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Chapter 9

Links between Ethnolinguistic Affiliation, Self-related Motivation and Second Language Fluency: Are They Mediated by Psycholinguistic Variables?

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Introduction

Since the early 1970s, a great deal of literature has documented the intimate link between language and ethnic group identity (Fought, 2006; Giles, 1967; Gumperz & Cook-Gumperz, 1982; Labov, 1972; Pavlenko & Blackledge, 2004; Ricento, 2005) and ethnic group affiliation (Gatbonton, 1975; Gatbonton *et al.*, 2005). For this reason, a number of scholars have hypothesised that this language and identity link would have consequences for the level of skill attained in a second language (L2) (Gatbonton *et al.*, 2005; Lambert, 1967; Taylor, 1977; Taylor *et al.*, 1977). Ellinger (2000) presents empirical evidence of this in her study of a group of Russian and Hebrew learners of English as a lingua franca in Israel. Participants who had strong identification with their respective ethnolinguistic groups had higher levels of achievement in English as measured through classroom achievement tests, teacher evaluations, and other measures. Coupland *et al.* (2005) also found, in a multiple regression analysis of the responses of high school students in Wales, that students' strong sense of identification and personal engagement with the Welsh language and community contributed significantly to explaining the levels of competence they attained in Welsh.

Recently, Gatbonton and Trofimovich (2008) provided similar evidence of a complex relationship between identity variables on the one hand and measures of L2 proficiency on the other. These researchers showed that a group of Québec Francophones' sense of belonging and loyalty to their primary group (Québécois) and to a target language group (English speakers) had both positive and negative consequences for the levels of English proficiency they attained. The positive consequences were that participants with a strong sense of identification

both with their primary ethnolinguistic group and their target language group had significantly higher levels of proficiency in English than those who showed only strong identification with their primary group. This result complements the findings of studies on the role of attitudes and motivations showing that a positive orientation towards the target language group leads to higher levels of L2 proficiency attained (Dörnyei, 2003, 2005; Gardner & Lambert, 1972). The negative consequences were found for participants who had strong beliefs in the role of language in maintaining the identity of their primary group as well as for those who showed support for its political aspirations. These participants were seen to have lower levels of proficiency in their L2 compared to those with a weaker degree of affiliation and support for the political agendas of their group. The question of interest in this chapter is how best to explain the connection between what is presumably a social cognition (ethnolinguistic affiliation) and a psycholinguistic skill (L2 proficiency).

At least two possible explanations come to mind. One is that L2 speakers with a strong sense of affiliation to their primary ethnolinguistic group may deliberately 'hold back' some aspects of their L2 use in order to avoid sounding too much like members of a different ethnolinguistic group. Bourhis and Giles (1977) provide evidence for this deliberate strategy used by L2 users in order to differentiate themselves from their interlocutors. When challenged by an interlocutor speaking in a clear English accent about the usefulness of learning Welsh, the integratively motivated learners in the group broadened their Welsh accent in English in an apparent move to show their disapproval of the challenger's position. These interlocutors thus used a more Welsh-accented English speech than the speech they employed when talking about a more neutral topic just prior to the challenge.

Such deliberate manipulation of one's speech to create a social distance from an interlocutor from a different target language community has also been shown in Labov's (1972) classic study of residents of Martha's Vineyard in the United States (see also Blake & Josey, 2003, for an update of this study). Long-term inhabitants of Martha's Vineyard who wished to affirm their claim as the true residents of this fishing community differentiated themselves from non-residents (who invaded the place in the summer) by pronouncing their vowel sounds differently from non-residents. It has also been shown that speakers switch languages (e.g. Bailey, 2000), retain traces of an accent or non-native-like prosodic features (e.g. Boberg, 2004; Schilling-Estes, 2004), or use vocabulary (e.g. Doran, 2004) to set themselves apart from speakers of other language communities.

However, although such examples demonstrate that deliberate speech *distancing* can occur, it seems unlikely that such distancing is the only

explanation for the existence of an ethnolinguistic affiliation–proficiency link. This is because, as will be seen later in this chapter, affiliation is also linked to L2 speech patterns that differ from nativelike speech in ways that are far too subtle to reflect conscious efforts to sound non-nativelike.

A second possible explanation for an affiliation–proficiency link, one possibly complementary to the first given above, may be that a sense of ethnolinguistic affiliation shapes the social niche one inhabits and this in turn determines the type and range of experiences a person might have in hearing and using the target language. For example, if a person's sense of ethnolinguistic affiliation leads him or her to limit contact with members of another ethnolinguistic group, then it follows that he or she would have fewer occasions to be exposed to the language and thus experience fewer opportunities to increase his or her proficiency. This shaping of L2 experiences would impact, in turn, on a number of *psycholinguistically* relevant cognitive variables (e.g. ability to perceive important phonetic distinctions in the L2 or to discern recurrent, formulaic sequences in the L2) that normally would contribute to L2 development. This chapter explores the feasibility of the explanation that the affiliation–proficiency link may be mediated by psycholinguistic variables.

Anchor Question

A useful way to start this discussion is to identify an anchor question to keep in mind throughout the rest of this chapter. This anchor question could be formulated as follows: *Does ethnolinguistic affiliation (language identity) impact on some critical aspects of language learning motivation in such a way as to shape individual differences in L2 acquisition outcomes?*

In addressing this question, we will draw on re-analyses of data from three recent studies in our lab (Gatbonton & Trofimovich, 2008; Gatbonton *et al.*, 2007; Trofimovich *et al.*, 2007). These studies were not conceived with the above anchor question in mind. Nevertheless, we believe that the data from these studies shed interesting light on issues raised by that question. These three studies focused on adult Francophone users of English in Québec, the majority of whom were no longer involved in instructed language learning at the time of the studies. There were considerable individual differences among the participants in two areas of focus in this chapter – level of L2 attainment and feelings of affiliation to a primary ethnolinguistic group. Many of the participants considered themselves to be members of an ethnolinguistic group (Québécois) which they considered to be 'distinct' from other ethnolinguistic groups (namely, those who speak English or some other [non-French] language) but who nevertheless live together with them in the same province (Québec).

The studies reported here address motivational issues linked to group identity and affiliation. However, these studies contrast with much of the motivational research in L2 acquisition. Unlike most such studies, our research is not concerned with how motivation impacts on choices made in the classroom (e.g. whether or not to study another language, which language to study and why). Instead, it is concerned with language use *outside* the classroom (see, for example, MacIntyre, 2007, for a discussion of willingness to communicate as a psycholinguistic construct) and individual differences in attainment, once acquisition has most likely stabilised with low probability of much more learning taking place.

Figure 9.1 presents a graphical view of the anchor question that will serve as an overview of the issues as they unfold in this chapter. The figure shows that an L2 user's sense of ethnolinguistic affiliation influences L2 proficiency through L2 acquisition motivation and other mediating variables. The data reviewed here do not speak directly to the specific nature of the motivational system. However, they fit into the framework of an L2 Motivational Self System for L2 use proposed by Dörnyei (2005, see also this volume; Csizér & Dörnyei, 2005) and discussed below. Thus, the focus of this chapter can be stated as an attempt to understand how the affiliation–proficiency link can be viewed in terms of psycholinguistic variables implicated in the association between the L2 motivational self-system and proficiency.

The studies reported below involved a group of 59 adult French speakers (aged from 18 to 72; 37 females, 22 males) living in Montréal (Québec) and the surrounding region. All participants reported having Francophone parents and Québec French as their first language. All but two were born in Québec; with no exception, all were raised in Québec. They spoke French at home and had attained different levels of proficiency in English as an L2. All participants reported using English to a greater or lesser extent in their daily transactions at work and/or in their neighbourhoods (with merchants, etc.).

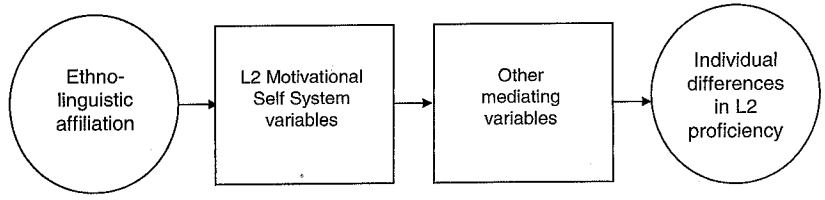

Figure 9.1 Graphical representation showing that a second language (L2) users' feeling of ethnolinguistic affiliation contributes to an L2 Motivational Self System, which in turn impacts on L2 proficiency through some as yet unidentified mediating variables, resulting in observable individual differences in performance

Study 1: Establishing the Ethnolinguistic Affiliation–Proficiency Link

The first step in discussing the link between L2 proficiency and ethnolinguistic affiliation is to establish operational definitions for the proficiency and affiliation constructs and then to investigate what kinds of general relationships exist between them in this population. Gatbonton and Trofimovich (2008) accomplished this in their study as follows.

L2 proficiency. The 59 participants were recorded reading aloud a special story text. This text contained 70 exemplars of the voiced interdental fricative /ð/. This phoneme is often rendered as the voiced alveolar /d/ by French Canadian speakers and is considered a strong phonological marker of the speaker's origin (Blake & Josey, 2003; Labov, 1972). The recordings of the full reading of the story were then presented to a panel of 10 native English speakers for rating on seven features of proficiency. In addition, the participants also filled out questionnaires detailing their history of learning English as an L2, filled out scales on 12 self-rated measures of L2 proficiency, and scales on the amount of English used in their daily lives. As a group, they rated their daily use of English as being at about 26.8%, ranging from 0% to 100%.

Ethnolinguistic affiliation. An Ethnic Group Affiliation (EGA) questionnaire was specifically developed to measure language identity in ways that were appropriate to the historical, political and social context of Québec where the participants lived. This questionnaire consisted of 21 9-point Likert-type scales of the following types: label preference (Québécois, Canadian, French Canadian), beliefs in the importance of language in defining personal and group identity, emotional reactions to their own ethnic group, and willingness to engage in political action in defense of the group (e.g. supporting French unilingualism, promoting display of the Québec flag, favouring political independence). The rating scale data were subjected to an exploratory factor analysis and four clear factors emerged involving 20 of the items (accounting for 58% of the variance; all factor loadings ≥ 0.52). These were subsequently labeled as follows:

(1) *Core EGA* (nine items retained): These items addressed basic feelings towards the participant's own ethnic group (e.g. pride in its history and accomplishments, in displaying its symbols, in knowing its language, in defending it).
(2) *Group Identity EGA* (four items retained): These items addressed willingness to be identified as 'Canadian' and emotional reactions to this identification. While there was some variation in willingness to be identified as 'Québécois', most participants scored high on this item; consequently, this item did not load on any factor. The term 'French Canadian' turned out to be ambiguous and so was dropped.
(3) *Language EGA* (three items retained): These items addressed the importance of language in defining group identity.
(4) *Political EGA* (four items retained): These items addressed political issues related to language and identity (e.g. Québec independence, language of commercial signs, schooling in French for immigrants).

The question about whether there exists an ethnolinguistic affiliation–proficiency link was investigated by submitting each of the four EGA factors (Core, Group Identity, Language and Political EGA) to a correlational analysis with the 12 features of self-rated proficiency and with the measures of native speaker rated proficiency. All the significant correlations reported below yielded Spearman rho-values between 0.42 and 0.48, with $p < 0.002$ (after Bonferroni corrections for the large number of correlations were applied). The principal results were the following:

- *Group Identity EGA* correlated significantly with self-rated global ability. Those participants scoring high on Canadian identity rated the quality of their English to be higher than did those scoring low on Canadian identity. Gatbonton and Trofimovich (2008) looked more closely at this factor. Of the 59 participants, they found that 25 scored very high on the 9-point scale for Québécois identity (nine on the scale). Of these, 12 indicated strong willingness to also be identified as Canadian (scoring eight or nine on the scale) and 13 indicated strong unwillingness to be identified as Canadian (scoring one or two on the scale). Those people embracing the double Québécois-Canadian identity rated their own global ability in L2 English to be significantly higher than those embracing only the Québécois identity.
- *Language EGA* correlated significantly with native speaker ratings of proficiency. Those scoring high on beliefs about the importance of language for identity were rated as less comprehensible by native speaking judges than those scoring low on this belief.
- *Political EGA* correlated significantly with the native speaker ratings and with self-rated global measure of proficiency. Those scoring high on beliefs supportive of their ethnolinguistic group's political aspirations (independence from Canada for the Province of Québec) were perceived to be more highly accented, less fluent, and less comprehensible by native speakers; they also rated themselves globally to be lower on English ability.
- No EGA factor correlated with self-rated accentedness and *Core EGA* correlated with none of the proficiency measures.

In sum, these results provided evidence for a strong relationship between various social measures of ethnolinguistic affiliation and L2 proficiency.

Unfortunately, at the time the research was conducted, there was no direct assessment of these participants' sense of an L2 self as described by Dörnyei (2005). However, given Dörnyei's (2005: 106) discussion of the L2 Motivational Self System, the following account seems plausible. Those embracing the double identity may be said to have possessed an *ideal L2 self* (Dörnyei, 2005: 102–104) in which they saw themselves speaking the other language (English) in addition to their native language as an inherent aspect of their overall identity. This ideal self reflects a sense of inclusiveness extending to the larger Canadian population, including speakers of English. That is, for them, speaking English as an L2 was not necessarily negative nor did it imply that they were serving as an 'ambassador' to another group. Rather, it meant that they were speaking the language of another part of their own group, as defined by them to include all Canadians regardless of native language. In other words, being Canadian was part of these participants' identity too, along with being Québécois, and this inclusive identity entailed the need to speak English in order to communicate with other members of this larger community. In contrast, this aspect of ideal L2 self was absent in those who held the more exclusive sense of identity (Québécois only).

Dörnyei also identifies an *ought-to L2 self*, which refers to the duties and obligations one has in order to *avoid* possible negative outcomes (Dörnyei, 2005: 106). Here, Dörnyei appears to have in mind instrumental motivations such as speaking the L2 in order to avoid unemployment. Perhaps, however, this understanding of the *ought-to self* should be extended to include duties and obligations to *avoid* activities that could lead to negative outcomes. For example, people scoring high on the Political EGA factor could be described as holding certain political aspirations as part of the belief system underlying their sense of ethnolinguistic affiliation. These beliefs might entail obligations not to do anything that might compromise their political goals, including not speaking too well the language of what they perceive to be a competitor group.

Finally, Dörnyei (2005) identifies a component of the L2 Motivational System he calls *L2 learning experience*. This refers to 'situation specific motives related to the immediate learning environment and experience' (Dörnyei, 2005: 106). Gatbonton and Trofimovich (2008) did not inquire into the beliefs the participants had in this category, but it is not difficult to imagine why it might be fruitful to do so. For example, it could be that people will differ in terms of whether they think it would be desirable from an L2 acquisition perspective to immerse themselves in particular kinds of environments, and these beliefs may well be associated with different L2 proficiency outcomes.

In light of these speculations, one can imagine a more fine-grained version of Figure 9.1 to reflect the results of this first analysis. The attempt to measure ethnolinguistic affiliation yielded four factors, here labeled Core, Group Identity, Language and Political EGA. Three of these – Group Identity, Language and Political – appeared to be significantly associated with individual differences in L2 proficiency in one way or another. Moreover, the group identity factor encompassed two possibilities – an inclusive identity that was more positively associated with L2 proficiency and an exclusive identity that was less positively associated with L2 proficiency.

It is not clear, however, through what mechanisms the four postulated L2 self elements might impact on L2 proficiency. One possibility, mentioned earlier, is that speakers with the more inclusive L2 self are more likely to avail themselves of opportunities to use the target language in order to learn and practise those nuances that signal acceptance and membership in the target language community. In a similar vein, those with the less inclusive L2 self or with a strong ought-to self might avoid such opportunities to use the language or, when necessary, might even modify their speech in ways that ensure their primary linguistic identity is clearly marked (e.g. Appel & Schoonen, 2005; Bailey, 2000; Schilling-Estes, 2004). Gatbonton and Trofimovich (2008) were able to explore the hypothesis that *language use* mediates the link between language identity, as reflected in the different types of L2 self, and L2 proficiency. They computed Spearman rank correlations between the self-reported use of the L2, the various EGA measures, and the proficiency features. The chief findings were the following:

- L2 use did not correlate significantly with Core or with Group Identity EGA.
- L2 use did correlate significantly and negatively with Language EGA, indicating that the less important language was believed to be a factor in identity, the greater the use of the L2.
- L2 use did correlate significantly and negatively with Political EGA, indicating that the lower the support for the primary group's political aspirations, the greater the use of the L2.
- L2 use did correlate significantly and positively with all features of proficiency.

The most important finding, however, was the following:

- All the significant correlations reported earlier between the various measures of ethnolinguistic affiliation (EGA) and L2 proficiency vanished when the amount of L2 use was statistically controlled for through partial correlations.

This result indicates that the association between the social variable ethnolinguistic affiliation and L2 proficiency was mediated by L2 use and that the social variable had only an *indirect* association with L2 proficiency.

Study 2: Measuring L2 Proficiency

The measures of L2 proficiency presented so far were only subjective self-reports made by the participants themselves and subjective ratings by native speakers of English. More objective measures of L2 proficiency could be useful in allowing one to pinpoint more precisely the locus of impact from social variables via language use on proficiency. Trofimovich *et al.* (2007) provide such an analysis in an examination of the data from 40 of the original pool of 59 participants reported on in Gatbonton and Trofimovich (2008).

Trofimovich *et al.* (2007) focused on one phonological target in the English speech of French speaking Quebecers, one that is known to be a reliable marker of the ethnolinguistic origin of the speaker. The target phoneme was the interdental fricative (/ð/), typically difficult for French Canadian speakers of English and typically rendered as /d/. There are usually strong individual differences in how frequently /ð/ is pronounced or mispronounced. The major focus of the study was to identify the factors that determine the nature of these individual differences.

As mentioned earlier, the participants had been given a special story text to read aloud. This text contained 70 target instances of /ð/ embedded in seven different phonetic contexts with 10 exemplars in each environment (originally eight environments were used but for reasons described in Trofimovich *et al.*, only seven were included in the final analyses). To explain the logic of the analysis conducted in that study, it will be helpful to refer to Table 9.1. Table 9.1 shows participants (Subject #1–40) in the rows and the seven different phonetic contexts as the columns.

As expected, there were individual differences in the ability to produce native-like renditions of /ð/; some people were good at it while others were poor. The numbers in the column marked Total Correct reflect these individual differences, shown here as the total out of the 70 exemplars attempted that were accurately pronounced. The numbers in the Total Correct column can, in principle, serve as a measure of each individual's level of phonological attainment with respect to /ð/, under the assumption that the more accurately a person pronounces /ð/ the greater the level of phonological attainment achieved. As can be seen in Table 9.1, the participants are shown as ranked approximately in order of mastery of the /ð/ (the reason for the less than perfect ranking will be evident in a moment).

Table 9.1 Matrix showing the gradual diffusion of accurate pronunciation of English /ð/ by 40 French speakers across seven phonetic environments, revealing an implicational scale pattern (see text for explanation)

S#	*Total correct: max = 70*	*#1 Voiced fricative/affricate, e.g. was there*	*#2 Sentence initial, e.g. The . . .*	*#3 Intervocalic, e.g. father*	*#4 Voiceless stop, e.g. took the*	*#5 Voiceless fricative/affricate, e.g. off the*	*#6 Nasal, e.g. on the*	*#7 Voiced stop, e.g. wanted the*	*Stage*
31	5	0	0	0	0	0	0	0	1
18	7	0	0	0	0	0	0	0	1
29	8	0	0	0	0	0	0	0	1
4	8	0	0	0	0	0	0	0	1
20	13	0	0	0	0	0	0	0	1
21	12	01	0	0	0	0	0	0	2
3	15	01	0	0	0	0	0	0	2
14	14	0*	01	0	0	0	0	0	3
10	12	0*	01	0	0	0	0	0	3
19	13	01	01	0	0	0	0	0	3
12	15	01	01	0	0	0	0	0	3
23	18	01	01	0	0	0	01*	0	3
13	13	01	01	0	01*	0	0	0	3

Table 9.1 (*Continued*)

S#	Total correct: max=70	#1 Voiced fricative/affricate, e.g. was there	#2 Sentence initial, e.g. The...	#3 Intervocalic, e.g. father	#4 Voiceless stop, e.g. took the	#5 Voiceless fricative/affricate, e.g. off the	#6 Nasal, e.g. on the	#7 Voiced stop, e.g. wanted the	Stage
32	20	01	01	0	01*	0	01*	0	3
7	17	01	01	01	01	0	0	0	5
6	16	01	01	0*	01	0	0	0	5
5	26	01	01	01	01	01	0	0	6
1	22	01	01	01	0*	01	01	0	7
11	27	01	01	0*	01	01	01	0	7
34	28	01	01	01	01	01	01	0	7
37	24	01	01	01	01	01	01	0	7
30	21	01	01	01	01	01	01	0	7
36	26	01	01	01	01	01	01	01	8
35	22	01	01	0*	0*	01	01	01	8
38	26	01	01	01	01	01	01	01	8
26	32	01	01	01	01	01	01	01	8
15	37	01	01	1*	01	01	01	01	8

Table 9.1 (*Continued*)

8	41	01	01	01	01	01	01	01	8
2	41	1	01	01	01	01	01	01	9
22	37	01*	1	01	01	01	01	01	10
28	43	01*	1	01	01	01	01	01	10
25	58	1	1	1	1	01*	1	1	15
33	58	1	1	1	1	01*	1	1	15
17	61	1	1	1	1	01*	1	1	15
39	66	1	1	1	1	1	1	1	15
16	67	1	1	1	1	1	1	1	15
24	69	1	1	1	1	1	1	1	15
9	69	1	1	1	1	1	1	1	15
40	69	1	1	1	1	1	1	1	15
27	70	1	1	1	1	1	1	1	15

*Entries that depart from the expected implicational scale pattern. The cell entry '0' indicates 20% accuracy or worse. '1' indicates 80% accuracy or better. '01' indicates 21–79% accuracy.

By focusing only on the Total Correct, however, some important features of the data are missed. This becomes clear when one looks more closely at the performance of each individual with /ð/ in each of the phonetic environments. Following a proposal by Gatbonton (1975), the cells corresponding to each phonetic environment contain the codes '0' and/or '1'. The code '0' indicates that this speaker rarely achieved native-like pronunciation of /ð/ in the corresponding phonetic context (20% accuracy or worse). A '1' indicates that this speaker (nearly) always achieved a native-like pronunciation of /ð/ in the corresponding phonetic context (80% accuracy or better). A '01' indicates that both accurate and inaccurate forms co-existed in this context (21–79% accuracy level). Table 9.1 also shows the stage to which the speaker could be assigned. For this, each pattern can be thought of as representing a 'stage' of phonological development with respect to the target phoneme. Seven environments will yield a set of 15 distinct possible patterns that fit into an implicational scale (out of a potential $7^3 = 343$ possible patterns). A pattern of all '0' (all or most inaccurate) represents the lowest stage (Stage 1), a pattern of all '1' (all or most accurate) represents the highest stage (Stage 15), and various mixtures of '0', '01' and '1' represent intermediate stages.

There is something interesting about the pattern of results that appeared in the matrix when the data were coded in this way. One might have expected that accurate and inaccurate forms would be randomly scattered across the environments and that the speakers would be differentiated only by the total number of correct productions. This is not, in fact, what occurred. With appropriate ordering of the columns, an *implicational scale* emerged. This scale indicates that the native-like forms of /ð/ emerge across levels of phonological attainment in a systematic way, with the native-like typically appearing (with very few exceptions) in certain environments before others. Moreover, the pattern exhibited a systematic and gradual 'diffusion' of the native-like forms. Thus, there were some speakers who were generally inaccurate (all '0' for their entries). There were others whose accurate rendition of the target sound appeared alongside inaccurate forms in a few environments (coded as '01'). In fact, it was possible to put the environments into an order that reflected an implicational pattern (if environment X contained an accurate form, then so did environment Y, etc.). Had the distribution been truly random across environments, this would not have been possible. See Trofimovich *et al.* (2007) for details about how this ordering was arrived at. Thus, if we think of the individuals as lying along a continuum of individual differences in phonological attainment, then it appears that the appearance of the correct forms emerge in various phonetic contexts in a systematic pattern.

Examination of the matrix also shows that where some speakers were coded as '01' in some environment, other speakers were coded as '1', to indicate that, for these speakers, mostly correct forms appeared. An implicational pattern emerged here as well; that is, if someone had a correct form in environment Y then they also had it in environment Z. In other words, there appears to be a similar systematic gradual elimination of variable forms, replaced by correct forms, as there was for the appearance of variable forms in place of incorrect ones. These results replicated and extended the findings of Gatbonton (1978) who first proposed the idea of implicational scaling for understanding L2 phonological development (in Gatbonton, 1975). See Trofimovich *et al.* (2007) for full details of these analyses.

The emergence of the gradual diffusion pattern just described depends on the way the phonetic environments (the columns in Table 9.1) are ranked according to their ease of accommodating accurate production of /ð/. For example, the voiced fricative environment most easily admitted accurate /ð/ while voiced stop least easily admitted accurate /ð/. The question arises, then, what are the factors responsible for this ordering of the environments leading to the observed pattern of individual differences? The analyses reported in Trofimovich *et al.* (2007) pointed to two important psycholinguistic processing variables. The first variable was the perceptual similarity between the target English voiced /ð/, when that target was embedded in a given phonetic environment, to other sounds in French with which it might be confused. The idea here is that the more perceptually similar an L2 (English) target sound is to a specific native language (French) sound, the harder it will be for a native French speaker to avoid 'assimilating' the L2 target to a French sound (e.g. Baker *et al.*, 2008; Guion *et al.*, 2000). The result will be an inaccurate pronunciation of those L2 sounds that closely resemble similar, but not necessarily phonetically identical, sounds in the native language. For example, instead of producing a nativelike English /ð/ in a given phonetic context, the speaker will more likely produce a sound that is perceptually similar to it in French (e.g. the English /ð/ in 'wanted the' will likely be assimilated to, and consequently produced as, French /d/).

The second psycholinguistic processing variable proposed in Trofimovich *et al.* (2007) was the frequency with which the target voiced /ð/ occurred in English in the various phonetic environments. The idea here is that the more frequently a target sound occurred in that environment, the easier it would be for L2 users to master that sound in that environment.

Trofimovich *et al.* (2007) determined independently the L1–L2 similarity and the frequency characteristics for each of the target environments, and used the results to order the environments to construct Table 9.1. The outcome was that when the environments

were ordered in this way, the participants' data filled the cells in a manner consistent with the gradual diffusion pattern described above far greater than was possible by chance alone (that is, assuming random, nonsystematic distribution across environments), $\chi^2(1) = 262.58$, $p < 0.01$.

The result of this analysis is strongly consistent with the previous conclusion that *language use* is the factor that has the direct impact on L2 proficiency, and not directly associated with the social variable as such. This is because the implicational scale patterning of the individual differences in L2 proficiency could not possibly be shaped by a social factor directly – the patterning is too subtle for speakers to deliberately modify their speech to produce such an effect. Moreover, the evidence is now overwhelming that this implicational scale results from the operation of at least two psycholinguistic processing variables – L1–L2 similarity and frequency of occurrence of the target elements. These are precisely the kinds of factors that would be influenced by the amount of language use.

The fine-grained analysis of proficiency provided by Trofimovich *et al.* (2007) allowed for a rather nuanced ranking of L2 users according to their proficiency on a single, socially relevant, phonological marker (here, voiced /ð/). It may be fruitful to consider a whole range of other psycholinguistic processing variables having to do with individual differences in the nature and efficiency of the cognitive system underlying L2 use. Of particular importance, for instance, is to study how the cognitive system becomes more efficient or automatic over time as a function of experience using the target language and how this efficiency or lack thereof results in particular speech patterns. It is beyond the scope of this chapter to discuss the details, but given the present results, it would appear that this is likely to be an important consideration for fully understanding the way psycholinguistic processes mediate the ethnolinguistic affiliation–proficiency link (see for example, Segalowitz, 1997 and Segalowitz & Hulstijn, 2005, for a discussion of psycholinguistic processing issues in individual differences in L2 attainment).

The results reported so far raise an important new question: How does the social variable of ethnolinguistic affiliation relate to this phonological measure of L2 proficiency? That is the focus of the next section.

Study 3: Ethnolinguistic Affiliation, the L2 Self and L2 Proficiency

In a final set of analyses, Gatbonton *et al.* (2007) examined the relationship between ethnolinguistic affiliation and the L2 proficiency measure based on the implicational scale analysis. For this purpose, the data from 50 of the 59 participants in the Gatbonton and Trofimovich (2008) study were retained for analysis. Data from nine of the participants were dropped because these nine were still enrolled in

language classes and it was considered that their phonological skills were likely to be developing as a result of the explicit instruction they were receiving. In contrast, the other 50 (40 of whom were the participants in Trofimovich *et al.*, 2007) had, for all intents and purposes, reached a plateau (for now at least) in their development and used English in their daily activities without formal instruction.

The voiced /ð/ data from the 50 participants were subjected to the same analysis described earlier, resulting in placement for each participant in a table similar to Table 9.1. Each of the 50 participants in this analysis was assigned a stage number according to the distribution of their correct and incorrect renditions of the voice /ð/ in the different environments. These stage assignments were then submitted as the criterion measure to multiple regression analysis with the four EGA factors identified earlier (*Core, Group Identity, Language* and *Political EGA*) as the predictor variables. L2 use was entered as a control variable prior to entering the main predictor variables. The results are summarised in Table 9.2.

Several things stood out from these analyses. First, the four EGA factors together accounted for 20.0% of the variance of the stage assignment variable (adjusted $R^2 = 0.124$). Of the four EGA factors, however, only *Political EGA* yielded a significant association with stage ($\beta = -0.401$, $p = 0.028$). This result indicates that the higher the support for political policies to favour the primary ethnolinguistic group, the lower the stage of phonological attainment in the L2. However, when the analyses were recomputed with L2 use entered first as a control variable, none of the β values remained significant (all $p > 0.18$), indicating that the relationship between Political EGA and level of phonological attainment that had been observed before had, in fact, been mediated by L2 use. Analyses between L2 use and Political EGA in this larger sample again

Table 9.2 Summary of multiple regression analyses for ethnolinguistic affiliation measures entered simultaneously as predictors of stage of L2 phonological attainment with /ð/, with and without L2 use entered as a control predictor

Variable	R^2	*Adjusted* R^2	R^2 *change*	*F change*	*df*	*Sig. of change*
Without L2 use entered first						
EGA	0.200	0.124	0.200	2.630	4, 42	0.048
With L2 use entered first						
L2 use	0.063	0.042	0.063	2.911	1, 43	0.095
EGA	0.236	0.138	0.172	2.199	4, 39	0.087

revealed a significant correlation ($rho = -0.514$, $p < 0.001$).[1] Together these results indicate that L2 use mediates connections between ethnolinguistic affiliation and proficiency, consistent with the earlier results in which subjective measures of L2 proficiency had been used.

Discussion

This chapter opened with the anchor question – does ethnolinguistic affiliation (language identity) impact on some critical aspects of language learning motivation in such a way as to shape individual differences in L2 acquisition outcomes? The question was originally represented in a simplified, schematic form in Figure 9.1. In light of the presented findings, this figure can now be modified as shown in Figure 9.2. This figure shows the following chain of relationships and associations. Aspects of ethnolinguistic affiliation are psychologically realised in terms of a multi-component, socially based L2 Motivation Self System. This system, inspired by Dörnyei (2005), consists of an Ideal L2 Self, an Ought-to Self, and an L2 Experience component (and possibly other components as well). These motivation system components affect the amount of L2 use a person will engage in. Presumably (although this merits further study), motivation affects L2 use by modulating in some way the selection of communicative experiences the individual allows him or herself to engage in. These experiences in using the L2, in turn, have particular, psycholinguistically relevant consequences. Among these consequences is the fine-tuning of the speaker's perceptual and cognitive systems with respect to the processing of target language elements. For example, this fine-tuning will reflect some awareness (as reflected in a speaker's comprehension and production accuracy or fluency) of the patterning that exists in the language. This patterning that can be described as the frequency with which particular elements exist (e.g. how frequently a particular phonological target occurs), as regularities of co-occurrence of elements (e.g. the occurrence of particular targets in specific phonetic environments), and as the similarities and differences between L1 and L2 elements (e.g. aspects of phonetic similarity that will lead to perceptual assimilation).

Thus, taken together, the results of Gatbonton and Trofimovich (2008), Trofimovich *et al.* (2007) and Gatbonton *et al.* (2007) indicate that there is a link between ethnolinguistic affiliation and attained L2 proficiency. At the same time, they suggest a plausible scenario for how this link may be mediated by language use and psycholinguistic processing considerations.

The research reported here suggests that the components of the L2 Motivation Self System can be operationalised in terms of a person's core feelings about their primary ethnolinguistic group, identity factors

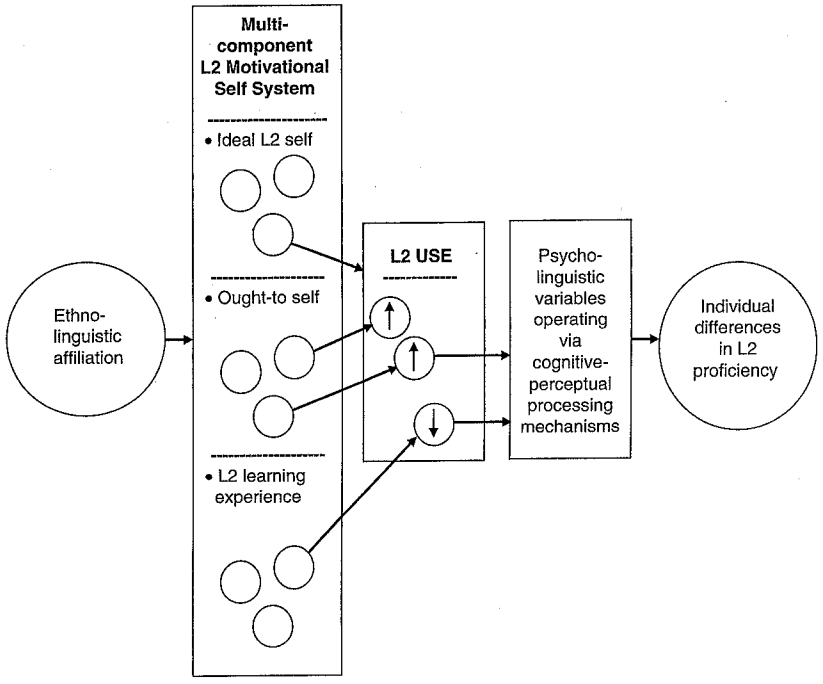

Figure 9.2 Generic representation showing the pathways through which a second language (L2) users' ethnolinguistic affiliation (language identity) can result in individual differences in L2 proficiency. Language identity contributes to the emergence of several components of L2 acquisition motivation. These components affect language use (by increasing and/or decreasing different aspects of use [up and down arrows]), in possibly more than one way. Some but not all of these different uses of the L2 impact on the psycholinguistic processing mechanisms that ultimately affect the development of L2 proficiency, resulting in measurable individual differences in particular aspects of performance

that may be inclusive or exclusive, political beliefs, and beliefs about the role of language in identity. Further studies in other social contexts may uncover yet other ways the Motivation Self System may be expressed (e.g. Clément, 1986; MacIntyre & Charos, 1996; Noels *et al.*, 2000; Ushioda, 2006; Yashima, 2002). As the data indicated, some of the components associated with language identity and ethnolinguistic affiliation will impact on L2 use by increasing or decreasing amounts of language use speakers engage in, whereas other components may have no effect. Finally, in some cases, increasing or decreasing L2 use will have an impact on proficiency development, by acting through the

individual's cognitive-perceptual processing mechanisms. Thus, ethnolinguistic affiliation can be seen to affect L2 proficiency, and it can be seen to do so through the mediation of language use which in turn shapes how cognitive-perceptual psycholinguistic variables will impact on skill acquisition.

Although the studies discussed in this chapter point to possible psycholinguistic bases of the links between L2 proficiency on the one hand and ethnolinguistic affiliation and the L2 Motivation Self System on the other, the nature of such links clearly needs to be investigated in future research. For example, there is a need to understand whether the different facets of ethnolinguistic language identity and of the L2 Motivation Self System are specific to a language-learning context or whether at least some of these facets may be 'universal', common to a variety of language teaching and learning situations. Likewise, it is important to understand whether the relationship between L2 proficiency and ethnolinguistic affiliation is particular to a linguistic feature being investigated. That is, are ethnolinguistic affiliation–L2 proficiency links obvious only for L2 proficiency measures that are identity laden (i.e. /ð/ for Francophone learners of English) but not for other, perhaps more general L2 proficiency measures (e.g. speech rate as an indicator of general L2 speaking fluency)? Last but not least, it is important to isolate the cognitive-perceptual psycholinguistic mechanisms that sustain the relationship between social cognition (ethnolinguistic affiliation) and a psycholinguistic skill (L2 proficiency). We have broadly outlined plausible mechanisms of this kind (see Trofimovich *et al.*, 2007), drawing on two-representation connectionist models of spoken word processing and learning (e.g. Gupta & Dell, 1999; Luce *et al.*, 2000). What remains to be seen, however, is how these and similar cognitive-perceptual psycholinguistic mechanisms can be conceptualised *outside* a psycholinguistic laboratory, in real-world sociocultural contexts of language learning and use.

Note

1. L2 use correlations with the other EGA factors were: Core–*rho* = 0.165, ns; group identity–*rho* = 0.314, $p = 0.032$; and language–*rho* = − 0.397, $p = 0.006$.

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SECOND LANGUAGE ACQUISITION
Series Editor: David Singleton, *Trinity College, Dublin, Ireland*

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Edited by
Zoltán Dörnyei and Ema Ushioda

MULTILINGUAL MATTERS
Bristol • Buffalo • Toronto
2009