CHAPTER 10

Affective variables, attitude and personality in context

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Abstract
The focus of this chapter is on research into the affective factors that impact language learning. We organize the chapter around several key variables and processes. Intergroup relations and their effect on attitudes and motivation have been well studied.

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Educational approaches to motivation have more recently been proposed that implicate classroom processes in motivation, including the effects of self-determination motives, autonomy in the classroom, and related factors. From self-determination we move on to discuss self-confidence and language anxiety, highlighting their academic and social effects. The language learning context exerts significant influences on the learning process and its outcomes via the operation of the pedagogical and social psychological milieu. A key social psychological outcome of language learning is change in identity, a concern that plays out differently in minority and majority groups. These changes are related to the contact between groups and the willingness to communicate in the second language. We consider the research into learner personality attributes, particularly introversion-extraversion in order to introduce new experimental data that integrates the effects of personality and willingness to communicate on a specific vocabulary learning task. Considered in context, affective variables contribute to the complexity of the language learning process and help to explain the diversity of its outcomes.

1. Introduction

Language learning is accomplished within the complex systems that make up each person. The various factors that comprise the affective system impact language learning in a number of obvious and subtle ways that can be viewed from interacting macro and micro-perspectives. From a macro-perspective, intergroup relations and their effect on attitudes and motivation have been well studied, notably by R. C. Gardner and colleagues, including studies that involve the present authors. Educational approaches to the study of motivation that explicitly consider classroom processes and their effect on self-determination motives, autonomy in the classroom, and related factors are becoming more widely studied. The focus on conditions that create self-determination leads directly to a consideration of more micro-perspective issues such as an individual's level of self-confidence and language anxiety, which in turn have demonstrable effects on that person's academic and social life. The context in which language learning occurs, including the relationships among language groups and the pedagogical processes underway within any given context encroach upon the learning process and its outcomes. For example, the effect of language learning on identity is a concern that plays out very differently in minority and majority groups when linguistic groups are in contact. On the individual level, contact itself is related to the willingness to communicate in the second language. Communication processes have long been studied in relation to the personality attributes, particularly introversion-extraversion. Although extraversion has been called the unloved variable in applied linguistics research (Dewaele & Furnham 1999), it is difficult to believe that it has no impact on language learning. We attempt to shed light on this particular issue with new experimental data that examines both extraversion and willingness to communicate in a vocabulary learning task. Although the results are complex, and in one condition
seem counter-intuitive, we argue that the complexity of the interactions among affective variables, if understood in terms of the experiences of the learner, can lead to a rich description of the role of affective processes.

Knowledge about the psychology of language learning, and individual differences in second language (L2) acquisition in particular, owes a debt of gratitude to students learning French. Studies conducted around the world have shed light on the fascinating, complex psychological processes that underlie L2 acquisition. The literature on individual differences is expansive and cannot be completely covered in a single chapter. We focus instead on enduring questions that will help organize our discussion of the literature. The questions we will consider are:

- How can we conceptualize motivation and understand its impact on language learning?
- What is the effect of social context on instructed language learning?
- What are the major non-linguistic outcomes of language instruction?
- Does the personality of the learner play a role in language learning?
- The final section will offer new empirical evidence, not published elsewhere, that addresses the link between personality, communication, and French vocabulary acquisition.

We should note, at the outset, that the discussion below does not limit itself exclusively to studies of the French language, though the bulk of the work we discuss has been done with French.

2. Second language motivation and its impact

The concept of motivation has been a fundamental element of the explanation of second language acquisition (SLA) for close to half a century. In fact, because the only other element of significance, linguistic aptitude, was deemed to be more or less part of the genetic makeup of the individual, and therefore more or less fixed, aspects of motivation have attracted researchers, and educators' attention. Because motivation is likely to respond to situational contingency, it can be enhanced by external interventions. Although all of motivation is social, the focus of past and current research has cast the phenomenon as emerging from, and contributing to, the fabric of its socio-political context. This characteristic distinguishes L2 acquisition from the study of other subjects, and has served to orient virtually all research in the field. In the following pages, we will review some of the models and research which, in our view, represent various turning points in the thinking about SLA motivation as it particularly pertains to French as a foreign or second language. It should be clear at the outset, however, that our review is by no means exhaustive. Clément and Gardner (2001) list ten models dealing with social aspects of SLA, without pretending to have covered the field. However, they conclude that "no one model is inherently better or more mean-
In spite of disagreements between their authors, it appears that no one model makes predictions that contradict the others.

2.1 Intergroup relations and motivation

Historically, models of SLA have emphasized the relation between attitudes toward the second language speaking group and the classroom on the one hand, and motivational variables on the other hand. An early study using this approach was conducted by Gardner and Lambert (1959) who found that achievement in French as a second language was related to two independent factors: Social motivation (defined primarily by indices of attitudes, orientation, and motivation), and language aptitude (defined by measures of language learning abilities and verbal intelligence). They advanced the notion that proficiency in a second language was a function of two independent factors: Language aptitude and a socially-based motivation that involved a "willingness to be like valued members of the (second) language community" (p. 271).

From these results and other similar studies, Gardner developed the socio-educational model of SLA (see Gardner 1979, 1985; Gardner & Lambert 1972). The early versions of the model emphasized motivation as a function of attitude toward the second language community and an integrative orientation – that is, an interest to become similar and even identifying with members of that community. The model, more recently summarized by Masgoret and Gardner (2003), identifies attitudes and the integrative orientation as defining integrativeness, which, together with attitudes toward the learning situation, determine L2 acquisition motivation. The three components, integrativeness, attitudes toward the learning situation, and motivation constitute a cluster identified as the integrative motive.

Considerable empirical research supports the idea that intergroup attitudes and motives play an important part in sustaining motivated effort. In addition to L2 acquisition achievement, the integrative motivation has been shown to predict language classroom behavior (Gliksman, Gardner, & Smythe 1982), motivational intensity (MacIntyre & Charos 1996), language class dropout (Gardner 1983), and the rate of learning (Gardner, Lalonde, & Moorcroft 1985; Gardner & MacIntyre 1991; see Masgoret & Gardner 2003, for a meta-analytic overview of this research program).

Intergroup attitudes in second language learning and use continue to be at the center of current research on motivation. Since the 1990s there has been an elaboration of motivational models that inform our understanding of language learning and bilingualism (see Dörnyei 2003, 2005, for an overview). It has been argued that models developed in the Canadian context, often emphasizing the acquisition of French and the intergroup relations between Anglophones and Francophones in Canada, might not apply in other parts of the world where contact with members of the target language community is rare. There also was concern that models of motivation were not applicable to social dynamics within the classroom, and provided little insight into how teachers and program developers could improve students' motivation, as found
in the literature on motivation in education. The calls for an expanded motivational framework have led to novel lines of research.

2.2 Self-determination and motivation in L2 acquisition

Noels and her colleagues (e.g., Noels 2001a, 2001b, 2005a, 2005b; Noels, Clément, & Pelletier 2001) have introduced tenets of a well-studied motivation model, Deci and Ryan's self-determination theory (Deci & Ryan 1985, 2002; Deci, Vallerand, Pelletier, & Ryan 1991), into a model that also recognizes intergroup processes. In this approach, motivation can be categorized in terms of three orientations organized along a continuum: Amotivation, intrinsic motivation, and extrinsic motivation (see Figure 1). At one end of the continuum, amotivation refers to the lack of motivation and intention to act (Deci & Ryan 2002). At the other end of the continuum, intrinsic motivation refers to the desire to perform an activity for its own sake, because it is seen as interesting or enjoyable. These feelings of pleasure derive from the fulfillment of three basic needs: Autonomy, competence, and relatedness. Intrinsic motivation is best sustained when learners feel that all three needs have been met, that is, when they have voluntarily chosen an activity wherein they can feel both competent and supported by others.

Located conceptually between amotivation and intrinsic motivation are various forms of extrinsic motivation. Extrinsic motives involve goals that support the performance of an activity but that are external to the activity itself. Deci and Ryan (1985) highlight three types of extrinsic motivation that vary in the extent to which the goal is controlled by internal or by external contingencies. External regulation is the least self-determined form of extrinsic motivation. This motive is governed by instrumental ends, such as to gain a reward or to avoid punishment. Noels argues that students whose motivation is externally regulated (e.g., by parents, teachers, peers, etc.) have not chosen the activity of their own free will, and will be unlikely to incorporate second language learning into their identities. Introjected regulation is more internally determined. It involves a self-induced pressure, such as a desire to avoid guilt or to enhance one's prestige. Identified regulation refers to more self-determined reasons for learning a language, whereby the learning activity may not be interesting on its
own, but is undertaken because it serves a desirable purpose. Integrated regulation, the fourth and most internally regulated form of extrinsic motivation, refers to actions that fit in with the rest of the person's values and aspirations, where performance of the activity expresses who that person is. In such a case, the reason for performing the activity still remains external to the activity per se.

The motivational basis for behavior may change over time. The introduction of extrinsic rewards for an intrinsically motivated activity can change the perception of why a person engages with an activity, a phenomenon sometimes called the "hidden cost of reward". But it is also possible that an externally regulated activity may become more internally regulated if persons feel that they voluntarily choose to engage in the activity, a sense of competence is developing, and other people support them in the activity. To the extent that the needs for autonomy, competence, and relatedness are being met, even in an externally regulated activity, students are likely to engage in the activity longer, and therefore be more productive.

The relevance of the self-determination framework for L2 acquisition has received support from a growing body of research. More self-determined and/or intrinsically oriented language learners have been shown to be more persistent, and/or exhibit greater motivational intensity (Noels, Clément, & Pelletier 1999; Noels 2001b, 2005b; Ramage 1990), use the second language more often, and have greater speaking and reading proficiency (Ehrman 1996; Noels et al. 1999, 2001a; Tachibana, Matsukawa, & Zhong 1996), have greater grammatical sensitivity and better language learning strategy preferences (Ramage 1990), feel less anxiety, have more positive attitudes towards language learning and increased feelings of self-efficacy (Ehrman 1996; Schmidt, Boraie, & Kassabgy 1996); and are more likely to pursue post-secondary education in the second language, as well as identify with the second language community (Goldberg & Noels 2006).

These motivational orientations have been shown to be somewhat independent of intergroup motives. Noels and her colleagues (Noels 2001a; Noels et al. 2001; Noels 2005b) found that although integrative orientation correlates significantly with intrinsic and self-determined orientations, the two categories of motives predict different outcomes: An integrative orientation predicts longer term intergroup outcomes, such as contact with the second language group and ethnic identity, whereas intrinsic/self-determined orientations more strongly predict immediate outcomes, such as effort, persistence and positive attitudes towards language learning. Among heritage language learners, Noels (2005a) found a unique substrate of intergroup motivation that included identified regulation and the integrative orientation. Such evidence suggests that the introduction of self-related motives can enhance our understanding of the variety of language learning processes.

Although Ushioda shares with Noels and others a concern for self-determination and learner autonomy, she has proposed to investigate second language motivation with a methodology that starts with the learner's point of view, that is, she argues for the use of qualitative approaches that reflect the role of learner autonomy in the language learning process. Ushioda (2001) draws a comparison between quantitative and
qualitative research by noting that, on the one hand, a quantitative approach examines differences in the level of motivation, and their relative impact on behavior. On the other hand, motivation from a qualitative viewpoint “[…] may be defined not in terms of observable and measurable activity, but rather in terms of what patterns of thinking and belief underlie such activity and shape students’ engagement in the learning process” (p. 96).

Ushioda’s (2001) study of a small group of Irish students learning French demonstrates that intergroup attraction, highlighted by an interest in spending a summer in France, provides motivational support for language learning. Her results expand on number and type of motivational processes, including academic interest, enjoyment of the language itself, desired levels of L2 competence, personal goals and satisfactions, external pressures and incentives, as well as positive learning history. Not all of these processes were correlated with achievement measures, but two noteworthy observations can be made. First, less successful students maintained motivation by a focus on external incentives and pressures, consistently attributing difficulties to factors outside themselves and their control (e.g., quality of the French department, appropriateness of academic regulations, etc.). Successful students engaged intrinsic motivational processes more often, integrating both language learning success and motivation into the self. Learners are able to regulate their motivational processes to some extent by rekindling their interest through conscious thought about future aspirations, past successes, reasons for enjoyment, and so on, actions that Ushioda labels “self-motivation”.

Another recent development within the self-related conceptual sphere is Dörnyei’s (2005) proposed “reinterpretation” of integrativeness, locating that familiar concept within the concept of self (see Markus & Nurius 1986; Higgins 1998). Drawing upon the work on self-determination (Noels 2003), self-motivation (Ushioda 2001), and imagined communities (Norton 2001), as well as bringing in his own thoughts on integrative motivation in learning situations where the target language group is not in contact with the learners (see also Yashima 2000; Yashima, Zenuk-Nishide, & Shimizu 2004; Kimura, Nakata, & Okumura 2001), Dörnyei’s (2005) L2 Motivational Self System is made up of three dimensions. The first is a concept of the Ideal L2 Self that captures a future-oriented desire to become a person who masters the L2. It represents a vision of oneself as a member of an imagined L2 community with access to the social and instrumental incentives that community provides. Interacting with this self is a more externalized construction, the Ought-to L2 Self, that refers to attributes that ought to be possessed if one wants to avoid negative outcomes. Finally, these two teleological visions of the self are balanced against a causal dimension captured by L2 Learning Experience which concerns situation-specific motives in the present learning situation. As noted earlier, this theoretical scheme does not make predictions that contradict previous formulations, but rather is an attempt to locate language learning motivation within the broader system of the learner. The motivational properties of the self have been implicated in other ways as well, including the notion of self-confidence and its link with anxiety in L2 acquisition.
3. Self-confidence and anxiety

Pursuing the investigation of attitude and motivational factors among Francophones learning English as a second language, Clément and his colleagues (Clément 1986; Clément, Gardner, & Smythe 1977, 1980; Clément & Kruidenier 1985) have proposed that a major dimension underlying second language acquisition is self-confidence with the language. In the original findings (Clément et al. 1977, 1980), two factors related to motivation: Integrative motive and second language confidence, that is, the belief in one's capacity to interact in a meaningful and efficient manner in second language usage situations. This L2 confidence was defined as a combination of low levels of language specific anxiety, confidence in one's language skills, and self-perceptions of high levels of proficiency, and was linked to quantitative and qualitative aspects of contact with members of the second language speaking group.

Following these results and the apparent discrepancy with the Anglophone learners of French studied by Gardner, Clément (1980, 1984) proposed a model later dubbed “the social context model” according to which two processes might intervene in the definition of SLA motivation. In unicultural situations, where majority group members would be learning the language of a minority or absent group, such as those typically studied by Gardner and his collaborators, it would be expected that integrativeness would be the main determinant of SLA motivation. In contexts where there are opportunities to interact with the L2 group, however, integrativeness would orient the individual to enter in contact with members of that group and, to the extent that this contact is positive and frequent, develop language confidence, which would then sustain motivation.

Clément’s model also drew implications for non-linguistic aspects of SLA which we will review later. But regarding the dynamics of language mastery, it also introduced an additional element to the components of the integrative motive. A product of studies of Canadian Anglophones learning French as a second language, the original integrative motive was defined in terms of the attractiveness of the L2 group. The analysis of the Canadian Francophone situation, however, revealed that these minority group members also felt reluctant about sharing the Anglophone reality because of the fear that, as a result, they might lose their first language and culture (Clément & Kruidenier 1985). Integrativeness was, therefore, re-defined as the result of two antagonistic forces: Perceived attractiveness of the second language group, and fear of assimilation. Of course, in the specific Canadian or North American context, French may be considered a minority language which would not evoke among its learners any strong fear of assimilation. It remains to be seen if, in a situation where French is the dominant language (e.g., in France), its acquisition by minority members would result in the same reactions witnessed in Canada among the Francophone Canadians.

Wherever language learning takes place, the demands of acquisition and usage provide fertile ground for the development of anxiety among learners. Cohen and Norst (1989:61) state the issue well: “[...] there is something fundamentally different about learning a language, compared to learning another skill or gaining other
knowledge, namely, that language and self are so closely bound, if not identical, that an attack on one is an attack on the other. Concern over the effects of language anxiety emanates from its effects on the learning process, the individual learner, and the social consequences of anxiety arousal.

3.1 Academic effects

The effects of language anxiety in the classroom are well documented. There are a number of studies that show strong negative correlations between measures of language anxiety and course grades (e.g., Horwitz, Horwitz, & Cope 1986; Young 1986). One study reported a correlation as high as \(-.65\) in a university-level French class (MacIntyre & Gardner 1994b), indicating that over forty percent of the variation in course grades is associated with anxiety in that sample.

In an extensive study reported by Gardner, Smythe, Clément and Gliksman (1976), and subsequently detailed in a monograph by Gardner, Smythe and Lalonde (1984), the relation between attitudes, motivation, anxiety and language learning (in French as a L2) was investigated in seven locations across Canada. Language anxiety consistently was among the strongest predictors of second language achievement (Gardner et al. 1976). Language anxiety was negatively related to both actual and perceived L2 competence (Gardner et al. 1984).

The source of these effects lies in the cognitive, emotional, and behavioral disruptions caused by anxiety arousal. Eysenck (1979) proposed that anxiety arousal has a complex set of effects, including (1) An increase in activity levels as the “fight or flight” response of the sympathetic nervous system is engaged, and (2) A disruption in ongoing cognition caused by distracting self-related thoughts. The combination of these effects leads to the possibility that anxiety arousal can be facilitating or debilitating to performance, depending on the demands of the task and the level of anxiety arousal. The concepts of facilitating and debilitating anxiety were highlighted by Scovel (1978) in his review of the early literature, based primarily on data collected by Klienmann (1977). Performance on a relatively easy task, that otherwise might be boring for students, can be facilitated when some anxiety is aroused, as when task performance is done in public or evaluated by a teacher. Yet one risks going too far in creating anxiety, pushing students beyond the level where performance is facilitated. Indeed, the vast majority of research to date has shown a negative correlation between anxiety and academic performance in language courses, indicating that language anxiety is predominantly of the debilitating variety (MacIntyre 1999).

Tobias’ (1986) three-stage analysis of learning tasks focuses attention on the various ways anxiety arousal can affect learning. Tobias breaks tasks into input, processing and output stages. At the input stage, anxiety acts like a filter preventing some information from getting into the cognitive processing system. Anxious students lose information because of the distraction caused by anxiety, especially when listening to a second language speaker. An anxious student might re-read a written text, but the social conventions and conversation constraints of language classrooms make it difficult
for an anxious learner to repeatedly ask for clarification, repetition, and so on. During the processing stage, anxiety can influence both the speed and accuracy of learning as attention is distracted from the process of making connections between new material and existing knowledge structures. Anxiety arousal at the output stage can influence the quality of second language communication. Anxious learners report ‘freezing-up’ on an important test, or having words on the ‘tip-of-the-tongue’ but being unable to speak them. The frustration of such experiences can heighten anxiety, creating a vicious cycle that maintains heightened anxiety even among learners whose level of proficiency is improving.

Several studies support this three-stage model (Onwuegbuzie, Bailey, & Daley 2000; MacIntyre & Gardner 1991; MacIntyre & Gardner 1994a, 1994b; Onwuegbuzie, Bailey, & Daley 1999, 2000). For instance, in a study of L2 French learners, MacIntyre and Gardner (1994a, 1994b) reported significant correlations of language anxiety with the amount of time required to recognize words, the ability to hold words in short term memory, recall of grammar rules, paragraph translation, the amount of time needed to studying new vocabulary items, memory for new vocabulary items, time to complete a test of vocabulary, retrieval of vocabulary from long term memory, ability to repeat items in L1 and L2, ability to speak with an L2 accent, complexity of sentences spoken, as well as the fluency of speech. Results on complex, multi-stage tasks show that extra effort can reduce the effects of language anxiety in cases where a learner can compensate for distractions at earlier stages of processing (e.g., by re-reading a passage, or practicing a response). Such compensation is not always possible because of the structure of a task.

In an experimental task using a video camera to arouse anxiety during learning of French vocabulary items, MacIntyre and Gardner (1994a) found that the effects of anxiety are strongest immediately after it is aroused, dissipate with time, and can be overcome if opportunity for the use of compensation strategies is given. MacIntyre and Gardner (1994b:301) conclude that “[t]he potential effects of language anxiety on cognitive processing in the second language appear pervasive and may be quite subtle”.

3.2 Social effects

The social effects of language anxiety influence ways in which second language interaction takes place, and begin within the individual. Price (1991:104) reported strong emotion from students, one of whom said “I’d rather be in a prison camp than speak a foreign language”. Although the severity of this reaction probably is not typical, avoidance of communication is a pervasive reaction to anxiety, one that has important social consequences. Anxious individuals often engage in self-deprecating cognition (Schwarzer 1986), and this has an impact on the ways in which the learner relates to other people. Students worry that others think that they are “stupid,” “a total dingbat”, or “a babbling baby” (Price 1991:105), because they are having trouble using simple vocabulary and grammar structures.
There are many ways in which the social context can influence language anxiety. A competitive classroom atmosphere (Bailey 1983), difficult interactions with teachers (Young 1991), risks of embarrassment (Ely 1986), opportunity for contact with members of the target language group and tension between ethnic groups (Clément 1986), may all influence language anxiety.

Perhaps the most frequent finding in the literature on language anxiety, and one of its most important social effects, is that anxious learners do not communicate as often as more relaxed learners (MacIntyre & Gardner 1994b; MacIntyre & Charos 1996; MacIntyre, Baker, Clément, & Donovan 2003), and the simple prospect of communicating in a L2 appears to be the major source of language anxiety. Although there has not been much research on the interpersonal effects of avoiding communication in an L2, it is clear that avoiding communication in the native language generates a number of negative assumptions about a reticent speaker (Daly & McCroskey 1984). How anxious L2 communicators are perceived by others would be an interesting avenue for future research, especially considering the important role played by situational context (e.g., inside versus outside the classroom; control versus affiliative situations; novel versus familiar contexts).

4. Contextual effects in L2 acquisition

Context can of course be understood along varied dimensions from the context of a particular language to the wider societal context. Because of their greater relevance to social and motivational issues, we will here consider the pedagogical and the social-political context.

4.1 The pedagogical context

The pedagogical context for language learning lies at the interface of social and individual processes, the language classroom is a potentially powerful force for changes in social context and intergroup relations. Early versions of the socio-educational model (Gardner & Smythe 1975) explicitly incorporated attitudes toward the learning situation (the teaching and course). Even so, calls for a stronger focus on education-friendly approaches to motivation have been made (e.g., Crookes & Schmidt 1991), and the issues have been taken up (e.g., Ushioda 2001). However, there remains an unfortunate lack of empirical data on many of these developments (MacIntyre, MacMaster, & Baker 2001).

For our purposes, we will contrast intensive and non-intensive programs. Intensive programs, such as immersion and study abroad, are based on the notion that intense, authentic communication in the L2 will facilitate learning. The notion of inter-ethnic contact was at the heart of the establishment of the French immersion programs in Canada, first in Montreal and later throughout Canada (Genesee 1998). The
outcomes of these programs have been well studied and reviewed elsewhere (Clément 1994; Noels & Clément 1998). In general, immersion programs produce greater comfort with passive language skills, and a greater capacity for L2 production than non-intensive programs, although the speech production of immersion students frequently does not reach native-like levels (Hammerly 1989). This is not necessarily a surprising outcome, given the limited range of contact and exposure to conversation in the classroom (Allen, Swain, Harley, & Cummins 1990; Genesee 1987; Liskin-Gasparro 1998). If the language classroom could provide a microcosm of authentic interactions with native speakers, then we might expect it to yield a more complete range of linguistic and non-linguistic outcomes (Firth & Wagner 1997). Although some researchers focus on the limitations of the linguistic capabilities of immersion students, the non-linguistic outcomes – including more positive attitudes toward the L2 community (Genesee 1987), lower levels of anxiety and a greater willingness to communicate in the L2 (MacIntyre et al. 2003) – suggest that immersion programs have been at least partially successful in meeting the goal of improved intergroup relations behind the original concept of immersion education (Genesee 1998).

4.2 The social context

As the above discussion suggests, the issue of contact with the second language speaking group in naturalistic contexts is a key issue to understanding L2 acquisition. It does appear that aspects of inter-ethnic contact in the context of L2 programs serve to develop more positive attitudes and greater self-confidence in the ability to use the second language efficiently (for reviews, see Clément 1994; Gardner 1985; Clément & Gardner 2001). The assumption that such interaction could occur, and has consequences that would be independent of the wider structural context in which it occurs is, however, challenged in a number of ways.

4.2.1 Structural aspects

An important theme here is the idea that positive benefits from language acquisition will only be achieved to the extent that the first language and culture are well established within the individual (Carey 1991; Clément 1984; Cummins & Swain 1986; Hamers & Blanc 1988; Landry & Allard 1992). This presupposes a familial, educational, and social context which allows the development and transmission of the first language and culture. Although such conditions may be present for majority group members, they may not characterize the situation of many minority group members, immigrants, refugees, and sojourners. The relative status of the first and second language speaking groups and the linguistic composition of the community are key determinants of the linguistic and cultural outcomes of L2 acquisition.

Under the concepts of additive and subtractive bilingualism, Lambert (1978) proposed that language learning outcomes could be very different for members of majority and minority groups. Additive bilingualism expected among members of a majority group learning the language of a minority group corresponds to the capacity to use two
languages as cognitive and social tools. Subtractive bilingualism corresponds, however, to the loss of the first language as a result of the acquisition of the L2, and would result from minority group members learning the language of a dominant or majority group.

As a further formalization of the concepts of minority and majority as pertains to language issues, Giles, Bourhis and Taylor (1977) proposed the concept of ethnonilingualistic vitality which encompasses demographic representation of the communities, their institutional representation, and the socio-economic status of their members. These factors were further developed by Prujiner, Deshaies, Hamers, Blanc, Clément and Landry (1984) in terms of the relative demographic, political, economic and cultural capital of the in- and out-group communities. The results obtained to date show a consistent relation between these structural factors and first language retention and competence (e.g., Landry & Allard 1992; Landry, Allard, & Henry 1996).

The above would imply the shorter or longer term disappearance of languages with lesser vitality. This problem has come to be a key issue for governmental authorities in countries promoting a pluralist approach to ethnic diversity. Language planning (cf., Haugen 1959; Maurais 1987) has been the political and administrative instrument used to promote and protect language according to predetermined societal options (e.g., Martin 1997). Accordingly, the State may determine the goals of language education, the medium of interaction with government agencies, tribunals and schools, and the relative visibility of different languages in public and commercial signs – the linguistic landscape (Landry & Bourhis 1997). The effectiveness of such measures depends to a large extent on conditions already present in the communities on which it is imposed. Promoting English as the only language among Americans seems to be relatively easy (cf., Frendreis & Tatalovitch 1997). In fact, the promotion of English outside the United States and England has been referred to as “linguistic imperialism” (Boyle 1997; Clachar 1998), and has raised some concerns about the local, demographically-dominant languages. Likewise, the promotion of French as the only official language by the Quebec government has had a direct impact on the usage of French as a public and working language in a province which is no more than a French enclave in the North American continent (Pagé 2006).

4.2.2 Psychological aspects

To understand the effects of structural aspects requires an array of psychological constructs likely to mediate their influence on individual characteristics and behavior. A first step towards bridging the structural-psychological gap has been to recast ethnonilingualistic vitality as the perceived counterpart of “objective vitality” (Bourhis, Giles, & Rosenthal 1981). Subsequent studies tended to show a stable relation between objective and subjective measures of vitality (e.g., Bourhis & Sachdev 1984; Landry & Allard 1992), and subsequent studies suggest a number of direct and indirect effects through the influence of vitality on interethnic contact experiences (e.g., Cenoz & Valencia 1993; and a review by Harwood, Giles, & Bourhis 1994).
4.3 Identity processes

The preceding discussion suggests that acquiring an L2 involves certain costs and benefits which are directly related to the relative status of the communities in contact. Following the additive/subtractive bilingualism hypothesis (Lambert 1975, 1978), for majority group members learning a minority language – whether the minority language group is represented or not in the community – benefits in terms of personal enrichment might well outweigh the cost incurred by a momentary culture shock and communication anxiety. It is possible, however, that teaching a second dominant language to help in the adaptation of minority group members entails the disappearance of the minority community as a distinct cultural entity of a nation. This would certainly defeat the purpose of an important goal of pluralist societies. A better understanding of identity and adaptation patterns is, therefore, deemed useful.

As illustrated above, shifts in identity as an outcome of L2 competence was not unforeseen by social psychologists dealing with bilingualism. The social context model (e.g., Clément 1980, 1984; Clément & Noels 1991) described earlier applies the same construct to the development of L2 competence as it does to the maintenance or loss of ethnic identity. Following the original model, confidence in the L2 developed through frequent and positive contacts with outgroup members is hypothesized to mediate the effects of intergroup contact on identity. Since the development of adequate identity profiles is hypothesized to be related to adjustment, it would be expected that well-being would be related to L2 confidence as well. The results obtained by Noels and Clément (1996) support both this hypothesis and the preceding considerations regarding status. As can be seen in Figure 2, majority Anglophones (i.e., Anglophones originating from settings where they are a majority) show an additive pattern: Better identification with the Francophones, and better psychological adjustment as a result of greater language confidence in French and no erosion of English identity.

These results contrast with those obtained with Francophones from majority Francophone settings currently evolving in an Anglophone setting as illustrated in
Figure 3. Increased English language confidence results in increased identification with Anglophones and decreased identification with their own group. Furthermore, in this case, increased language confidence is not related to psychological adjustment. This illustrates the most pernicious effect of a minority situation. These students come from majority settings, and yet, develop a subtractive profile as a result of a brief immersion in a context where they are a minority.

The research reported above supports the original contention pertaining to the subtractive effects of second language competence. It further demonstrates its implications for psychological adjustment. Finally, the results obtained with majority Francophone students support the powerful impact of L2 confidence as a determinant of identity shift.

At the root of the process is an intergroup contact situation which entails the actual use of a L2. Contact can be defined as direct, such as any face-to-face situation, or indirect when the presence of the other group is symbolic or mediated. For example, under the label 'linguistic landscape', Landry and Bourhis (1997) showed that a number of factors defining the linguistic environment such as road signs, shop signs and the media contributed to the maintenance of minority languages. Clément, Baker, Josephson and Noels (2005) reported results supporting cultivation (Gerbner 1969) and erosion (Varan 1998) theories, to the effect that media have an immediate impact on culture. Specifically, their longitudinal design showed that L2 audio-visual and written media had an impact on degree of identification with the outgroup, mediated by L2 confidence. These results buttress the hypothesis that it is not so much competence in the L2, as measured by standard tests that is important, but rather the actual usage of the language in a communication situation, to which we now turn.
5. What factors lead to a willingness or unwillingness to communicate?

Communication processes occupy a central place in both intergroup contact and L2 pedagogy. Fostering willingness to communicate (WTC) in the L2 is both an outcome of SI-A and a strategy for learning (MacIntyre, Clément, Dörnyei, & Noels 1998). The pyramid model of WTC provides a framework to integrate research from disciplines including communication, psychology, a spectrum of applied linguistics domains (including sociolinguistics and language acquisition models), and education. The model is organized into six layers, proceeding from the most distal to most proximal components, as displayed in Figure 4.

At the base of the pyramid are two wide-ranging sets of influences, intergroup climate and personality. The intergroup climate is defined by the broad social context in which various language groups operate. The relative ethnolinguistic vitalities (Giles et al. 1977) of the language communities may be moderated by the interpersonal communication networks in which individuals participate. Processes of acculturation and adaptation will play out differently in conditions of contact or isolation, harmony or prejudicial discrimination, as well as when groups perceive competition or disadvantage (Guimond & Tougas 1994). Tensions and attractions among groups potentially predate nation-states making individual language learners tiny threads in a complex fabric of social relations. Yet within this context, individuals themselves differ significantly in their reaction to social situations, reactions that stem, in part, from basic personality traits, including sex differences (Lin & Rancer 2003). Evidence for the heritability of basic traits demonstrates that genetic endowment plays a key role in temperamental reactions, such as nervousness or shyness (Pedersen, Plomin, McClearn, &
Friberg 1988). Given the interaction of basic personality traits with the social environment, the base of the pyramid is formed by long term individual differences operating within various social structures and networks, providing highly stable patterns that predate the individual.

Moving to a more proximal level, the next layer of the pyramid captures the individual's typical affective and cognitive context. Setting the tone for motivation to learn the L2 is the tension between a desire to approach the target language group, and a sense of hesitation or fear of the implications of doing so. The evolution of Gardner and Lambert's (1959) concept of integrative orientation into the more comprehensive integrative motive, as part of the socio-educational model (Gardner 1985), has captured for applied linguists the tendency for approach toward the other group. Tension within the self is often created with the L1 or heritage group as a learner begins adapting to a new group. Therefore, L2 communication must take into account the predictable avoidance tendencies as reflected in the fear of assimilation and its conceptual cousin, subtractive bilingualism (Lambert 1975). The motivations emerging from such tensions sustain or impair the action necessary to develop competencies in the L2 (Clément 1986). It almost goes without saying that linguistic competence, knowledge of syntactic and morphological rules, lexical resources, and the phonological and orthographic systems needed for communication, both spoken and written, is fundamental. Building upon the linguistic dimension are competencies to handle discourse appropriately, to accomplish communicative actions, to deal with situational variation, and when all else fails, to strategically compensate for deficiencies in any of these areas. Such motives and competencies play out within social situations with an almost infinite number of permutations of participants, settings, purposes, topics, and channels of communication. The pyramid model is not so specific as to be formulaic in the application of these factors, and it is understood that their operation in situ will depend on interactions with variables from other layers.

Moving to the last of the layers of enduring influences, we find highly specific motives and self-related cognition. Intergroup motives stem directly from membership in a particular social group and interpersonal motives stem from the social roles one plays within the group. Both intergroup and interpersonal motives arise from two classic sources: Affiliation and control. Harmonious intergroup relations are a fundamental, explicit objective of supporters of intercultural communication (Kim 1988) and a firmly established motive in the research literature. Control motives encompass L2 communicative behavior aimed at asserting the power and autonomy of the speaker, and often simultaneously limiting the freedom of the interlocutor. Taken broadly, this includes events such as directives from a supervisor, instruction from a teacher, and requests for assistance in the L2. The final set of influences at this level includes L2 self-confidence; perceptions of communicative competence coupled with a lack of anxiety define the self-confident L2 speaker. This concept is somewhat more specific than the linguistic competencies described at the lower level to capture the idea that learners may overestimate or underestimate their capabilities, and how they may be applied.
When we move to the next layer of the pyramid, we make a transition from enduring influences to situational ones. The sense of time is coming to focus on the here-and-now. At this level of the pyramid model is the desire to communicate with a specific person as well as a state of self-confidence. The general attitudes and motives found at lower levels find their embodiments in persons immediately present, and exceptions to the rules can be made. At this level, power motives are reconciled with affiliation, task and relationship orientations find their expressions, and persons are accepted or rejected as communication partners. The self-confidence expressed in a given situation is based on actual competencies possessed by a speaker, any systematic biases in perception of abilities (MacIntyre, Noels, & Clément 1997), and salient elements of the situation.

The culmination of the processes described thus far is the willingness to communicate, that is, to initiate L2 discourse on a specific occasion with a specific person. This represents the level of behavioral intention to speak (Ajzen & Fishbein 1980) if one has the opportunity. The prototypical event in the language classroom is a group of students indicating a willingness to communicate by raising their hands to respond to a teacher's question. Dörnyei and Otto (1998) have likened this sort of event to “crossing the Rubicon”, a point of no return where one commits to act in the L2. At times one crosses such a threshold with reluctance, hesitation, even trepidation (MacIntyre 2005) because the course of future conversations can be quite unpredictable.

The empirical work on WTC in the L2 has centered around Skehan's (1989) notion that the willingness of language learners to “talk in order to learn” was a fundamental, yet elusive, individual difference variable. Prior work has supported the key relationships proposed in the pyramid model. Both components of self-confidence, perceived competence and anxiety, consistently have been shown to relate to WTC (MacIntyre et al. 2003; Yashima 2002; Yashima et al. 2004), although their interrelationships have been shown to change over time in adolescents (Donovan & MacIntyre 2004), and with experience in the second language (MacIntyre, Baker, Clément, & Donovan 2002).

Generally, anxiety takes on greater importance as learners gain experience (see also McCroskey & Richmond 1991). WTC correlated, as expected, with both the key motives for communication: The desire for control (MacIntyre & Donovan 2004) and affiliation (Clément, Baker, & MacIntyre 2003) tend to increase WTC. The key role of WTC – its prediction of the initiation of communication – also has been demonstrated in several studies, both in the L1 (MacIntyre, Babin, & Clément 1999) and the L2 (Dörnyei & Kormos 2000).

In further work, WTC has been studied as a non-linguistic outcome of Canadian immersion programs (MacIntyre et al. 2003). More broadly, social context has been shown to affect WTC, and its role in generating L2 communication differs between majority and minority groups in a bilingual context (Clément et al. 2003). As might be expected, ethnocentrism has been shown to reduce intercultural WTC (Lin & Rancer 2003). Perceiving social support from friends and siblings, but not necessarily parents and teachers, enhances WTC in high school students (MacIntyre, Baker, Clément, & Conrod 2001). Finally, attempts to integrate WTC with existing literature
on motivation demonstrate that WTC shares common variance with both Gardner's (1985) integrative motive and mainstream academic motivation factors (MacIntyre et al. 2001).

6. Personality

The personality of the learner has been implicated in WTC and it is one of the foundations on which the 'pyramid' is built because personality represents the enduring character of an individual. Definitions of personality often emphasize the uniqueness of each individual created by various modes of interaction between genetic endowment and learning experiences. Personality is a wellspring from which flows the consistency of thoughts, feelings, and behaviors. At a more humanistic level, personality can be thought of as the mask we wear in social situations, as the core of our being, or as the process of actualizing our true potentials. Clearly the term 'personality' has a wide variety of connotations, among them the adaptive function of personality is often under-emphasized in its definition.

The study of personality has been significantly informed by the study of language. Almost 70 years ago, Allport and Odbert (1936) reasoned that the adaptive nature of personality would lead to vocabulary terms to describe the main traits or dimensions on which people differ, and to the extent that personality is universal, different languages will code terms for the same traits. This has been called the lexical hypothesis (Goldberg 1993). In practice, we characterize people by their traits. When we know someone is lazy, kind, smart, serious, nervous, and so on, we can better predict how they will act and react with us. The almost infinite possible combinations of even a few basic traits allows for the diversity observed in personality, akin to the way combinations of basic colors in paint or light lead to a plethora of observable colors.

There has been surprisingly little research directed at determining the personality correlates of L2 achievement. According to Gardner (1990:184), the research that has been done has yielded "generally poor results". Intuitively, it seems difficult to believe that a trait such as extraversion-introversion is not somehow related to success in a second language. Yet Dewaele and Furnham (1999:509) label extraversion as the "unloved variable" in applied linguistics research, because of its poor reputation in empirical research. In spite of these disappointments, it seems almost axiomatic that the personality of the language learner would have an impact on the process of L2 acquisition, yet the empirical evidence appears to be lacking. Why would that be?

We can identify four plausible explanations for the sparse results linking extraversion and language learning. First, Dewaele and Furnham (1999) cite misinterpretation of early work, such as Naiman, Frolich, Stern and Todesco's (1978) classic study of the Good Language Learner, as a reason for the neglect of extraversion among applied linguistics researchers. Although extraversion may not be linked to written linguistic outcome measures (Dewaele & Furnham 1999), it appears to be reliably associated with the achievement of oral fluency in the L2 (Dewaele & Furnham 2000). Thus, one
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A possible explanation for the disappointing results of most work on personality and language learning might be that researchers have been measuring outcomes that do not lend themselves to influence by traits such as extraversion.

Ehrman (1990) presents a second view of why the link between personality and language learning, more specifically, between extraversion and language learning, has been elusive. She argues that much of the time, people are using the language in dyadic situations, which are likely to be just as comfortable for introverts as for extraverts, and thus an advantage for extraverts fails to emerge.

A third argument, offered by Skehan (1989), holds that for academic achievement in general, and verbal learning in particular, it is the introverts who usually have the advantage over extraverts. However, for SLA and communication, extraversion has been taken as the desirable personality orientation (Wakamoto 2000). It can be suggested that, on the one hand, a formal classroom setting where achievement is based primarily on rote memory for vocabulary and grammar rules might favor the introvert. On the other hand, language learning emphasizing naturalistic communication opportunities would likely favor the extravert. A classroom that blends the two pedagogical styles might wash out the advantages gained by extraverts or introverts, yielding a near zero correlation. In the literature, the correlation between extraversion and language achievement has been nonsignificant or slightly positive, and the results seem to be related to the particular measures employed in the studies (Skehan 1989).

We offer an elaboration on Skehan’s argument as a fourth explanation for the relative scarcity of consistent research results linking personality and L2 learning: Much prior research does not consider the adaptive nature of personality as it interacts with situations. According to Mischel (1999:233), “knowledge of individual differences alone often tells us little unless it is combined with information about the conditions and situational variables that influence the behavior of interest”.

Previous studies (Chastain 1975; Naiman et al. 1978; Pritchard 1952; Riding & Banner 1986; Robinson, Gabriel, & Katchan 1994; Smart, Elton, & Burnet 1970; Swain & Burnaby 1976) have assumed that L2 achievement and individual difference variables should correlate, though the assumption of a direct link between personality and language learning seems to be unwarranted (Lalonde & Gardner 1984; MacIntyre & Charos 1996). Personality traits impinge on behavior in context, helping to shape our adaptation to that context. To emphasize the person by situation interactions, then, is to shift the focus onto the fit between the demands of language learning and the personality of the student. We now offer new empirical evidence demonstrating the interaction of personality and contextual effects in the expression of WTC.
7. **Original empirical data: Extraversion and studying French vocabulary**

One of the most fundamental of all personality traits is captured by the terms introvert and extravert. Given the tendency of introverts to prefer quiet solitary study environments while extraverts tend to choose more social environments (Campbell & Hawley 1982), one could predict that introverted L2 students would tend to study better alone, while extraverted L2 students might demonstrate better progress when learning in groups. Introverts' greater tendency to be socially anxious (Cheek & Buss 1981) might also lead to an advantage for introverts in solitary study environments. Wilson and Lynn (1990) have argued that the classroom settings where students are expected to complete assignments on their own, without social interaction, favor introverts over extraverts.

Given the discussion of personality in the preceding section, these assumptions appear to be consistent with theory, but likely are too simplistic to describe the action of personality on learning in practice. Lacking is an account of the individual's familiarity with the context itself or in other words, the learner's degree of actual experience in a given situation. Personality certainly is not the only determinant of an individual's study habits, especially if the development of those practices depends on cooperation from other persons. For example, a given teacher might employ a great deal of group work in the classroom, to introverts and extraverts alike. Extraverts are more prone to boredom than introverts (Ahmed 1990), tend to be higher in sensation-seeking than introverts (Eysenck & Zuckerman 1978), and prefer to build more variety into monotonous tasks than do introverts (Hill 1975). It is possible to imagine that even an extravert might not attain optimal levels of arousal in a group setting, if he or she is bored from repeated exposure to the same set of classmates and group work tasks. In such a case, the novelty of being permitted to study alone actually might benefit the extravert. Similarly, introverts who become accustomed to studying in dyads or small groups might become overly aroused when placed in a solitary study setting because of their lack of familiarity with the situation.

Given the concern we noted earlier about communication processes in the classroom, we also were curious about the differences between studying in groups and studying alone, both in achievement and WTC. With the present study we are developing a new measure of WTC, defined with reference to each of the specific vocabulary items under study. This novel approach will be maximally sensitive to contextual effects, such as prior knowledge of related content.

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1. These results were presented at the annual conference of the Canadian Psychological Association by MacIntyre, Donovan and Standing (2004).
7.1 Methodology

We sought to create conditions under which introverts and extraverts might differ in two language learning outcomes: Vocabulary acquisition and willingness to use each of the new vocabulary items in a sentence. Using a laboratory analog approach (Gardner, Day, & MacIntyre 1992), and focusing on one key element of L2 learning, vocabulary acquisition, allows for examination of the effects of personality on a specific task. Having both a measure of WTC and a vocabulary test in the present study will allow for examination of the link between test scores and willingness to use the new vocabulary items in oral communication. The laboratory analog approach also allows for manipulation of the study situation with the aim of creating conditions that might facilitate learning among introverts, and other conditions that might favor extraverts. Based on the extant literature, however, we do not expect strong effects.

7.1.1 Participants

Participants were 127 high school students enrolled in grade 10, 11, and 12 core French-as-a-second-language courses in Nova Scotia, Canada. As is typical in language classes, approximately two-thirds of the sample was female (n = 91), and one-third male (n = 36). Students ranged in age from 15 to 19 years with a mean age of 16.5 years. All of the students in the sample indicated English as a first language, and the high schools were located in predominantly Anglophone communities. The study was conducted during regularly scheduled French classes with the permission of the school board, school administrators, teachers, and parents.

7.1.2 Measures

Measures administered to the students included a demographics questionnaire with questions about age, sex, and previous experience learning French, Eysenck and Eysenck's (1975) 23-item extraversion scale, a fifteen-item vocabulary test, and a measure of state WTC. The vocabulary test was scored on a 3-point scale, with one point awarded for the definite article, and 2 points awarded for a close approximation of the root word (as used by MacIntyre & Gardner 1989). As a measure of reliability of the extraversion scores, Cronbach's alpha was calculated and deemed acceptable (α = .73). Students were classified as either introverts or extraverts based on a median split of extraversion scores. Following the advice of classroom teachers, vocabulary items were selected from concrete nouns of the type the students might learn in their courses. Prior to the study, we asked students to translate as many of the items as possible. The mean and maximum numbers of correct English translations (M = 0.72, SD = 0.83, maximum obtained score = 3 of a possible 45 points) suggest that the words were indeed unfamiliar to the students in our sample.

7.1.3 Procedure

After giving informed consent, students completed the extraversion scale, the trait WTC scale, the vocabulary pretest, and the demographics questionnaire. Next, each
class was randomly divided such that some students were assigned to study either (a) Alone in a separate room, or (b) In small groups of three to four students in their regular classroom. Following a fifteen-minute study period, all students returned to their classroom, and completed a five-minute filler task consisting of writing about their study methods, after which they completed the vocabulary posttest, as well as the state WTC measure. Following the vocabulary posttest, students were asked "Is this [study method] similar to how you usually study?" The available responses were "very similar", "somewhat similar", and "not at all similar".

7.2 Results

The data analysis reported below first examines the effects of extraversion and assigned study situation on two dependent variables, vocabulary learning scores on the posttest, and state willingness to communicate. The second analysis utilizes post-hoc t-tests to more directly test the hypothesis that familiarity of study situation interacts with extraversion to affect the same two dependent variables. The third analysis examines whether extraverts and introverts differ in their familiarity with assigned study contexts. Our final set of analyses examines the relationship between vocabulary acquisition and WTC at the level of the individual vocabulary word.

To examine the effects of extraversion and similarity of the study situation a 2 (introvert, extravert) × 3 (very similar, somewhat similar, not at all similar) MANOVA was performed with the dependent variables posttest scores and state WTC. At the multivariate level, the main effects of extraversion (Hotelling's = .001, F (2, 120) = 0.09, p = .92) and similarity of study situation (Hotelling's = .021, F (4, 238) = 0.62, p = .65) are not significant, but the interaction is significant (Hotelling's = .093, F (238) = 2.76, p < .03). Examining this interaction at the univariate level we observe a significant interaction on state WTC (p < .05), and the interaction on posttest scores approaches significance (p < .07). The results are shown in Figures 5 and 6.

Post hoc t-tests (displayed in Table 1 below) indicate that extraverts are more willing than introverts to use the vocabulary words to communicate when students have studied in a somewhat similar situation. However, when the participants have studied in very similar situations, the reverse pattern holds, that is, introverts are more willing than extraverts to use the words for communication. When students have studied in situations that are not at all similar to those to which they are accustomed, no significant difference between state WTC of introverts and extraverts is found. A similar

2. Given the possible influence of prior familiarity with the vocabulary words on posttest scores and state WTC, the two MANOVAs were also done as multivariate analyses of covariance (MANCOVAs) with pretest scores as a covariate. The inclusion of pretest scores as a covariate removed a significant amount of variance at the multivariate level in both analyses. The univariate analyses of covariance (ANCOVA) results are similar to the univariate results without the pretest score covariate, and the adjusted means follow the same pattern. For ease of presentation and interpretation, only the ANOVA results are reported.
Effects of Extraversion and Familiarity of Study Situation on Post Test Scores

![Graph showing the interaction of personality and similarity of study situation on posttest scores.]

Figure 5. Interaction of personality and similarity of study situation on Vocabulary Posttest Scores

Effects of Extraversion and Familiarity of Study Situation On State WTC

![Graph showing the interaction of personality and similarity of study situation on state WTC.]

Figure 6. Interaction of personality and similarity of study situation on State WTC

A pattern may be noted for the effect of the interaction between introversion and similarity of study situation on posttest scores. That is, there is a trend for introverts to obtain higher vocabulary test scores than extraverts when studying in very familiar sit-
Table 1. Learning outcome and willingness to use each of the 15 vocabulary items

<table>
<thead>
<tr>
<th>Word</th>
<th>Num Correct (a)</th>
<th>Willing &amp; Able (b)</th>
<th>Able but unwilling (c)</th>
<th>Unable but willing (d)</th>
<th>Unwilling &amp; Unable (e)</th>
<th>% willing if able (f)</th>
<th>Chi-square, sig</th>
<th>Cramer's V, sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackbird</td>
<td>74 (58.3%)</td>
<td>16 (12.6%)</td>
<td>58 (45.7%)</td>
<td>3 (2.4%)</td>
<td>50 (39.4%)</td>
<td>21.6%</td>
<td>6.2, .221</td>
<td></td>
</tr>
<tr>
<td>Swan</td>
<td>31 (24.4%)</td>
<td>6 (4.4%)</td>
<td>25 (19.7%)</td>
<td>6 (4.7%)</td>
<td>90 (70.9%)</td>
<td>19.4%</td>
<td>4.7, .192</td>
<td></td>
</tr>
<tr>
<td>Greenhouse</td>
<td>62 (48.8%)</td>
<td>15 (11.8%)</td>
<td>47 (37.0%)</td>
<td>1 (0.8%)</td>
<td>64 (42.4%)</td>
<td>24.2%</td>
<td>14.8, .341</td>
<td></td>
</tr>
<tr>
<td>Otter</td>
<td>66 (52.0%)</td>
<td>13 (10.2%)</td>
<td>53 (41.7%)</td>
<td>5 (3.9%)</td>
<td>56 (44.1%)</td>
<td>19.7%</td>
<td>3.45, .165</td>
<td></td>
</tr>
<tr>
<td>Lighthouse</td>
<td>39 (30.7%)</td>
<td>10 (7.9%)</td>
<td>29 (22.8%)</td>
<td>2 (1.6%)</td>
<td>86 (67.7%)</td>
<td>25.6%</td>
<td>17.25, .369</td>
<td></td>
</tr>
<tr>
<td>Circulation</td>
<td>63 (49.6%)</td>
<td>10 (7.9%)</td>
<td>53 (41.7%)</td>
<td>4 (3.1%)</td>
<td>60 (47.2%)</td>
<td>15.9%</td>
<td>2.997, .154</td>
<td></td>
</tr>
<tr>
<td>Stork</td>
<td>36 (28.3%)</td>
<td>10 (7.9%)</td>
<td>26 (20.5%)</td>
<td>2 (1.6%)</td>
<td>89 (70.1%)</td>
<td>27.8%</td>
<td>19.73, .394</td>
<td></td>
</tr>
<tr>
<td>Partridge</td>
<td>44 (34.6%)</td>
<td>8 (6.3%)</td>
<td>36 (28.3%)</td>
<td>6 (4.7%)</td>
<td>77 (60.6%)</td>
<td>18.2%</td>
<td>3.52, .166</td>
<td></td>
</tr>
<tr>
<td>Hanger</td>
<td>45 (35.4%)</td>
<td>10 (7.9%)</td>
<td>35 (27.6%)</td>
<td>6 (4.7%)</td>
<td>76 (59.8%)</td>
<td>22.2%</td>
<td>5.862, .215</td>
<td></td>
</tr>
<tr>
<td>Fashion</td>
<td>119 (93.7%)</td>
<td>32 (25.2%)</td>
<td>87 (68.5%)</td>
<td>0 (0%)</td>
<td>8 (6.3%)</td>
<td>26.9%</td>
<td>2.88, .150</td>
<td></td>
</tr>
<tr>
<td>Monkey</td>
<td>97 (76.4%)</td>
<td>30 (23.6%)</td>
<td>67 (52.8%)</td>
<td>3 (2.4%)</td>
<td>27 (21.3%)</td>
<td>30.9%</td>
<td>5.22, .203</td>
<td></td>
</tr>
<tr>
<td>Octopus</td>
<td>24 (18.9%)</td>
<td>4 (3.1%)</td>
<td>20 (15.7%)</td>
<td>5 (3.9%)</td>
<td>98 (77.2%)</td>
<td>16.7%</td>
<td>4.125, .180</td>
<td></td>
</tr>
<tr>
<td>Tub</td>
<td>89 (70.1%)</td>
<td>20 (15.7%)</td>
<td>69 (54.3%)</td>
<td>2 (1.6%)</td>
<td>36 (28.3%)</td>
<td>22.5%</td>
<td>5.51, .208</td>
<td></td>
</tr>
<tr>
<td>Artist</td>
<td>58 (45.7%)</td>
<td>21 (16.5%)</td>
<td>37 (29.1%)</td>
<td>5 (3.9%)</td>
<td>64 (50.4%)</td>
<td>36.2%</td>
<td>16.233, .358</td>
<td></td>
</tr>
<tr>
<td>Tile</td>
<td>85 (66.9%)</td>
<td>19 (15.0%)</td>
<td>66 (52.0%)</td>
<td>3 (2.4%)</td>
<td>39 (22.4%)</td>
<td>22.4%</td>
<td>4.541, .189</td>
<td></td>
</tr>
</tbody>
</table>

Note: Percentages in columns (a) through (e) use N = 127 as the denominator. Percentages in column (f) divide column (b) by column (a).

We did not wish to assume that extraversion would be a reliable predictor of the students' typical study situations. Therefore, in order to examine whether extraversion is related to familiarity with specific study settings (i.e., group versus solitary), a 2 (group, alone) x 3 (very similar, somewhat similar, not at all similar) ANOVA was performed using extraversion as a dependent variable. The analysis yielded no significant main effects of study situation ($F (1, 121) = 0.47, \ p > .05$) or similarity of study situation ($F (2, 121) = 0.12, \ p > .05$), and no significant interaction between study sit-
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...evaluation and similarity of study situation ($F(2, 121) = 0.09, p > .05$). Whereas one must
be cautious in interpreting non-significant results, the fact that the interaction did
not even approach statistical significance suggests that extraversion does not reliably
predict whether students will be accustomed to studying alone or in a group setting.

For each of the 15 words learned in the study we have an assessment of whether
the learner is able to use the word, based on a correct response to the posttest item, and
an assessment of whether the learner is willing to use the word in a sentence, based on
their 'yes' or 'no' response to the WTC question. For each of the 15 words, a 2 by 2
cross-tabulation was performed and evaluated using chi-square test of independence.
In cases where the chi-square is significant, we have evidence of a dependency between
being willing and able to use the words; in cases where chi-square is non-significant,
we must conclude that we have not obtained evidence of a relationship between being
willing and able. In each case, the strength of the relationship will be evaluated with
Cramer's V statistic (see Table 1 above).

In the case of four words, evidence was obtained for a strong relationship (all chi-
square > 14.8, Cramer's V > .34, $p < .001$) between learning and willingness to use
the word ('greenhouse', 'lighthouse', 'stork', and 'artist'). For 5 other words, we find
evidence of a significant relationship (all chi-square between 4.5 and 6.2, Cramer's
V between .19 and .22, $p$ between .013 and .045) between learning and willingness
('blackbird', 'hanger', 'monkey', 'tub', and 'tile'). In the remaining six cases, there is a
non-significant relationship (chi-squares < 4.7, $p > .05$) between learning and willing-
ness to use the word ('swan', 'otter', 'circulation', 'partridge', 'fashion', and 'octopus').

At the word level, a wide range of learning was evident. The word *le pieuvre* 'octo-
pus' was learned by only 19% of the students, while *la mode* 'fashion' was learned by
94%. When students had learned the words, a mean of only 23% were willing to use
that word in a sentence. That is, if we take only those students who correctly produced
the French word, the data are highly consistent in showing that less than one quarter
of the students are willing to use that word in a sentence soon after learning it.

7.3 Discussion of the results

The major results of this study indicate the complexity of the person by situation in-
teraction in vocabulary learning. We found that introverts are more willing to communi-
cate than extraverts in the familiar setting, and this idea is somewhat counter-intuitive.
We obtained the reverse pattern, wherein extraverts are more willing to communicate
than introverts, when assigned study conditions were somewhat unfamiliar. It may be
commonly assumed that the introvert, who is often less sociable and outgoing than
his or her extraverted counterpart (Eysenck & Eysenck 1975; Wilson 1978), should be
less willing to communicate than an extravert across a wide variety of contexts. Studies
conducted with reference to the L1 (McCroskey, Burroughs, Daun, & Richmond 1990;
McCroskey & Richmond 1990; Sallinen-Kuparinen, McCroskey, & Richmond 1991),
and to the L2 (MacIntyre & Charos 1996) have consistently found positive relation-
ships between extraversion and trait-level WTC. Yet, there are conditions under which this tendency can be reversed.

The effects of extraversion and similarity of study situation on posttest scores were marginally significant. Given the very brief amount of time available to students for learning the vocabulary items, the interaction warrants consideration. Figure 5 shows a pattern of means that matches the pattern evident in the state WTC scores. That is, there is a tendency for introverts to show optimal posttest performance when they have studied in very familiar situations, but extraverts perform best under conditions involving a moderate degree of novelty. The pattern of means obtained here suggests that, over a longer time span, the person by situation interaction would be expected to produce noticeable effects on language achievement. This indicates that some learning situations will favor the introvert and others will favor the extravert, as Skehan (1989) has suggested. It is interesting, and somewhat surprising, to note that extraversion was not predictive of whether students were accustomed to studying in either a group or solitary setting. We would suggest that researchers who wish to examine how interactions between personality and situations affect language learning keep in mind that their participants may not have the expected experience one would predict based on their personality traits alone.

If willingness to use the L2 for authentic communication is to be a central goal of L2 instruction (MacIntyre et al. 1998), it is important to understand the factors that encourage or discourage the L2 learner from speaking up at any particular moment. In the present study, there clearly is a difference between being able and being willing to communicate at the word level. In response to the request to use the words in the present study, on average, approximately 77% of learners appear to be linguistically competent, yet unwilling to use the new words in the L2. In contrast, a small percentage of learners indicated a willingness to use the words even though they had responded incorrectly on the vocabulary test. It is possible that those respondents were overestimating their competence (MacIntyre et al. 1997), thinking that they had correctly responded on the test, or perhaps those students are the sort of adventurous risk-takers who seem willing to try anything (Beebe 1983; Clifford 1991; Ely 1986).

When learners can be categorized as (1) willing and able, (2) willing but unable, (3) unwilling but able, or (4) unwilling and unable to communicate, a more sophisticated analysis of the link between learning and communication becomes possible. Such a categorization scheme has potential pedagogical applications in the classroom for task-based communication and motivation processes (see Dörnyei 2001). Of particular interest are the categories ‘willing but unable’, and ‘unwilling but able.’ On the one hand, one can imagine the positive effects of occasions where students willingly use inadequate L2 skills for the potentially embarrassing purpose of receiving error correction as a means of accelerating learning. The second category with special pedagogical relevance is the situation wherein students are able, but unwilling to communicate. No doubt this represents a source of concern for second language educators. Psychologically, this is an interesting phenomenon given the emphasis in the motivation literature on communication-dependent reasons for language learning including
friendship, travel, career-goals, and so on (Clément & Kruidenier 1983; Ushioda 2001). Perhaps anxiety reduction strategies can be tried (Baker & MacIntyre 2000; MacIntyre & Charos 1996), and special efforts can be made to encourage students to communicate in the L2 outside class with supportive friends as a means to increase WTC (MacIntyre et al. 2001), provided the intergroup situation does not constrain such interaction (cf. Norton 2000, 2001).

The results of our study indicate that, despite the status of extraversion as an "unloved variable" (Dewaele & Furnham 1999:509) in the literature on language learning, the investigation of how personality relates to L2 acquisition can indeed be rewarding. Researchers must bear in mind that relationships between broad personality traits and specific language learning outcomes are likely to be indirect and influenced by complex processes and past experiences.

8. Conclusion

The study of the psychology of individual differences has produced a broad literature demonstrating the relevance of psychological processes to SLA. The current elaboration of the literature on motivation promises to add richness to our understanding of those processes. Contextual effects, including relative language status, ethnolinguistic vitality, pedagogical setting and so on, play an important role in shaping the psychology of the language learner. In addition to the linguistic outcomes so often emphasized in the literature are a host of non-linguistic outcomes that must be taken into account, if the learning process is to be understood fully. Whereas it would be easier theoretically if individual differences did not exist and psychological process played no role, that simply does not reflect the reality of the language learning process as it unfolds in context. Our discussion of the difficulties encountered in the study of personality traits, and extraversion in particular, demonstrate the folly of too simplistic an orientation. The data presented demonstrate that even a statement as seemingly self-evident as "extraverts will be more willing to communicate than introverts" can be shown to be true, untrue or even true in reverse because of the interaction of the person and the learning situation.

With respect to future research, we suggest that placing greater emphasis on the interactions of the person and situation, as we attempted to do in our study of personality and WTC in vocabulary learning, may yield further interesting, pedagogically useful, and perhaps surprising results. Examining the patterns of association between psychological processes and SLA processes, wherein research is designed to look beyond simple correlation coefficients, allows future research to study the complexity of these relationships. We suggest that there is a need for further research on both the larger scale, macro-level processes of intergroup relations, and the smaller scale, intra-individual processes, if we are to arrive at a more complete understanding of the various forms of adjustment that take place when language groups come into contact.
In the future, studies of the affective system in SLA will require increasingly diverse methodologies, spanning the study of brain-based emotional processes to a more prominent role for qualitative research methods. For example, studies of WTC may examine the physiological inhibition systems that are activated in the brain and the body when a person experiences a threat within his or her surroundings. Yet at the same time, it is to our advantage to understand also the felt experience of apprehension and the reluctance of some learners to use their highly developed L2 communication system. To do so will require an explicit recognition of cultural differences in understandings of key concepts, such as identity and anxiety. If this idea is at all attractive, researchers in the field must continue to expand their comfort level with a variety of methodologies. Further developments in SLA theory and a widening of the research agenda to include studies of the complex learner in context are required. As our partial review of the literature has indicated, we have learned much about the psychology of SLA, but we have much more to learn.