
Communicating Across Cultures: Social Determinants and Acculturative Consequences

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Abstract

Past research has consistently documented the relations between interethnic contact, language behaviour and identity on the one hand, and the relations between interethnic contact and psychological adjustment on the other. This study combines these two lines of research through a consideration of the influence of ethnolinguistic vitality on these variables' interrelations. The participants included 285 English-Canadian and 243 French-Canadian students at a bilingual university who originated from high and low ethnolinguistic vitality contexts. The results of analyses of variance showed that vitality and native language group membership influenced the extent of ethnic identification, interethnic contact, and self-confidence in the second language, but did not affect the levels of psychological adjustment. Path analyses supported a model in which linguistic self-confidence mediated the relations between interethnic contact and identity and adjustment, although the patterns of relations differed depending upon the vitality of the group. It is suggested that one reason why ethnolinguistic vitality is an important moderator of cross-cultural adaptation is because it implies group differences in the experience of interethnic contact and linguistic self-confidence.

Résumé

Une recherche antérieure a substantiellement documenté, d'une part, l'établissement de relations étroites entre les contacts interethniques, les comportements linguistiques et l'identité, et d'autre part, l'établissement de relations entre les contacts interethniques et l'adaptation psychologique. La présente étude regroupe ces deux champs de recherche en tenant compte de l'influence de la vitalité ethnolinguistique sur ces interrelations de variables. Le groupe de participants comptait 285 étudiants canadiens-anglais et 243 étudiants canadiens-français fréquentant une université bilingue et provenant de milieux où la vitalité ethnolinguistique était soit élevée, soit basse. Les résultats d'une analyse de variance indiquaient que la

vitalité et l'appartenance à un groupe de même langue maternelle influencent le degré d'identification ethnique, de contact interethnique et de confiance en soi par rapport à la langue seconde sans affecter pour autant les niveaux d'adaptation psychologique. Les analyses causales appuyaient un modèle où la confiance en soi en matière linguistique influait sur les relations établies entre les contacts interethniques, l'identité et l'adaptation, malgré le fait que les modèles de relations différaient selon la vitalité du groupe. L'analyse porte à croire que la vitalité ethnolinguistique est un important modérateur de l'adaptation interculturelle, entre autres raisons, parce qu'il existe des différences entre les groupes dans l'expérience de contact interethnique et de confiance en soi linguistique.

Intercultural contact may entail many intra- and interpersonal variations in language behaviour, feelings of ethnic identity, and psychological adjustment. Although these multidimensional ramifications of acculturative contact have been well recognized (eg., Berry, 1990; Elias & Blanton, 1987; Mendoza, 1989), little research has investigated more than one or two aspects at a time. For example, considerable research has examined the relation between the vitality of an ethnolinguistic group, ethnic identity and the language behaviour of individuals who belong to that group (see Giles & Coupland, 1991, for review). As well, there have been numerous investigations into the stress and adaptation problems that can arise from interethnic contact (see Berry & Kim, 1988; Rogler, Cortes, & Malgady, 1991, for reviews). This study integrates these two trends of research through an examination of English-French relations in a bilingual milieu.

Acculturation refers to "those phenomena which result when groups of individuals having different cultures come into continuous first-hand contact" (Redfield, Linton, & Herskovits, 1936, p. 149). Among these phenomena, one that has received considerable attention is ethnic identity. Ethnic identity corresponds to that part of

an individual's self-concept which concerns how he/she relates to the native ethnic group and to other relevant ethnic groups (Phinney, 1990). Although it is often indexed through other facets of acculturation, such as ethnic behaviours (eg., language preference or participation in the cultural community) or through arbitrary labelling by the researcher (eg., by last name or native language), ethnic identity is probably better assessed as a subjective feeling of belonging and self-definition (cf. Barth, 1969; Leets, Giles, & Clément, 1996; Phinney, 1990).

Because interethnic contact implies the existence of at least two ethnic groups, adequate understanding of ethnic identity further requires that membership in the original ethnic culture and membership in the other relevant culture be considered independently of one another (Fernandez & Sanchez, 1992; Der Karabetian, 1980; Sanchez & Fernandez, 1993; Sayegh & Lasry, 1993; Szapocznik, Kurtines, & Fernandez, 1980; Zak, 1973; 1976). In line with this bidimensional approach, Berry (1980; 1990) suggests that four modes of acculturation can be identified depending upon the degree of engagement in each group. These include: (1) separation (rejection of the target group and identification with the native group); (2) assimilation (rejection of the native group and identification with the target group); (3) deculturation, or marginalization (rejection of both cultures as ethnic reference groups); and (4) integration (identification with both the native group and the target group). In their investigation of attitudes toward the process of acculturation, Berry and his colleagues have generally found that individuals prefer integration as an acculturation experience (eg., Berry, Kim, Power, Young, & Bujaki, 1989).

This preference for integration, however, has not been replicated in some studies that have examined the effects of interethnic contact on ethnic identity. The results of a series of studies by Clément and his colleagues showed that respondents claim that high levels of identification with one ethnic group and low levels of identification with the other ethnic group characterize their feelings of identity (see Clément, Gauthier, & Noels, 1993; Clément & Noels, 1992; Clément, Sylvestre, & Noels, 1991; Noels, Pon, & Clément, 1996). These patterns, thus, are most appropriately described as "separation" or "assimilation". Clément and Noels' approach to ethnic identity differs from Berry's approach to acculturation attitudes in that it assesses not preferred acculturation experience, but rather the feelings of group membership on a moment-to-moment basis. In line with many constructivist accounts of cultural identity (eg., Applegate & Sypher, 1988; Collier & Thomas, 1988), Clément and Noels' (1992) situated identity approach maintains that sentiments of group belonging arise through negotiations between interactants, each of whom is motivated to achieve the most positive self-presentation possible. Group identities,

therefore, are not presumed to be given and static, but, rather, to develop through the course of social interaction as individuals assume the most positive group identity possible, given societal and social characteristics of the situation.

Two implications of this formulation and findings are relevant to the present study. First, identity may vary as a function of contextual characteristics, one of which is the ethnolinguistic vitality of the membership group (cf. Giles, Bourhis, & Taylor, 1977). Ethnolinguistic vitality refers to those societal characteristics that will ensure the survival of a language, including demographic representation, prestige, and institutional support (Giles, Bourhis, & Taylor, 1977). Clément (1980) and Lambert (1978) have suggested that there is a tendency for minority group members (i.e., members of groups with low vitality) to identify with the higher vitality second language group and to lose their original group identity (i.e., assimilate). In contrast, majority group members (i.e., members of groups with high vitality) are likely to acquire a second identity without losing their original group identity (i.e., integrate). Thus, a first purpose of the present study is to examine the patterns of acculturation as they pertain to the ethnic identity of Anglophones and Francophones of different ethnolinguistic vitality backgrounds.

A second implication of this approach is that an identity can only be maintained to the extent that there is a social consensus about the appropriateness of that identity. Presenting a particular image can only be accomplished if that identity is validated by the interactant (cf. Schlenker, 1982; Schlenker & Wiegold, 1989). This assumption implies the existence of norms, or social consensus, among members of a group regarding the identity which is appropriate to a given situation. Moreover, groups from different vitality backgrounds may differ with regards to what is viewed as appropriate behaviour. For example, whereas majority group members may be required to accommodate minority group members on rare occasions, minority group members may be required to accommodate to the higher vitality interactants more frequently. As a result, minority group members may have less stringent norms about what is an appropriate identity. With regards to ethnic identity, then, maintaining an identification with either ethnic group can be achieved only to the extent that there are group norms to support that identity, and these norms may differ depending upon the vitality of the groups considered. In addition to variations in individual degree of endorsement of identities, variations in group consensus about identity should be related to vitality. Investigating these variations is the second purpose of this study.

The third purpose of this study is to consider how contact and communication variables contribute to these

identity variations and the effect that group vitality has on these interrelations. In her discussion of the importance of communication for cross-cultural adaptation, Kim (1988) maintains that the acquisition of communicative competence in the language of the other relevant ethnic group is essential for a harmonious acculturation experience (cf. Church, 1982; Deutsch & Won, 1963; Nicassio, 1985; Nishida, 1985; Redmond & Bunyi, 1993; Wong-Rieger, 1984). She maintains that it is through communication that individuals learn to relate effectively and appropriately with their social environment and, hence, are able to fulfil various needs and desires (cf. Rogler et al., 1991; Tran, 1990a, 1990b). With greater skill using a particular communication system, individuals better understand the cultural premises of that ethnic group and are more likely to identify with members of that group. Moreover, Kim maintains that, as needs and desires are satisfied, individuals are likely to experience better psychological adjustment. Hence, in situations of interethnic contact, second language proficiency and re-lated variables such as self-confidence in using the second language are critical to feelings of ethnic identification and psychological adjustment.

The interrelations between interethnic contact, language and identity are described in Clément's socio-contextual model of second language learning (1980; 1984). Clément suggests that, for settings where there is the opportunity for interethnic contact, aspects of this contact such as its frequency and quality lead to variations in the level of linguistic self-confidence. Self-confidence, defined as self-perceptions of communicative competence and concomitant low levels of anxiety in using the second language, is associated with increased usage of and communicative competence in the second language. These linguistic variables, in turn, are related to variations in identification with the second language group and with the original language group. More specifically, with increased second language competence, the individual comes to identify with the second language community. Second language competence may also affect identification with the first language group, but in different ways depending upon the ethnolinguistic vitality of the group considered. For majority group members, who are secure in the cultural stability of the native group, identification with the first language group is likely to be relatively uninfluenced by second language acquisition. For minority group members, who have less secure group vitality, identification with the first language group is likely to be undermined by developing second language competence.

The socio-contextual model does not specify the relation between communication variables and psychological adjustment. Several studies, however, document that variables shown to be related to second language

competence, including a preference for, knowledge of, and self-confidence in the second language, are linked to lower levels of stress, higher levels of satisfaction with the self and society, and/or a higher sense of personal control in a variety of ethnic groups (Chataway & Berry, 1989; Dion, Dion, & Pak, 1990, 1992; Krause, Bennett, & Tran, 1989; Pak, Dion, & Dion, 1985). Pesner and Auld (1980), for example, found that bilingual high school students have higher self-esteem than unilingual students in some contexts. Elsewhere, in a recent examination of Clément's socio-contextual model (1980, 1984), Noels, Pon and Clément (1996) found that greater second language self-confidence was related to better psychological adjustment in Chinese students registered at Canadian universities. Following these considerations, the relations between self-confidence and emotional adjustment are examined in light of the socio-contextual model.

In summary, the purpose of this study is threefold. First, the acculturation experience of high and low vitality Francophone and Anglophone Canadian university students is examined in terms of the degree of identification with the first and second language groups. Second, the same comparison is extended to the degree of membership group consensus regarding ethnic identification. Third, the influence of ethnolinguistic vitality on the relations between contact, self-confidence, identity and feelings of adjustment is examined through a test of some of the propositions outlined in Clément's socio-contextual model (1980; 1984).

METHOD

Subjects

The participants included 285 native English speakers and 243 native French speakers, all of whom were Canadian-born undergraduate students attending a bilingual university in Ottawa, Canada. Ottawa is situated in Ontario, an officially unilingual English province, at the border of Québec, an officially unilingual French province. Thus, students attending the University of Ottawa originate from milieux where they are members of relatively high or low vitality groups.

The Anglophones were, on average, 20.87 years old ($SD = 4.35$), and 72.4% of the group was female. All of the students indicated that the first language they learned was English. These students were primarily enrolled in their first year of university study (71%) in the Faculty of Arts (50%), Social Science (27%), Administration (12%), Science (4%), and Health Sciences (7%). For 68.6% of the participants, their mother's language background was English. For 64.2% of the sample, the father's language background was English. These students began to study French at 7.11 years of age ($SD = 4.12$), and continued to study it for 11.92 years ($SD = 5.14$). A third language (i.e., a language other than French or English) was known by

23.9% of the group, and 72.3% of these people reported that this language was either Spanish or German.

The Francophones were, on average, 21.36 years old ($SD = 5.71$), and 72.1% of the group was female. All of these students indicated that their native language was French. These students were primarily enrolled in their first year of university study (72%) in the Faculty of Arts (27%), Social Science (27%) and Administration (19%), Science (10%), Health Sciences (14%) and other (3%). Their mother's language background was generally French (90.6%), as was their father's background (82.8%). These students began to study English at 6.65 years of age ($SD = 3.98$), and continued to study it for 11.97 years ($SD = 6.03$)¹. A third language was known by 20.3% of the group, and 80.8% of these people reported that this language was either Spanish or Italian.

Materials

The materials were adapted from instruments used in earlier studies. A description of each scale follows, along with Cronbach alpha indices of internal consistency included in parentheses.

Indices of Second Language Self-Confidence

Anxiety using the second language. This 6-point scale included 8 items, 4 positively and 4 negatively worded, assessing the level of anxiety experienced while using the second language. A high score reflected low levels of anxiety (Anglophones: $\alpha = .70$; Francophones: $\alpha = .72$).

Self-confidence using the second language. Participants' belief in their ability to use the second language was assessed in terms of the extent to which they agreed or disagreed with 6 items on a 6-point scale. A high score represented high levels of self-confidence (Anglophones: $\alpha = .92$; Francophones: $\alpha = .86$).

Self-evaluation of second language proficiency. Four 7-point scales measured how well participants felt they could read, write, speak and understand the second language, from "not at all" to "fluently" (Anglophones: $\alpha = .92$; Francophones: $\alpha = .86$).

Indices of Contact with Members of the Second Language Community

Frequency and quality of contact with the second language group. This measure was adapted from Labrie and Clément (1986) and Clément (1986). It asked individuals to indicate on a 7-point scale the frequency of their contacts with members of the second language commu-

nity across six situations including intimate relations, family, and school. Each frequency scale was followed by a scale to assess the quality of the contact in each situation. High scores on these scales meant very frequent and very high quality contact (Anglophones: Frequency of Contact: $\alpha = .72$; Quality of Contact: $\alpha = .84$; Francophones: Frequency of Contact: $\alpha = .82$; Quality of Contact: $\alpha = .75$).

Proportion of life spent with members of first language group. Using the 6 situations described above, participants indicated on a scale from 1 to 9 the percentage of their life spent with members of the first language community, with a high score indicating a high percentage of time spent with first language-group members (Anglophones: $\alpha = .61$; Francophones: $\alpha = .65$).

Media exposure to the second language group. Respondents indicated the language of the media to which they were exposed across 11 different types of media (eg., television, radio, newspapers, billboards), on a scale of 1 to 7, where 1 meant "mostly first language exposure" and 7 meant "mostly second language exposure" (Anglophones: $\alpha = .79$; Francophones: $\alpha = .86$).

Percentage of courses taken in the native language. On a 9-point scale, the respondents indicated the percentage of courses taken in their native language. A high score meant that courses were taken mostly in the native language.

Linguistic ambience of the courses taken. On a 7-point scale, respondents indicated the linguistic atmosphere of their courses. A low score meant that the courses were more first language oriented and a high score meant that they were more second language oriented.

Indices of Ethnic Identification

Following other studies of identification, (cf. Clément et al., 1991; 1993; Clément & Noels, 1992; Noels et al., 1996; Sylvestre, 1992), identification with members of each language group was assessed in reference to 22 everyday situations. After each situation, participants indicated their (1) identification with the first language group, and (2) identification with the second language group, as in the example from the English questionnaire shown below:

When I listen to music, I feel...

Not at all							Very
Anglophone	1	2	3	4	5	Anglophone	

Not at all							Very
Francophone	1	2	3	4	5	Francophone	

In accordance with the propositions elaborated earlier, these items were preceded by instructions which ex-

¹ Through a series of *t*-tests, it was established that the Anglophone group did not differ from the Francophone group with regards to age ($t_{(503)} = -1.09$), age at which they began to study the second language ($t_{(505)} = 1.29$), and the number of years spent studying the language ($t_{(501)} = 0.45$).

plained that, in any given situation, one might identify with both ethnic groups at the same time, with one group and not the other group, or with neither group at all. The answers allowed the computation of two indices reflecting the level of identification with Anglophones and with Francophones, such that a high score indicated a high level of identification with that group (Anglophones: *First language-group identity*: $\alpha = .93$; *Second language-group identity*: $\alpha = .93$; Francophones: *First language-group identity*: $\alpha = .93$; *Second language-group identity*: $\alpha = .94$).

Indices of Psychosocial Adjustment and Distress

Self-esteem. Global self-esteem was assessed using Rosenberg's (1965) self-esteem scale. Students indicated on a Likert-type 6-point scale the extent to which they agreed or disagreed with 10 statements, such that a high score implied high self-esteem (Anglophones: $\alpha = .86$; Francophones: $\alpha = .69$).

Psychological distress. The degree of distress felt in the last 4 or 5 days was assessed using the short version of Lemyre, Tessier and Fillion's (1990) *Mesure du stress psychologique - A* (MSP-A; English version: Psychological Stress Measure-A). The subject indicated the extent to which 25 stress symptoms were self-descriptive on an 8-point scale, from "not at all" to "extremely" (Anglophones: $\alpha = .94$; Francophones: $\alpha = .93$).

Depression. Depressive affect was assessed using the short form of the Beck Depression Inventory (Beck, 1967; Beck & Beck, 1972). Thus, 12 items (one item pertaining to suicide ideation was eliminated) assessed, on a scale from 1 to 4, the extent to which the individual evidenced depressive symptoms in the last 7 days (Anglophones: $\alpha = .78$; Francophones: $\alpha = .73$).

Social anxiety. Discomfort interacting with other people was assessed using Leary's (1983) Interaction Anxiousness Scale. Students indicated on a Likert-type 6-point scale the extent to which they agreed or disagreed with 10 statements (Anglophones: $\alpha = .85$; Francophones: $\alpha = .84$).

Index of Ethnolinguistic Vitality

Participants were asked to indicate the city and province in which they lived the longest. On the basis of this information, the population counts for the number of people who speak English as a native language and of people who speak French as a native language in that city were recorded from the 1986 Canadian census. A score of ethnolinguistic vitality was calculated by dividing the figure for the participants' native language group by the total population in that city. Thus, the obtained ratio can be used to create two groups of Francophones and two groups of Anglophones: those with greater ethnolinguistic vitality (quotient > median) and those with lower vitality (quotient < median). For Anglo-

phones, the median vitality score was .80, with a range from .02 to 1.00 and a mean of .81. For Francophones, the median vitality score was .40, with a range from .003 to 1.00 and a mean of .52.

General Information

General information regarding the participants' age, sex, university programme and level was gathered. The participants' linguistic background was also recorded, including the native language, the language used most often, the parents' language background, how long the second language had been studied, and whether a third language was spoken.

Procedure

Students were recruited from introductory classes in the Faculties of Arts, Social Sciences, Administration, and Science and Engineering. During regular class-time, they were requested to complete a pre-selection questionnaire and asked if they would like to participate in the larger study. Those people who agreed to participate were then contacted by telephone in order to arrange an appointment for a group testing session. They were paid \$10.00 for their participation. Subjects were informed that participation in the study was voluntary, that all answers would be confidential, and that only group results would be reported.

RESULTS

Three sets of analyses were conducted in order to assess the influence of ethnolinguistic vitality on ethnic identification, group consensus regarding identification, and the links between the variables implicated in the acculturation process. The first analysis assessed the extent to which high and low vitality Anglophone and Francophone groups endorse ethnic identification with the first and second language groups. A second set of analyses determined the extent to which these groups share a consensus about the identities and the extent to which they are polarized in their endorsement of these identifications. A third set of analyses considered the interrelations between contact, self-confidence, identity and adjustment across these groups of differing vitality in view of the causal sequence outlined in Clément's socio-contextual model.

Mean Endorsement of Ethnic Identity

To assess whether levels of ethnic identification varied across the four groups, a split-plot ANOVA was computed, using as between-subjects factors the native language group (Anglophone vs Francophone), and ethno-linguistic vitality (high vs low), and ethnic identification (first language group vs second language group) as a repeated measures factor. The results indicated that all main and

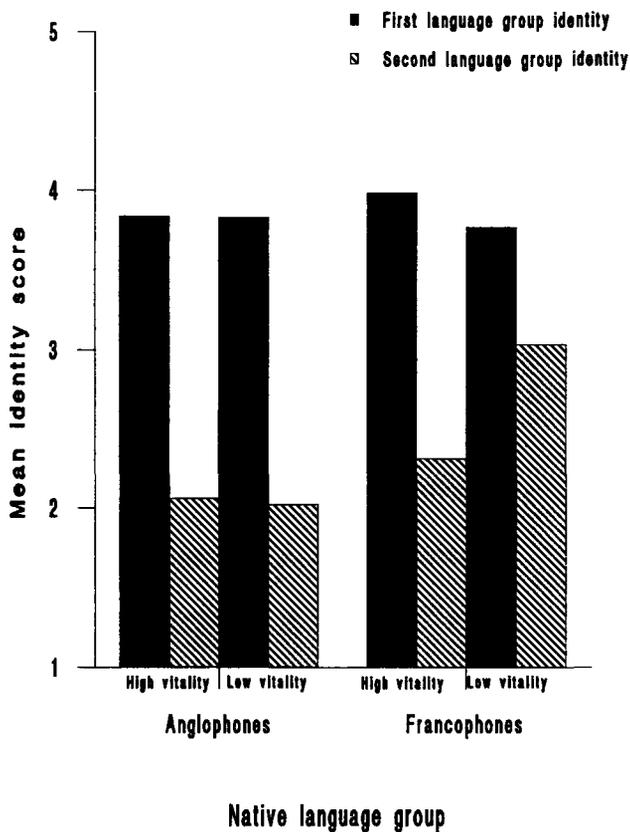


Figure 1. Mean identity score as a function of native language group, ethnolinguistic vitality, and target identity.

interaction effects were significant, except for the main effect for ethnolinguistic vitality. Since the 3-way interaction was significant ($F_{(1,436)} = 20.39; p < .001$), this effect is discussed here (see Figure 1).

Post hoc Tukey tests (using $\alpha < .01$) indicated that all subjects felt more like members of their first language group than like members of their second language group, and that all subjects felt equally strongly about their first language group identity. There was, however, some variation in the level of endorsement of second language group identity, such that Francophone groups endorsed identification with the second language group to a greater extent than did their Anglophone counterparts, and Francophones from lower vitality contexts indicated greater identification with the second language group than did those from higher vitality contexts. In fact, the low vitality Francophone group was the only group to show a level of identification to the second language group that extended to the midpoint, thus pointing to an "integration" profile.

Consensual Endorsement of Ethnic Identity.

To determine the extent to which the groups shared a consensus about the identities and the extent to which

they were polarized in their endorsement of these identifications, a series of correlated t -tests were computed separately for each of the four groups (high and low Francophone and Anglophone groups). For this analysis, for each of the 22 identity items, the item mean for that group was contrasted against the midpoint of the scale (i.e., 3; see Clément & Noels, 1992). A positive t -score indicated a consensual tendency to identify with the group under consideration, whereas a negative score corresponded to a lack of identification with that group. The absolute value of the t -score indicated the degree of consensus or polarization for a specific item and a specific group. The results indicated that all groups scored significantly above the midpoint for first language group identification and significantly below the midpoint for second language group identification, with the exception of the lower vitality Francophone group ($t_{21} = .78$).

An analysis of variance was computed to examine intergroup variation in consensus, taking into account inter-situational variations. This analysis used a repeated measures design with the 22 situations of identity as "subjects", and, as factors, the native language group (Anglophone vs Francophone), ethnolinguistic vitality (high vs. low) and the target group (first language group identity t -score vs second language group identity t -score). All effects were significant and, as the highest order significant effect, the three-way interaction ($F_{(1,21)} = 54.35; p < .001$) is discussed here (see Figure 2). These results (using an alpha level of .01) suggested that, generally, there is strong commitment to first language group identification across all groups except for the low vitality Francophone group, which showed somewhat less consensus about Francophone identity than high vitality Francophones. Non-commitment to second language group identification was also evident, although Francophones were generally less polarized in this regard and, in fact, low vitality Francophones indicated neither strong endorsement nor rejection of the latter identity. Thus, although the groups were largely polarized in their identification, they differed in the extent of this polarization in a manner coherent with their vitality. These results add to our understanding by suggesting that although their second language group identity was relatively high, there was a marked variability in the endorsement of the second language identity by the minority Francophone sample.

Interrelations Between Contact, Self-Confidence, Identity, and Psychological Adjustment: Testing the Model of the Acculturation Process Across Vitality Groups

Prior to the statistical analyses, global indices for each of the contact, language competence and adaptation variables were created. The composite indices were calculated by standardizing the relevant indices (after re-

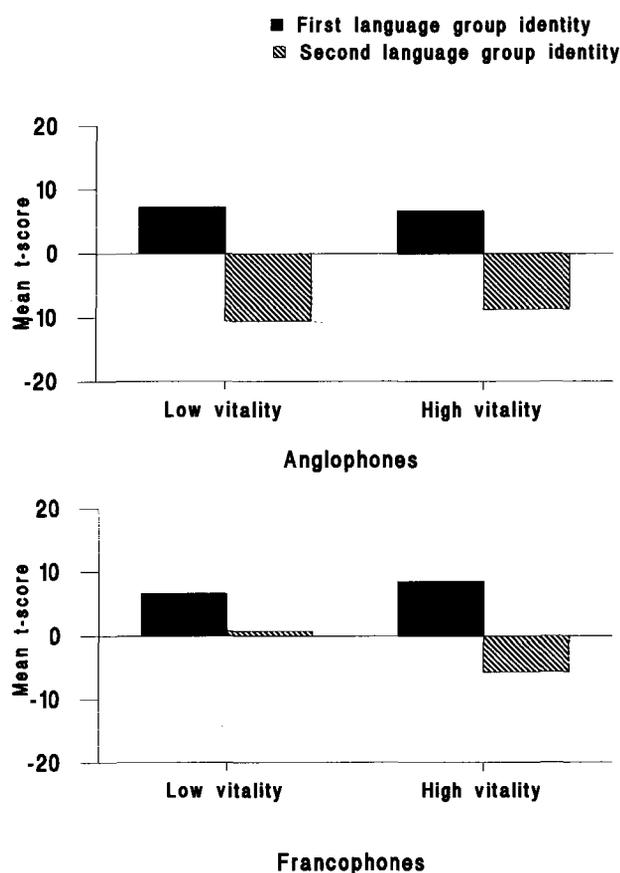


Figure 2. Mean polarization as a function of native language group, ethnolinguistic vitality and target identity.

verse-scoring on the appropriate scales), summing the individual indices together for each construct, and adding a constant of 10. Thus, six scales comprised the *Contact* index, three scales comprised the *Self-Confidence* index, and four scales comprised the *Adjustment* index.

Vitality influence on contact, self-confidence and adjustment. A preliminary analysis assessed the direct influence of ethnolinguistic vitality on contact, self-confidence and adjustment. Three 2×2 ANOVAs were computed for each of the dependent variables, self-confidence, contact and adjustment, using as factors ethnolinguistic vitality (low vs high) by native language group (Anglophone vs Francophone). The results indicated that the two main effects for language self-confidence were significant [*Language group*: ($F_{(1,443)} = 267.49$; $p < .001$); *Vitality* ($F_{(1,443)} = 37.15$; $p < .001$)]. Anglophones ($M = 8.49$; $SD = 2.57$) were less self-confident in their second language than Francophones ($M = 11.86$; $SD = 1.94$), as were the high vitality ($M = 9.42$; $SD = 2.80$) groups relative to the low vitality groups ($M = 10.38$; $SD = 2.81$). There were also significant main effects on the contact index (*Language group*: $F_{(1,421)} = 60.98$; $p < .01$; *Vitality*: $F_{(1,421)} = 4.63$; $p < .05$) as well as a significant interaction ($F_{(1,421)} = 18.89$;

$p < .01$). Both Anglophone groups experienced equally limited contact (Low vitality: $M = 8.66$; $SD = 3.16$; High vitality: $M = 9.27$; $SD = 3.27$), high vitality Francophones ($M = 9.69$; $SD = 4.08$) had somewhat more contact, and low vitality Francophones had the most contact ($M = 10.35$; $SD = 3.40$). Finally, there were no significant effects for the adjustment index. Thus, although vitality directly influences variations in contact and self-confidence, it does not directly influence variations in psychological adjustment.

Path analyses of the socio-contextual model. In order to evaluate relations between the contact, language, identity and adjustment variables, as well as the validity of the proposed causal sequence as outlined in Clément's (1980) model, four path analyses were conducted using LISREL 7.2 (Jöreskog & Sörbom, 1991; correlation tables for each of the 4 groups are presented in Appendix A). Accordingly, for the high and low vitality Anglophone and Francophone groups, it was hypothesized that contact with the second language community determined the amount of self-confidence in the second language. Self-confidence in turn predicted both first language group and second language group identities and psychological adjustment. With regards to lower vitality groups, it was expected that increased self-confidence is related to greater identification with the second language community and lessened identification with the first language group community. For higher vitality groups, increased self-confidence was expected to be related to greater identification with the second language group, but not to be indicative of lessened first language group identity.

Table 1 summarizes the results of the path analyses separately for each group. The initial test of the model showed a poor fit of the model to the data in the case of all four groups: in all cases the χ^2 statistic was significant, and the alternative indices of goodness of fit did not approach acceptable levels². In order to improve the fit of the model to the data, alternative paths were freed where it was deemed conceptually meaningful and statistically warranted to do so. Once an acceptable fit was determined in terms of the Goodness of Fit Index (GFI; Jöreskog & Sörbom, 1991) and the Comparison Fit Index (CFI; Bentler, 1990), nonsignificant paths were set to zero. The final models for the 4 groups are presented in Figures 3 and 4.

2 Since χ^2 is often significant when the sample size is large, other indices of fit have been developed, including the Goodness of Fit Index (see Jöreskog & Sörbom, 1991) and the Comparison Fit Index (Bentler, 1990). These indices range between 0.00 and 1.00, such that a model fits the data well if the fit index is above .90 (Byrne, 1989; 1992).

TABLE 1
Summary of respecification steps in the path analyses

Competing Models		χ^2	df	χ^2/df	$\Delta\chi^{2b}$	Δdf	GFI ^c	CFI ^d
A. Majority Anglophones								
0	Null Model	106.31	10	10.63	–	–	.72	–
1	Model 1	60.35	6	10.06	45.96	4	.86	.44
2	Model 1 with GA _{3,1} free	32.94	5	6.59	27.41	1	.90	.71
3	Model 2 with PS _{3,2} free	14.00	4	3.50	18.94	1	.95	.90
4	Model 3 with non-significant paths set to 0 ^a	16.49	5	3.30	2.49	1	.94	.94
B. Minority Anglophones								
0	Null Model	143.48	10	14.35	–	–	.70	–
1	Model 1	79.11	6	13.19	64.37	4	.84	.45
2	Model 1 with GA _{3,1} free	42.56	5	8.51	36.55	1	.89	.72
3	Model 2 with PS _{3,2} free	15.18	4	3.80	27.38	1	.95	.92
4	Model 3 with non-significant paths set to 0 ^a	17.26	5	3.45	2.08	1	.95	.91
C. Majority Francophones								
0	Null Model	79.47	10	7.95	–	–	.77	–
1	Model 1	26.44	6	4.41	53.03	4	.91	.71
2	Model 1 with GA _{3,1} free	9.73	5	1.95	16.71	1	.96	.93
3	Model 2 with non-significant paths set to 0 ^a	10.89	6	1.82	1.16	1	.96	.93
D. Minority Francophones								
0	Null Model	95.24	10	9.52	–	–	.30	–
1	Model 1	65.63	6	10.94	29.71	4	.81	.30
2	Model 1 with GA _{2,1} free	30.70	5	6.14	34.93	1	.90	.70
3	Model 2 with GA _{3,1} free	3.35	4	0.84	27.35	1	.99	.99
4	Model 3 with non-significant paths set to 0 ^a	11.24	6	1.87	7.89	2	.96	.94

^a This model is not statistically significant ($p > .05$).

^b All changes in $\chi^2_1 > 6.64$ are significant at $p < .01$.

^c Goodness of Fit Index

^d Comparison Fit Index

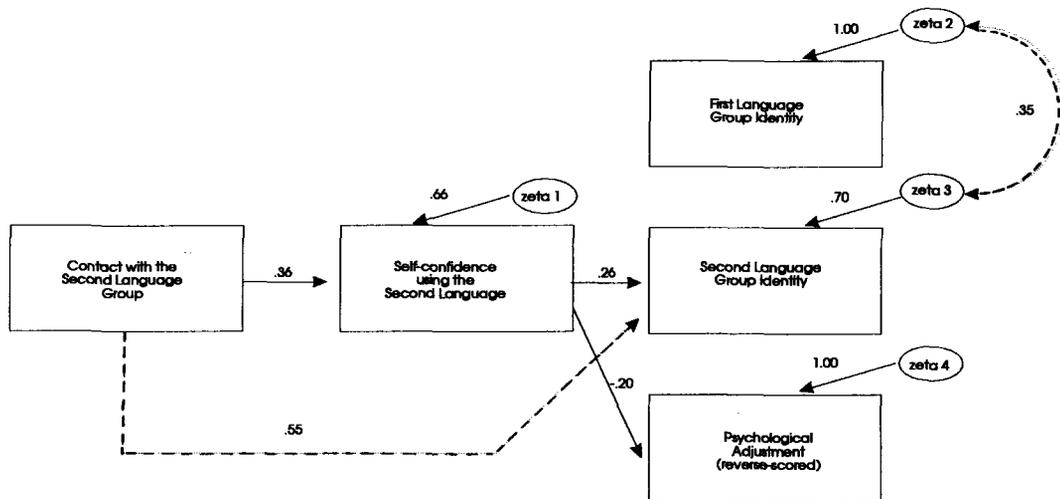
For the two Anglophone groups, the final models were similar. *Contact* predicted *Self-Confidence* and *Self-Confidence* in turn predicted greater *Second Language Group Identity*. *Self-Confidence* was also indicative of better feelings of *Psychological Adjustment*. *Self-Confidence* did not predict lessened feelings of *First Language Group Identity*. The two modifications to the model indicated that *Contact* directly influence *Second Language Group Identity* beyond its indirect influence through *Self-Confidence* (path GA_{3,1}). As well, the correlation between the errors of specification for *First* and *Second Language Group Identities* suggest that these two variables are positively correlated or positively related to a third, unassessed variable (correlation PS_{3,2}).

For the high vitality Francophones, *Contact* predicted

Self-Confidence which in turn was indicative of increased *Second Language Group Identity* and decreased *First Language Group Identity*. *Self-Confidence* did not predict variations in *Psychological Adjustment*. Modifications to the model included a direct path from *Contact* to *Second Language Group Identity* (path GA_{3,1}), such that *Contact* predicted *Second Language Group Identity* both directly and indirectly through *Self-Confidence*.

For the low vitality Francophones, *Self-Confidence* predicted increased *Second Language Group Identity* and increased *Psychological Adjustment*. *Contact*, however, did not predict *Self-Confidence* and *Self-Confidence* did not predict *First Language Group Identity*. Modifications to the model suggested that *Contact* had direct effects on the two identities (paths GA_{2,1} and GA_{3,1}).

A. High vitality Anglophones



B. Low vitality Anglophones

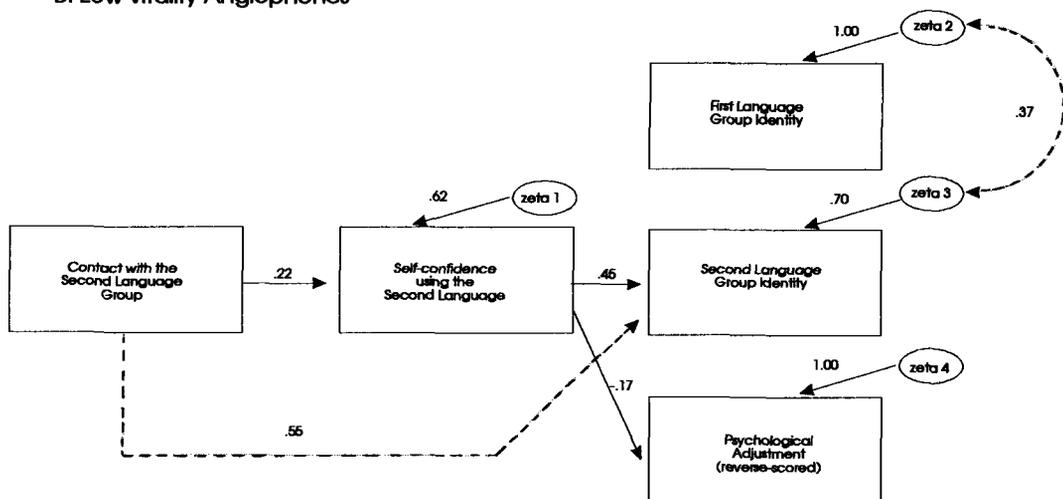


Figure 3. Anglophone groups: Final path analytic model of the influence of contact and linguistic self-confidence on identity and adjustment.

Note. Values represent standardized estimates. Solid arrows represent paths in the hypothesized model. Broken arrows indicate paths in the modified model.

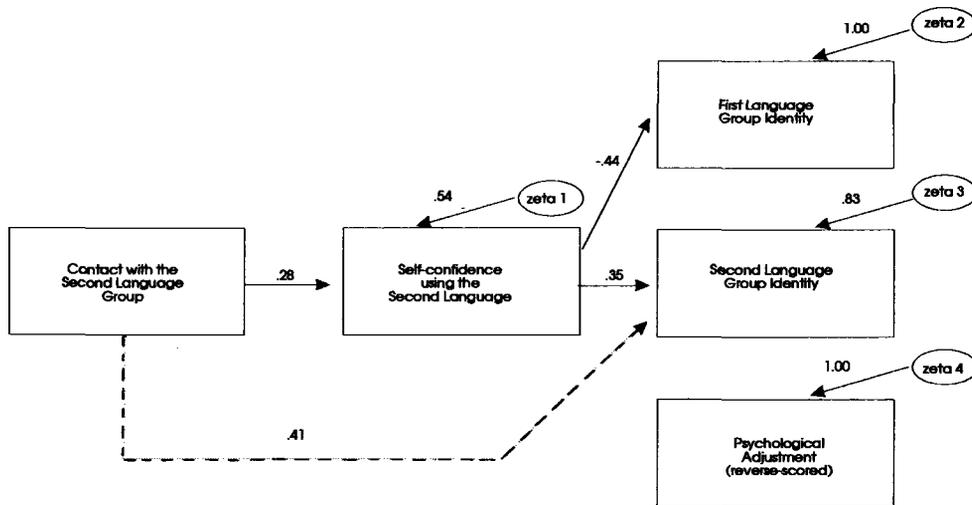
DISCUSSION

The purpose of this study was to consider three related issues as they concern the interplay between contact, language, identity and adjustment across vitality groups. The first and second objectives were to assess, respectively, how the level of endorsement of ethnic identification and degree of consensual identification with one or the other language groups are affected by the vitality and ethnic group to which the student belongs. The third objective was to consider how group vitality influences the relations between contact, self-confidence, identity and adjustment as outlined in Clément's (1980; 1984)

socio-contextual model.

The results of the analyses of variance and of the polarization analyses indicated that ethnolinguistic vitality and native group membership are related to levels of identification. Although first language group identity is consistently high across all groups, second language group identity varies according to the vitality of the native group. Francophones, who represent a linguistic enclave in an English-dominated continent, have higher second language group identity than Anglophones, and this is particularly true for Francophones living in a region where their group has

A. High vitality Francophones



B. Low vitality Francophones

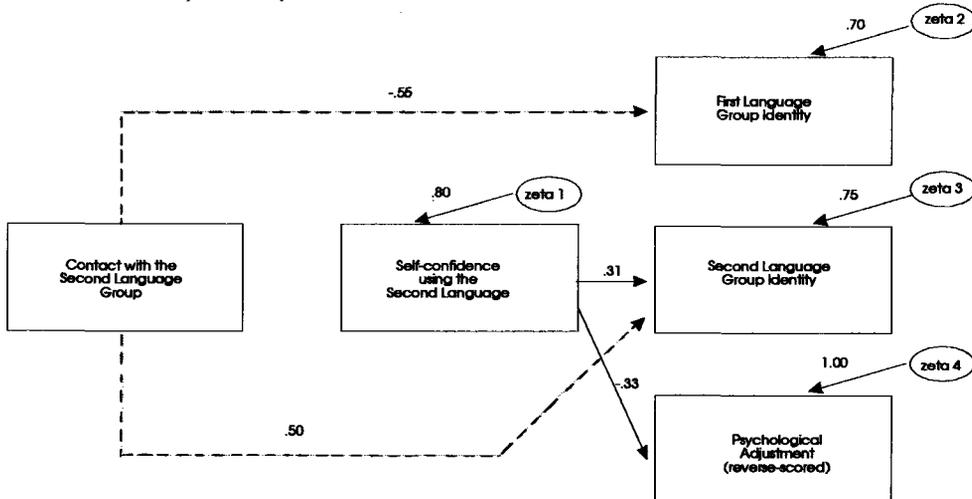


Figure 4. Francophone groups: Final path analytic model of the influence of contact and linguistic self-confidence on identity and adjustment.

Note. Values represent standardized estimates. Solid arrows represent paths in the hypothesized model. Broken arrows indicate paths in the modified model.

low vitality. Consistent with previous studies, although the modal pattern of identification may be one of “separation” (cf. Clément et al., 1991; 1993; Clément & Noels, 1992), the distinction between first and second language identities appears to shrink with lower vitality.

These results did not, however, support the hypothesis that low vitality groups would demonstrate patterns of assimilation, nor that majority groups would necessarily show integration. Rather, it is the lowest vitality group that showed the pattern of identity that could most plausibly be termed “integration”. At the same time,

however, this group was not polarized with regards to second language group identity. That is, they show little consistency in their endorsement of identity across situations. This inconsistency suggests that its members are ambivalent about the direction of second group identification (see Clément et al., 1993). In other words, the norms are unclear as to whether the second language group should be accepted or rejected as an ethnic reference group.

These group differences in the level and variability of identity, moreover, are paralleled by variations in contact

and second language self-confidence. For example, low vitality Francophones, who evidence an "integrated" pattern of identity, also report the highest level of interethnic contact. As well, in keeping with Kim (1988) and Clément's (1980; 1984) notions that identification is a product of the communication process, both low vitality groups and both Francophone groups perceive their second language competence to be relatively high. Taken together, these results suggest that, in circumstances of high levels of intergroup contact and second language self-confidence combined with unclear guidelines for behaviour, low vitality is a precondition for the intergroup contact and linguistic behaviour that contribute to the lack of commitment to one identity. In such circumstances it is reasonable to suppose that the pattern of integration seen with regard to the mean endorsement of identity may well be a prelude to assimilation.

Social interaction and communication are also important correlates of emotional adjustment. Second language self-confidence, and to a lesser extent, contact, were negatively related to adjustment. On the other hand, while vitality and native language group membership are associated with identification, contact and self-confidence, the results of the ANOVAs show that they are not related to feelings of distress. This suggests a mechanism whereby the effects of ethnolinguistic vitality on psychological adjustment are mediated by aspects of interaction and communication.

The results of the path analyses generally uphold the mediational hypothesis as outlined in the causal model proposed by Clément (1980). Generally, contact with the second language community predicts self-confidence in the second language, which in turn predicts feelings of second language group identity and psychological adjustment. This finding is consistent with Kim's (1988) contention that communication variables, such as linguistic self-confidence, are important mediators of the effects of cross-cultural contact on identity and adjustment. It is important to note, however, that for all groups, contact also influenced second language group identity directly, suggesting that contact without mastery of the second language is sufficient to influence feelings of membership in the second language community. Second language skills, however, augment that perception.

The vitality of the ethnic group was shown to have important implications for the patterns of identification and adjustment. For both low and high vitality Anglophone groups, the pattern of relations between variables were suggestive of a process of "additive bilingualism" (see Lambert, 1978). Although acquiring confidence in a second language was indicative of greater identification with that language group, it was not indicative of lessened first language group identity. Moreover, greater self-confidence was also beneficial in

that it contributed to better psychological adjustment. For this Anglophone group, who generally represents a high vitality group in North America, the benefits of acquiring a second language do not raise the issue of whether there would be a loss of first language group identity. Rather, given the positive correlation between the two identities, it would seem that learning a second language has the overall implication of raising the level of ethnic awareness.

For the high vitality Francophone group, developing confidence in the second language as a consequence of contact with the second language community resulted in increased identification with the second language group, but also decreased identification with the first language group. This pattern of relations is suggestive of "subtractive bilingualism" (see Lambert, 1978). It must, however, be kept in mind that the negative effects of learning a second language did not extend to psychological adjustment – language self-confidence and contact were independent of psychological adjustment. As a provincial majority group, it is possible that these individuals can achieve many goals without using the second language, and thus the necessity of second language competence for adjustment is not as great as for a comparative minority group. Moreover, it may be that recent discussions concerning the implications of French and English language use for the cultural survival of the French community in Québec society have given the issue of developing second language competence negative ideological overtones. As a result, using a second language is *de facto* considered to be antithetical to the maintenance of the first language group identity even though it is unrelated to psychological adjustment. The immediate ideological context, then, might attenuate the importance of second language skills for psychological adjustment, while emphasizing the opposing nature of the two linguistic identities.

For the minority Francophone group, although self-confidence in the second language was linked with heightened second language group identity and better psychological adjustment, it was not associated with lessened first language group identity. This pattern is reminiscent of the "additive bilingualism" pattern outlined for the Anglophones, rather than the "subtractive bilingualism" pattern that was expected for this low vitality group. However, although it was not related to self-confidence, contact with the second language community was indicative of lessened first language group identity and heightened second language group identity.

One explanation for this unexpected pattern of findings may lie in the level of self-confidence experienced by the minority Francophones. Their high level of self-confidence suggests that these individuals can use each language with almost native-like ease. In consequence, a

language may be used solely to facilitate conversation rather than to indicate their identity. Nonetheless, increased contact with the second language community is indicative of lessened first language group identification and enhanced second language group identity. In essence, the acculturative impact of interethnic contact remains, even though the language has a less important mediational role in the acculturation process.

Although self-confidence is less implicated in variations in first language group identity, it retains its importance for psychological adjustment, such that greater confidence is associated with better adjustment. This finding further supports Kim's (1988) contention that communicative competence in the language of the other ethnic group is critical to well-being in settings where other cultural groups are present and the language has some utilitarian value. In effect, the present results suggest that minority groups (exemplified by the low vitality Francophone group) can develop the skills and experience necessary to deal with life in an intergroup context, and thereby moderate the adverse impact of lower status on emotional adjustment.

In conclusion, this research considers two themes of research on intergroup contact and acculturation which have seldom been integrated: first, the interrelations between ethnolinguistic vitality, contact, language and identity, and second, how these variables are associated with psychological adjustment. This discussion underlines the intricacies of the acculturation process, especially the possibility that regional differences in the history of the relations between vitality groups may affect the acculturation experience. Whereas the original mediational communication model and predictions regarding relatively high vitality groups were supported, the results also point to discrepancies. Aspects of contact may have a direct, unmediated impact on identity, particularly when the level of communication skill is high. Furthermore, as is the case for majority Francophones, the social representation of interethnic contact may entail a lack of relationship with adjustment outcomes. These dissenting results will be the focus of our upcoming research efforts because their further examination permits a more complete understanding of the processes by which situations of interethnic contact relate to psychological well-being. This is, in our view, fundamental to aiding intercultural interactants through what can be a very personally and collectively challenging encounter.

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References

- Applegate, J. L., & Sypher, H. E. (1988). A constructivist theory of communication and culture. In Y.Y. Kim & W.B. Gudykunst (Eds.), *Theories in intercultural communication* (pp. 41-65). Newbury Park, CA: Sage.
- Barth, F. (1969). *Ethnic groups and boundaries*. London, UK: Allen & Unwin.
- Beck, A.T. (1967). *Depression: Causes and treatment*. Philadelphia: University of Philadelphia Press.
- Beck, A.T., & Beck, A.W. (1972). Screening depressed patients in family practice: A rapid technic. *Postgraduate Medicine*, 52, 81-85.
- Bentler, P.M. (1990). Comparative fit indices in structural models. *Psychological Bulletin*, 107, 238-246.
- Berry, J.W. (1980). Acculturation as varieties of adaptation. In A.M. Padilla (Ed.), *Acculturation: Theory, models and some new findings* (pp. 9-25). Boulder, CO: Westview Press.
- Berry, J.W. (1990). Psychology of acculturation. In J.J. Berman (Ed.), *The Nebraska Symposium on Motivation: Cross-cultural perspectives* (pp. 201-234). Lincoln, NB: University of Nebraska Press.
- Berry, J.W., & Kim, U. (1988). Acculturation and mental health. In P. Dasen, J. W. Berry, & N. Sartorius (Eds.), *Health and cross-cultural psychology* (pp. 207-236). London, UK: Sage.
- Berry, J.W., Kim, U., Power, S., Young, M., & Bujaki, M. (1989). Acculturation attitudes in plural societies. *Applied Psychology: An International Review*, 38, 185-206.
- Byrne, B.M. (1989). *A primer of LISREL: Basic applications and programming for confirmatory factor analytic models*. New York: Springer-Verlag.
- Byrne, B.M. (1992). *Structural equation modeling with EQS and EQS/Windows: Basic concepts, applications, and programming*. Thousand Oaks, CA: Sage.
- Chataway, C.J., & Berry, J.W. (1989). Acculturation experiences, appraisal, coping and adaptation: A comparison of Hong Kong Chinese, French, and English students in Canada. *Canadian Journal of Behavioural Science*, 21, 295-309.
- Church, A.T. (1982). Sojourner adjustment. *Psychological Bulletin*, 91, 540-572.
- Clément, R. (1980). Ethnicity, contact and communicative competence in a second language. In H. Giles, W.P. Robinson, & P.M. Smith (Eds.), *Language: Social psychological perspectives* (pp. 147-154). Oxford: Pergamon Press.
- Clément, R. (1984). Aspects socio-psychologiques de la

- communication inter-ethnique et de l'identité sociale. *Recherches sociologiques*, 15, 293-312.
- Clément, R. (1986). Second language proficiency and acculturation: An investigation of the effects of language status and individual characteristics. *Journal of Language and Social Psychology*, 5, 271-290.
- Clément, R., Gauthier, R., & Noels, K.A. (1993). Choix langagiers en milieu minoritaires : Attitudes et identité concomitantes. *Revue canadienne des sciences du comportement [Canadian Journal of Behavioural Science]*, 25, 149-164.
- Clément, 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, 202-232.
- Clément, R., Sylvestre, A., & Noels, K. (1991). Modes d'acculturation et identité située : Le cas des haïtiens de Montréal [Modes of acculturation and situated identity: The case of Haitians from Montreal]. *Canadian Ethnic Studies*, 23, 81-94.
- Collier, M.J., & Thomas, M. (1988). Cultural identity: An interpretive perspective. In Y.Y. Kim & W.B. Gudykunst (Eds.), *Theories in intercultural communication* (pp. 99 - 120). Newbury Park, CA: Sage.
- Der Karabetian, A. (1980). Relation of two cultural identities of Armenian-Americans. *Psychological Reports*, 47, 123-128.
- Deutsch, S.E., & Won, G.Y.M. (1963). Some social factors in the adjustment of foreign nationals in the United States. *Journal of Social Issues*, 19, 115-122.
- Dion, K.K., Dion, K.L., & Pak, A.W. (1990). The role of self-reported language proficiencies in the cultural and psychosocial adaptation among members of Toronto, Canada's Chinese community. *Journal of Asian Pacific Communication*, 1, 173-189.
- Dion, K.L., Dion, K.K., & Pak, A.W. (1992). Personality-based hardiness as a buffer for discrimination-related stress in members of Toronto's Chinese community. *Canadian Journal of Behavioural Sciences*, 24, 517-536.
- Elias, N., & Blanton, J. (1987). Dimensions of ethnic identity in Israeli Jewish families living in the United States. *Psychological Reports*, 60, 367-375.
- Fernandez, D.M., & Sanchez, J.I. (1992, August). *Multidimensional measurement of ethnic identification: Hispanic versus American versus Hispanic-American*. Presented at the 100th Annual Conference of the American Psychological Association, Washington, DC.
- Giles, H., Bourhis, R.Y., & Taylor, D.M. (1977). Toward a theory of language in ethnic group relations. In H. Giles (Ed.), *Language, ethnicity and intergroup relations* (pp. 307-348). London, UK: Academic Press.
- Giles, H., & Coupland, N. (1991). *Language: Contexts and consequences*. Pacific Grove, CA: Brooks/Cole.
- Jöreskog, K.G., & Sörbom, D. (1991). *LISREL 7.20*. Chicago, IL: Scientific Software.
- Kim, Y.Y. (1988). *Communication and cross-cultural adaptation*. Clevedon, UK: Multilingual Matters.
- Krause, N., Bennett, J., & Tran, T.V. (1989). Age differences in the acculturation process. *Psychology and Aging*, 4, 321-332.
- Labrie, N., & Clément, R. (1986). Ethnolinguistic vitality, self-confidence and second language proficiency: An investigation. *Journal of Multilingual and Multicultural Development*, 7, 269-282.
- Lambert, W.E. (1978). Cognitive and socio-cultural consequences of bilingualism. *Canadian Modern Language Review*, 34, 537-547.
- Leary, M.R. (1983). Social anxiousness: The construct and its measurement. *Journal of Personality Assessment*, 47, 66-75.
- Leets, L., Giles, H., & Clément, R. (1996). Explicating ethnicity in theory and communication research. *Multilingua*, 15, 115-147.
- Lemyre, L., Tessier, R., & Fillion, L. (1990). *Mesure du stress psychologique (M.S.P.) [Psychological Stress Measure (P.S.M.)]*. Brossard, PQ: Éditions Behaviora.
- Mendoza, R.H. (1989). An empirical scale to measure type and degree of acculturation in Mexican-American adolescents and adults. *Journal of Cross-Cultural Psychology*, 20, 372-385.
- Nicassio, P.M. (1985). The psychosocial adjustment of the southeast Asian refugee: An overview of empirical findings and theoretical models. *Journal of Cross-Cultural Psychology*, 16, 153-173.
- Nishida, H. (1985). Japanese intercultural communication competence and cross-cultural adjustment. *International Journal of Intercultural Relations*, 9, 247-269.
- Noels, K.A., Pon, G., & Clément, R. (1996). Language, identity, and adjustment: The role of linguistic self-confidence in the acculturation process. *Journal of Language and Social Psychology*, 15, 246-264.
- Pak, A.W., Dion, K.L., & Dion, K.K. (1985). Correlates of self-confidence with English among Chinese students in Toronto. *Canadian Journal of Behaviour Science*, 17, 369-380.
- Pesner, J.W., & Auld, F. (1980). The relationship between bilingual proficiency and self-esteem. *International Journal of Intercultural Relations*, 4, 339-351.
- Phinney, J.S. (1990). Ethnic identity in adolescents and adults: Review of research. *Psychological Bulletin*, 108, 499-514.
- Redfield, R., Linton, R., & Herskovits, M.J. (1936). Memorandum on the study of acculturation. *American Psychologist*, 38, 149-152.
- Redmond, M.V., & Bunyi, J.M. (1993). The relationship of intercultural communication competence with stress and the handling of stress as reported by international

- students. *International Journal of Intercultural Relations*, 17, 235-254.
- Rogler, L.H., Cortes, D.E., & Malgady, R.G. (1991). Acculturation and mental health status among Hispanics: Convergence and new directions for research. *American Psychologist*, 46, 585-597.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Sanchez, J.I., & Fernandez, D.M. (1993). Acculturative stress among Hispanics: A bidimensional model of ethnic identification. *Journal of Applied Social Psychology*, 23, 654-668.
- Sayegh, L., & Lasry, J.C. (1993). Immigrants' adaptation in Canada: Assimilation, acculturation, and orthogonal cultural identification. *Canadian Psychology*, 34, 98-109.
- Schlenker, B.R. (1982). Translating actions into attitudes: An identity-analytic approach to the explanation of social conduct. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology*, Vol. 15 (pp. 59-101). New York, NY: Academic Press.
- Schlenker, B.R., & Weigold, M.F. (1989). Goals and the self-identification process: Constructing desired identities. In L. Pervin (Ed.), *Goal concepts in personality and social psychology* (pp. 243-290). Hillsdale, NJ: Lawrence Erlbaum.
- Statistics Canada (1987). *Home language and mother tongue*. Ottawa: Industry, Science and Technology Canada, 1986 Census of Canada.
- Sylvestre, A. (1992). *Modes d'acculturation, stress acculturatif et race : le cas des jeunes étudiants haitiens de la première et de la seconde générations de Montréal [Modes of acculturation, acculturative stress and race: The case of young, first- and second-generation Haitian students from Montreal]*. Unpublished Masters thesis, Université de Montréal, Montréal, Québec.
- Szapocznik, J., Kurtines, W.M., & Fernandez, T. (1980). Bicultural involvement and adjustment in Hispanic-American youths. *International Journal of Intercultural Relations*, 4, 353-365.
- Tran, T.V. (1990a). Language acculturation among older Vietnamese refugee adults. *Gerontologist*, 30, 94-99.
- Tran, T.V. (1990b). Sex differences in English language acculturation and learning strategies among Vietnamese adults aged 40 and over in the United States. *Sex Roles*, 19, 747-758.
- Wong-Rieger, D. (1984). Testing a model of emotional and coping responses to problems in adaptation: Foreign students at a Canadian university. *International Journal of Intercultural Relations*, 8, 153-184.
- Zak, I. (1973). Dimensions of Jewish-American identity. *Psychological Reports*, 33, 891-900.
- Zak, I. (1976). Structure of ethnic identity of Arab-Israeli students. *Psychological Reports*, 38, 239-246.

APPENDIX A

Intercorrelations between identity, contact, self-confidence and adjustment indices for high (above diagonal) and low (below diagonal) vitality Anglophone groups

	1	2	3	4	5
				<i>High vitality group^a</i>	
1. First language group identity		.23*	-.26**	-.17	.14
2. Second language group identity	.30**		.49**	.45**	-.18
3. Contact with the second language group	-.16	.50**		.50**	-.13
4. Self-confidence in the second language	-.02	.56**	.48**		-.29**
5. Psychological adjustment	.16	-.11	-.28**	-.28**	
				<i>Low vitality group^b</i>	

^a n = 103; ^b n = 127

* p < .05; ** p < .01

APPENDIX A (CONTINUED)

Intercorrelations between identity, contact, self-confidence and adjustment indices for high (above diagonal) and low (below diagonal) vitality Francophone groups

	1	2	3	4	5
				<i>High vitality group^a</i>	
1. First language group identity		.22	-.08	-.39**	-.03
2. Second language group identity	-.16		.41**	.37**	-.11
3. Contact with the second language group	-.55**	.50**		.46**	-.01
4. Self-confidence in the second language	-.26**	.31**	.33**		-.03
5. Psychological adjustment	-.07	.01	.00	-.32**	
				<i>Low vitality group^b</i>	

^a $n = 91$; ^b $n = 97$

* $p < .05$; ** $p < .01$