Identity*: New York: Guilford.

- Statistics Canada (2002). *2001 Census: Analysis Series. Profiles of languages in Canada: English, French and many others*. Retrieved February 14<sup>th</sup>, 2007 from <http://www12.statcan.ca/english/census01/product/analytic/companion/lang/contents.cfm>
- Schwartz, S.J. (2008). Self and identity in early adolescence. *Journal of Early Adolescence*, 28, 5-15.
- Schwartz, S.J., Montgomery, M.J., & Briones, E. (2006). The role of identity in acculturation among immigrant people: Theoretical propositions, empirical questions, and applied recommendations. *Human Development*, 49, 30-60.
- Tabors, P., Roach, K., & Snow, C.E. (2001). Home language and literacy environment: Final results. In D. Dickinson & P. Tabors (Eds.), *Beginning literacy with language* (pp. 111-138). Baltimore, MD: Brookes Publishing.
- Tajfel, H. (1972). The social psychology of race relations. *Sociology*, 6, 463-464.
- Tesser, A., Gelson, R.B., & Suls, J.M. (2000). *Psychological perspectives on self and identity*. Washington, DC: American Psychological Association.
- Uchikoshi, Y. (2006). English vocabulary development in bilingual kindergarteners: What are the best predictors? *Bilingualism: Language and Cognition*, 9, 33-49.
- Waterman, A.S. (1999). Issues of identity formation revisited: United States and The Netherlands. *Developmental Review*, 19, 462-479.
- Williams, G.C. & Deci, E.L. (1996). Internalization of biopsychosocial values by medical students: A test of self-determination theory. *Journal of Personality and Social Psychology*, 70, 767-779.

Table 1. *Descriptive Statistics for all Variables Used from Time 1 to Time 3.*

Variable	N	Range	Mean	SD	Skewness	Kurtosis
Sex	276	0 - 1	0.47	0.50	0.12	-2.00
Age	276	7 - 13	10.50	1.726	-0.05	-1.23
<i>Time 1:</i>						
Needs- Parents	231	1.22 -5.00	3.52	0.74	-0.18	-0.38
Needs- Teacher	226	1.00 – 5.00	3.97	0.67	-0.91	1.47
Needs- Friends	212	1.50 – 4.38	2.78	0.61	0.41	-0.37
Internalization	242	-4.33 – 12.00	2.76	3.51	0.56	-0.24
Practice	234	1.00 – 5.00	2.65	0.85	0.48	-0.10
Identity	243	1.00 – 5.00	3.58	0.89	-0.42	-0.51
<i>Time 2:</i>						
Needs- Parents	249	1.56 – 5.00	3.32	0.77	0.01	-0.63
Internalization	245	-7.33 – 12.00	2.45	3.80	0.55	-0.10
Practice	249	1.00 – 5.00	2.16	0.85	0.48	-0.19
Identity	246	1.00 – 5.00	3.54	0.92	-0.55	-0.20
<i>Time 3:</i>						
Needs- Parents	232	1.00 – 5.00	3.53	0.80	-0.39	-0.40
Needs- Teacher	232	1.00 – 5.00	3.99	0.73	-1.17	1.92
Needs- Friends	232	1.00 – 5.00	2.93	0.81	0.42	-0.27
Internalization	226	-6.67 – 12.00	2.47	3.90	0.48	-0.19
Practice	232	1.00 – 4.82	2.38	0.76	0.73	0.56
Identity	228	1.00 – 5.00	3.54	1.03	-0.50	-0.47

Table 2. *Correlations between Sex, Age, Francophone identity, Internalization, Practice, Support of Basic Needs from Parents, Teachers and Friends*

	1	2	3	4	5	6	7
1. Sex	-						
2. Age	-.017	-					
3. Needs-parents (T1)	-.031	-.174**	-				
4. Needs- teachers (T1)	-.113	.031	.495**	-			
5. Needs- friends (T1)	-.107	-.133	.503**	.335**	-		
6. Practice (T1)	-.044	-.283**	.590**	.304**	.524**	-	
7. Internalization (T1)	-.078	.073	.190**	.133*	.312**	.272**	-
8. Identity (T1)	-.101	-.105	.558**	.353**	.467**	.666**	.472**

\*\* Correlation is significant at the .001 level (2-tailed)

\* Correlation is significant at the .05 level (2 tailed)

Table 3. *Multiple Regression Coefficients and Tests of Significance for Predicting Practice Using Measures of Sex, Age, and Basic Need Support from Parents, Teachers and Friends*

Variable	B	SE <sub>B</sub>	$\beta$	st <sup>2</sup>	<i>p</i>
Constant	.447	.443			.303
Sex	-.030	.087	.019	<.001	.732
Age	-.047	.029	-.092	.007	.099
Needs- parents (T1)	.466	.073	.432	11.56	<.001
Needs- teachers (T1)	-.029	.076	-.024	<.001	.703
Needs- friends (T1)	.401	.083	.305	6.66	<.001

R<sup>2</sup> = .421

Table 4. *Multiple Regression Coefficients and Tests of Significance for Predicting Internalization at Time 1 Using Measures of Age and Basic Need Support from Parents, Teachers, and Friends*

Variable	B	SE <sub>B</sub>	$\beta$	sr <sup>2</sup>	p
Constant	-4.437	2.420			.068
Sex	-.391	.485	-0.54	.28	.421
Age	.099	.160	.042	.17	.537
Needs- parents (T1)	.471	.407	.097	.58	.248
Needs- teachers (T1)	.133	.424	.024	<.001	.754
Needs- friends (T1)	1.54	.461	.261	4.84	.001

R<sup>2</sup> = .115

Table 5. *Multiple Regression Coefficients and Tests of Significance for Predicting Francophone Identity, Using Measures of Internalization, Practice, Age, Sex, Support of Basic Needs from Parents, Teacher, and Friends (N =210)*

Variable	B	SE <sub>B</sub>	$\beta$	sr <sup>2</sup>	p
Constant	.860	.393			.030
Age	.010	.026	.018	<.001	.698
Sex	-.109	.078	-.063	.384	.163
Internalization (T1)	.084	.012	.353	10.18	<.001
Practice (T1)	.399	.065	.368	7.34	<.001
Needs- parents (T1)	.253	.071	.216	2.43	<.001
Needs- teachers (T1)	.092	.068	.070	.348	.178
Needs- friends (T1)	.040	.079	.028	<.001	.506

R<sup>2</sup> = .610

Table 6. *Differences Scores from Time 2 Identity Subtracted by Time 1 Identity*

Variable	N	Decreased	Same	Increased
All Students	217	39.6%	25.4%	35.0%
<i>Disaggregated by age:</i>				
7	2	50.0%	50.0%	--
8	34	58.8%	20.6%	20.6%
9	32	46.9%	21.9%	31.2%
10	43	41.9%	30.2%	27.9%
11	30	43.3%	26.7%	30.0%
12	37	27.0%	32.5%	40.5%
13	39	23.1%	17.9%	59.0%

Table 7. *Correlations Between Sex, Age, and the Following Time 2 Variables: Francophone Identity, Internalization, Practice, Support of Basic Needs from Parents*

	1	2	3	4	5
1. Sex	-				
2. Age	-.017				
3. Needs-parents (T2)	-.077	-.065			
4. Practice (T2)	-.077	-.179**	.541**	-	
5. Internalization (T2)	-.185**	-.066	.344**	.174**	-
6. Identity (T2)	-.170**	.055	.481**	.487**	.527**

\*\* Correlation is significant at the .001 level (2-tailed)

\* Correlation is significant at the .05 level (2 tailed)

Table 8. *Multiple Regression Coefficients and Tests of Significance for Predicting Internalization Using Measures of Age, Sex, Internalization, Practice, Support of Basic Needs from Parents (N =215)*

Variable	B	SE <sub>B</sub>	$\beta$	sr <sup>2</sup>	p
Constant	-.537	1.497			.720
Sex	-.623	.376	-.083	.672	.099
Age	-.124	.111	-.057	.313	.264
Internalization (T1)	.673	.056	.621	35.28	<.001
Needs- parents (T2)	1.065	.293	.218	3.24	<.001
Practice (T2)	-.423	.268	-.095	.608	.117

R<sup>2</sup> = .481

Table 9. *Multiple Regression Coefficients and Tests of Significance for Predicting Practice Using Measures of Age, Sex, Internalization, Practice, Support of Basic Needs from Parents (N =215)*

Variable	B	SE <sub>B</sub>	$\beta$	sr <sup>2</sup>	p
Constant	-.619	.282			.029
Sex	-.017	.065	.004	<.001	.795
Age	.002	.020	.004	<.001	.929
Practice (T1)	.705	.044	.713	37.45	<.001
Needs- parents (T2)	.285	.048	.260	5.02	<.001
Internalization (T2)	-.015	.009	-.068	.397	.099

R<sup>2</sup> = .706

Table 10. *Multiple Regression Coefficients and Tests of Significance for Predicting Francophone Identity Using Measures of Age, Sex, Internalization, Practice, Support of Basic Needs from Parents (N =215)*

Variable	B	SE <sub>B</sub>	$\beta$	sr <sup>2</sup>	p
Constant	-.104	.327			.751
Sex	-.100	.078	-.500	<.001	.200
Age	.095	.023	.182	3.17	<.001
Identity (T1)	.523	.059	.514	13.90	<.001
Needs-parents (T2)	.095	.062	.081	<.001	.126
Practice (T2)	.156	.062	.146	1.12	.010
Internalization (T2)	.056	.012	.231	4.00	<.001

R<sup>2</sup> = .627

Table 11. *Differences scores from Time 2 Identity Subtracted by Time 1 Identity*

Variable	N	Decreased	Same	Increased
All Students	211	39.3%	23.7%	37.0%
<i>Disaggregated by age:</i>				
7	2	50.0%	50.0%	--
8	31	51.6%	22.6%	25.8%
9	34	35.3%	26.0%	38.7%
10	38	36.8%	18.5%	44.7%
11	32	34.4%	21.9%	43.7%
12	38	42.1%	21.1%	36.8%
13	36	36.1%	33.3%	30.6%

Table 12. *Correlations between Sex, Age, Francophone Identity (Time 1, 2, & 3) Internalization (Time 3), Practice (Time 3), Basic Needs Support from Parents, Teachers and Friends (Time 3)*

	1	2	3	4	5	6	7	8	9
1. Sex	-								
2. Age	-.017	-							
3. Needs-parents	-.052	-.021	-						
4. Needs- teachers	-.033	.133	.588**	-					
5. Needs- friends	-.018	-.237**	.572**	.470**	-				
6. Internalization	-.135*	-.125	.245**	.226**	.365**	-			
7. Practice	-.020	-.190**	.558**	.350**	.511**	.250**	-		
8. Identity (T1)	-.101	-.105	.541**	.274**	.449**	.347**	.548**	-	
9. Identity (T2)	-.170**	.055	.513**	.344**	.373**	.360**	.436**	.726**	-
10. Identity (T3)	-.159*	.063	.593**	.425**	.547**	.444**	.539**	.631**	.723**

\*\* Correlation is significant at the .001 level (2-tailed)

\* Correlation is significant at the .05 level (2 tailed)

Table 13. *Multiple Regression Coefficients and Tests of Significance for Predicting Internalization Using Measures of Age, Sex, Internalization, Practice, Support of Basic Needs from Parents, Teachers, and Friends (N =188)*

Variable	B	SE <sub>B</sub>	$\beta$	sr <sup>2</sup>	p
Constant	.125	1.686			.941
Sex	.012	.396	.012	<.001	.811
Age	-.061	.122	-.061	<.001	.261
Internalization (T1)	.276	.076	.247	3.42	<.001
Internalization (T2)	.540	.073	.518	13.91	<.001
Needs- parents (T3)	-1.155	.383	.240	2.28	.003
Needs- teachers (T3)	.478	.354	.092	.462	.179
Needs- friends (T3)	.989	.353	.197	1.96	.006
Practice (T3)	.441	.332	.090	.449	.186

R<sup>2</sup> = .550

Table 14. *Multiple Regression Coefficients and Tests of Significance for Predicting Practice Using Measures of Age, Sex, Practice, Support of Basic Needs from Parents, Teachers, and Friends (N = 187)*

Variable	B	SE <sub>B</sub>	$\beta$	sr <sup>2</sup>	p
Constant	-.114	.273			.677
Sex	-.010	.061	-.006	<.001	.960
Age	-.001	.020	-.002	<.001	.867
Practice (T1)	.490	.063	.511	8.53	<.001
Practice (T2)	.326	.062	.329	3.92	<.001
Needs- parents (T3)	.053	.059	.053	.11	.378
Needs- teachers (T3)	.078	.055	.073	.29	.157
Needs- friends (T3)	.015	.053	.016	<.001	.769

R<sup>2</sup> = 74.6

Table 15. *Multiple Regression Coefficients and Tests of Significance for Predicting Francophone Identity (Time 3) Using Measures of Age, Sex, Internalization (Time 3), Practice (Time 3), Identity (Time 1 & 2), Support of Basic Needs from Parents, Teachers and Friends (Time 3; N =186)*

Variable	B	SE <sub>B</sub>	$\beta$	sr <sup>2</sup>	p
Constant	-3.308	1.117			.003
Sex	-.129	.091	-.061	.36	.158
Age	.314	.112	.514	3.96	.005
Identity (T1)	.027	.083	.023	.019	.748
Identity (T2)	.470	.080	.401	6.30	<.001
Needs- parents (T3)	.294	.100	.226	1.56	.004
Needs- teachers (T3)	-.089	.085	-.063	.203	.293
Needs- friends (T3)	1.036	.388	.764	1.13	.008
Internalization (T3)	.241	.063	.892	2.22	.001
Practice (T3)	.193	.078	.146	1.10	.014
Needs-Parents X Internalization (T3)	-.051	.017	-.753	1.54	.004

R<sup>2</sup> = .685



Figure 1.

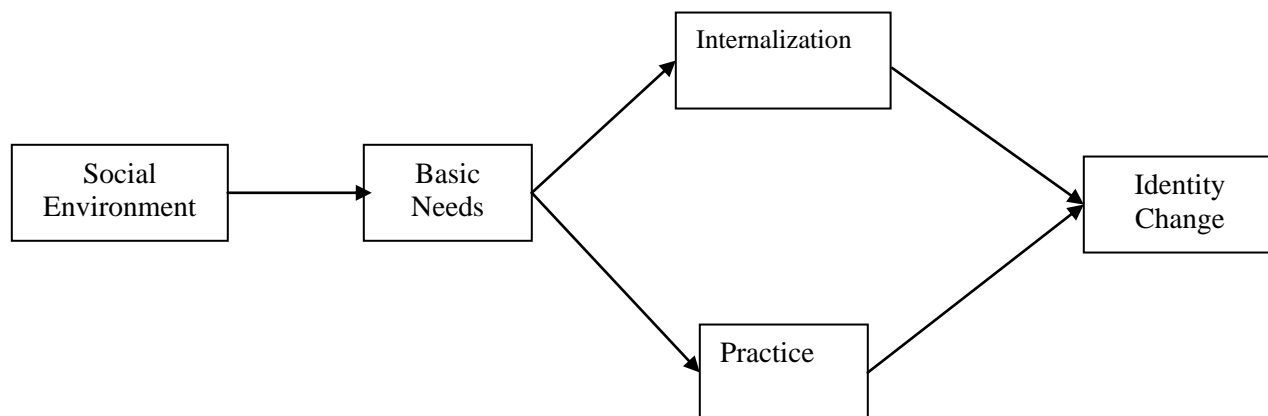
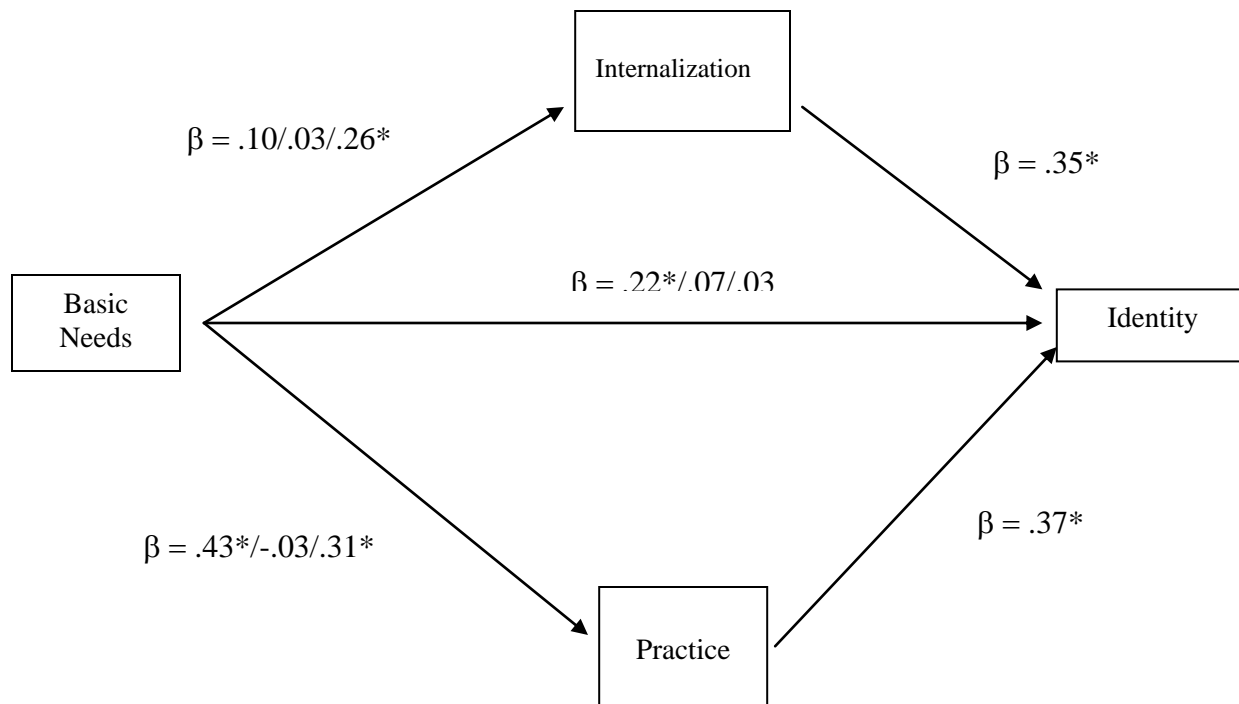


Figure 2.



Note. Betas are presented in the order of Parents/Teachers/Friends

Figure 3.

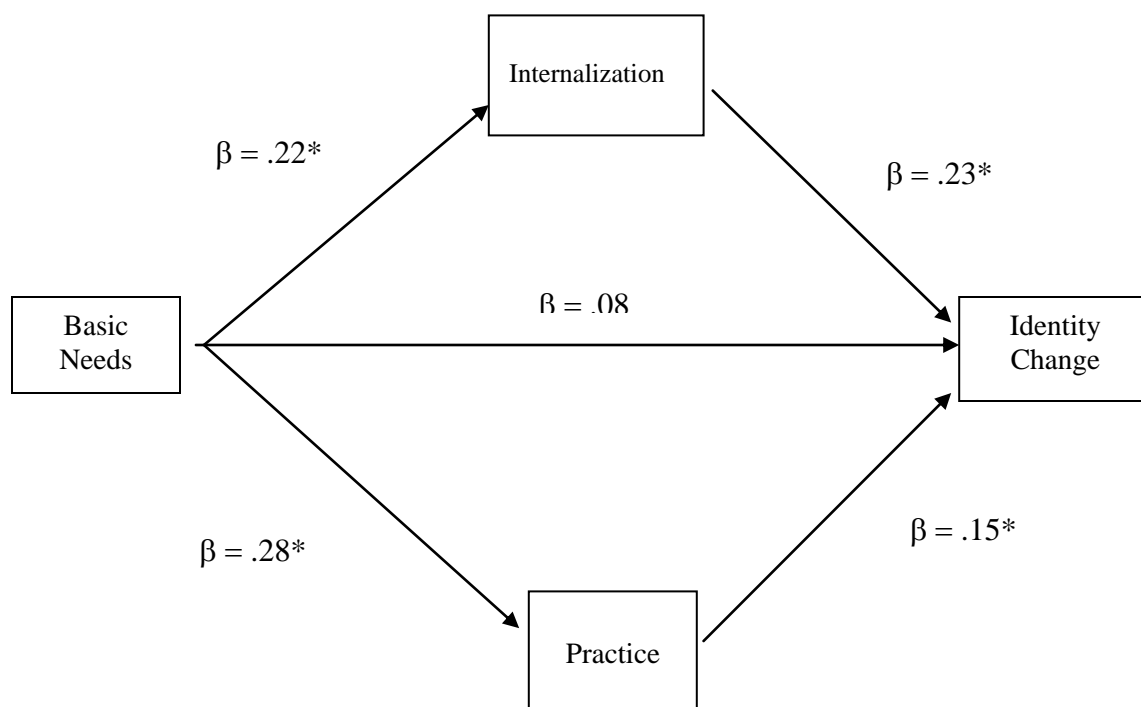


Figure 4.

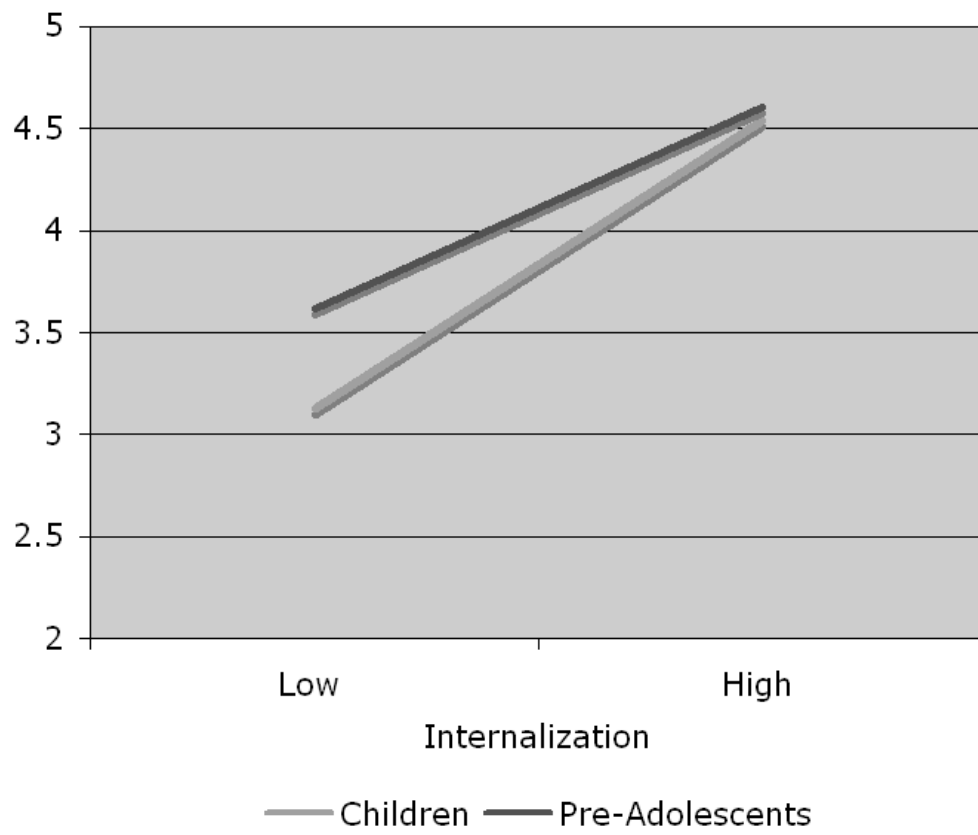
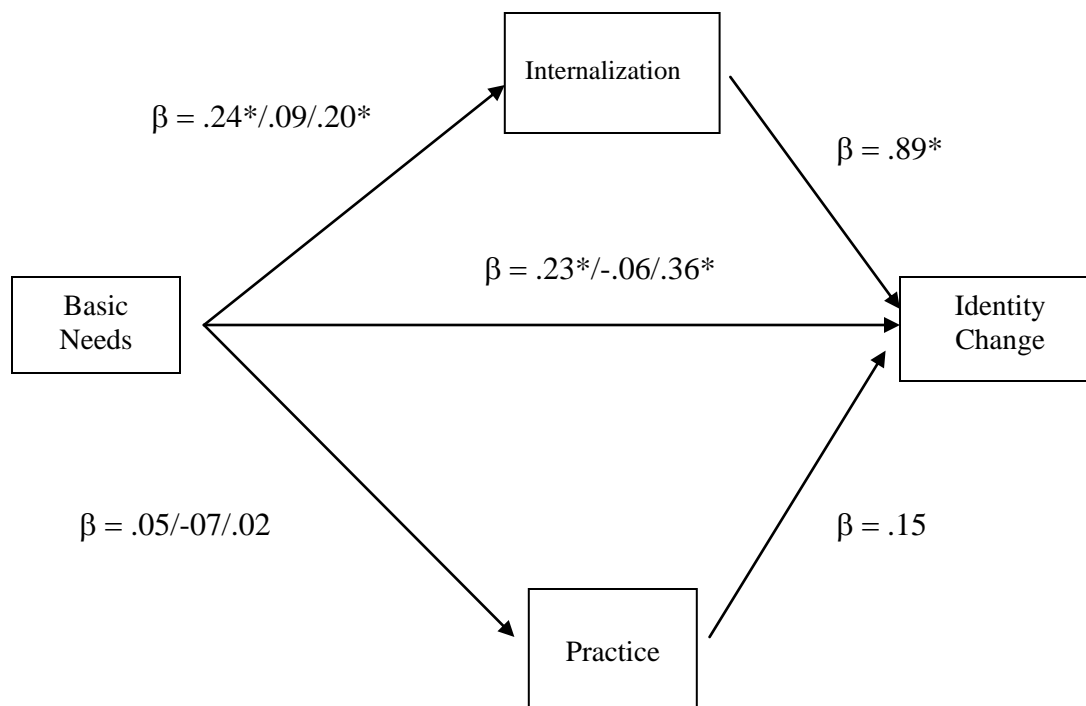


Figure 5.



Note. Betas are presented in the order of parents/teachers/friends

## Appendix A

Dear Mr or Ms \_\_\_\_\_

My name is Lisa Durocher and I am a graduate student at the University of Victoria (British Columbia). As a graduate student, I am required to conduct research as part of the requirements for a Master's degree in psychology. My thesis is being supervised by Dr. Frederick Grouzet (Psychology Department). For my thesis, I am conducting a study investigating the role of education in linguistic minority contexts. The objective of this study is to examine the vitality of elementary school students' francophone identity within a predominant English society. I am hoping that this project will contribute to a better understanding of how the academic environment influences the development of a francophone identity among students living in French minority contexts. I am also interested in examining the impact of the Christmas holidays on the development of a francophone identity.

Within a French minority context, it is hard for francophone students to identify and relate with the francophone culture and language. The academic environment, however, provides students with the opportunity to become familiarized with the francophone culture and language. School is a social environment that offers a linguistic and cultural atmosphere, as well as linguistic and cultural identity models, thus allowing students to identify with the language and culture and in turn integrating and developing their francophone identity.

With your permission, I would like to invite students ranging from grade 3 to 8 to complete a questionnaire (that should take approximately thirty minutes) in December (2<sup>nd</sup> week), January (2<sup>nd</sup> week) and February (3<sup>rd</sup> week). It is important for us to present this study to the students as a classroom activity to complete within class. Following, as a regulation of ethics, the students and their parents will have the choice to authorize or not to view and analyse the answers provided. While all students are able to participate in the activity, parents always have the possibility to refuse to have their child participate in the study. The answers that the students' provide on the questionnaire will allow us to investigate the academic environment, its role in the development of linguistic competence and feelings of relatedness with the francophone community, as well as students' motivation. Once the study is complete, a summary of the conclusions will be available for interested parents or guardians in the school library.

I would like to meet with you to discuss further the objectives and procedures of the study, as well as to answer any questions or concerns you may have. Please feel free to contact me by email at [XXX@uvic.ca](mailto:XXX@uvic.ca).

Respectfully,

## Appendix B

Dear parents and guardians,

My name is Lisa Durocher, a graduate student in the department of psychology at the University of Victoria. As a graduate student, I am required to conduct research as part of the requirements for a Master's degree in psychology and I am conducting a study entitled "Development and Maintenance of Francophone identity" under the supervision of Dr. Frederick Grouzet. The purpose of this research project is to examine the vitality of elementary school students' francophone identity living in linguistic minority contexts. We are hoping that this project will contribute to a better understanding of how the academic environment may influence the development and maintenance of a francophone identity among students living in a linguistic minority context. In December, January, March, and June, all students ranging from grade three to grade eight will be participating in a classroom activity regarding the academic environment, its role in the development and maintenance of linguistic competence and a sense of relatedness to the francophone community. This is a fun activity that allows your child to reflect on his/her learning experiences. We are interested in the answers the students will provide during this activity. Examples of the questions your child will be asked to answer are the following: "In what extent do you feel your school friends help you feeling confident when expressing in French"; "Why do you express yourself in [French/English]?". We would like your permission for your child's work provided during the activity at each time to be analyzed for research purposes. The answers that your child provides will not be identified by his/her name and I will not use any information from school documents. Only Dr. Grouzet and I will have access to the answers provided by your children. All answers provided will be protected and stored in locked filing cabinet at the University of Victoria and will be destroyed by shredding documentations and deleting from computer at the completion of the project and presentations. Your child's participating in this research is completely voluntary. If s/he decides to participated, s/he may withdraw at any time without any consequences or explanations. If s/he does withdraw from the study early, his/her data will still be used unless you request that it not be included in the analysis. Once the study is completed, a report presenting the findings of this project will be available for all interested parents and guardians in the school library. It is also anticipated that the results of this study will be shared with others in published articles, presentations at scholarly meetings and school board, and thesis. This study has been approved by \_\_\_\_\_, the principal of the school as well as the ethics committee at the University of Victoria (REB XXXX). If you have any questions or concerns, please contact Dr Frederick Grouzet at 250 721 XXXX or at [XXX@uvic.ca](mailto:XXX@uvic.ca) or you may contact the Human Research Ethics Office at the University of Victoria (250-472-4545 or [ethics@uvic.ca](mailto:ethics@uvic.ca)) regarding participants rights in research projects. You may also contact me, Lisa Durocher, at [XXX@uvic.ca](mailto:XXX@uvic.ca) to discuss the research project.

If you consent for your child's information to be used in study, please complete the following information and submit it using the self-addressed envelope provided. By sending the necessary information, this indicates that you understand the above conditions for your child's information to be released for each time period for the present study and that you have had the opportunity to have your questions answered by the researchers.

*Please retain a copy of this letter for your reference.*

---

In order to ensure that your child's name is remained anonymous, meaning that his or her name can not be associated with the answers provided, your child was asked to write down a non-identifying code on their envelope. The non-identifying code is the first three letters of dad's first name, the first three letters of mom's name and the day of birth. If you consent for your child's information to be released for all three-time periods, please provide their non-identifying code below along with your signature. Thank you.

Non-identifying code:

Signature: