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STUDENT INTEGRATIVE MOTIVE IN SECOND-LANGUAGE LEARNING AND STUDENT-TEACHER MATCH-MISMATCH IN FIELD-DEPENDENCE-INDEPENDENCE

by Hon-wing Lee

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CURRICULUM STUDIORUM

Hon-wing Lee was born in Hong Kong on 24 July 1934. He obtained the degree of Bachelor of Arts from Hwa Kiu College in 1969, the degree of Master of Education from the University of Ottawa in 1973 and the degree of Master of Arts in Education from the University of Ottawa in 1974. The title of his thesis was Field-Dependence-Independence and Second-Language Achievement in Grade 8.

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INTRODUCTION

Studies in recent years have shown motivation to rank with aptitude as a significant but independent predictor of successful second-language learning (Gardner & Lambert, 1959, 1972; Spolsky, 1969).

The motivational factor may be examined in terms of the integrative motive. Briefly speaking, the integrative motive is a theoretical construct that is characterized by favourable attitudes towards a second-language community (Clément, Gardner & Smythe, 1977a, p. 123). Within the learning-teaching context, it has been shown to be related to a number of learning behaviours and outcomes, both linguistic and otherwise (Clément, Gardner & Smythe, 1977b; Clément, Smythe & Gardner, 1978; Gardner & Smythe, 1975; Gliksman & Gardner, 1976) which may be indicative of or attributable to student-teacher interpersonal relationships. It has also been shown to correlate significantly with students' attitudes towards the learning situation, of which the teacher is a major component (Gardner & Smythe, 1975).

In a different but nevertheless related area, research on psychological differentiation has, as of late, begun to probe into the combinatory effects of

cognitive-style match-mismatch among people involved in situations of social interaction (Witkin & Goodenough, 1977). In this regard, it has been demonstrated that students and teachers matched in field-dependence-independence tend to perceive each other positively, whereas the reverse tends to hold true for mismatched students and teachers (DiStefano, 1969; Moore, 1977).

The research findings on the integrative motive and psychological differentiation outlined above, when viewed side by side, seem to give rise to a series of questions. For example, is the integrative motive subject to change or modification since it has such a strong attitudinal element? If so, how could such change or modification be effected in a formal learning-teaching situation? Are the student's attitudes towards his second-language teacher likely to be related to their interpersonal perceptions which are associated with their being matched or mismatched in field-dependence-independence? If so, does it follow that student integrative motive in second-language learning may be related to student-teacher match-mismatch in field-dependence-independence?

Thus far, no attempt seems to have been made to answer the above questions. Yet answers to such

questions may have important pedagogical implications. If, for instance, a relationship could be demonstrated to exist between student integrative motive and student-teacher match-mismatch in field-dependence-independence, matching students and teachers on the basis of field-dependence-independence might prove to be a plausible way of enhancing student motivation and, subsequently, success and attainment in second-language programmes.

The present study has, therefore, been conceived as an attempt to answer the questions raised above, thereby responding to a pedagogical need. More specifically, the current investigation seeks to determine whether student integrative motive in second-language learning is higher when students and teachers are matched in field-dependence-independence than when they are mismatched.

This thesis is organized in three chapters. The first chapter consists of a review of the literature which provides the theoretical rationale and leads to the formulation of the research problem and hypotheses. Chapter II contains a description of the research methodology by which the hypotheses stated in the first chapter are tested. In the third chapter, the results are presented and discussed. The thesis ends with a

summary and a statement of conclusions in which contributions of the study are discussed and recommendations for future research made.

CHAPTER I

REVIEW OF THE LITERATURE

The present study finds its rationale mainly in two theories: the sociopsychological theory of second-language learning postulated by Gardner and his associates on the one hand (Clément, Gardner & Smythe, 1977a, 1977b; Gardner, 1975, 1976; Gardner, Gliksman & Smythe, 1978; Gardner & Lambert, 1959, 1972; Gardner & Smythe, 1975, 1976; Gardner, Smythe, Clément & Gliksman, 1976, Gliksman & Gardner, 1976) and the theory of psychological differentiation advanced by Witkin and his colleagues on the other (Witkin, 1973; Witkin, Dyk, Faterson, Goodenough & Karp, 1962/74; Witkin & Goodenough, 1976, 1977; Witkin, Goodenough & Karp, 1967; Witkin, Lewis, Hertzman, Machover, Meissner & Wapner, 1954/72; Witkin, Moore, Goodenough & Cox, 1977; Witkin, Moore, Oltman, Goodenough, Friedman, Owen & Raskin, 1977).

This chapter consists of four major sections. The first two respectively outline the concept of the integrative motive in second-language learning and the concept of field-dependence-independence. In the third section, the theoretical basis for the current investigation is established. The fourth section brings the

chapter to a close with a statement of the research problem and hypotheses.

1. The Integrative Motive

The concept of the integrative motive is examined in three stages. First, the evolvement of the concept is traced. Next, the current state of the art is outlined. Finally, the problematic situation that has prompted the present study is discussed.

A. Evolvement of the Concept. Individual differences in learning behaviours and outcomes have been a common or, indeed, inevitable, phenomenon in the area of second-language acquisition. Some students invariably participate actively in class, attain a high degree of proficiency at the end of a programme, show a strong desire to re-enrol in subsequent programmes, and make spontaneous and frequent use of the second language both inside and outside the classroom. In contrast, many students simply sit quietly in class, make little or no progress, drop out of the programme on the first possible instant, and seldom or never use the second language anywhere.

On the basis of the findings of a series of studies, Carroll (1962) suggests that second-language

achievement varies as a function of three learner characteristics (aptitude, general intelligence and motivation) and two instructional variables (opportunity the student has for learning and the adequacy of presentation of the material to be learned).

Carroll's (1962) suggestions have not been completely accepted by others in the field, however. For example, Gardner and Lambert (1972) point out that in research where measures of aptitude were correlated with grades received in courses, the relationship was not consistent. They also stress that students showed different levels of attainment even if the adequacy of presentation of material and the opportunity for learning were essentially the same — fixed as they were by the selection of teachers and the curriculum. In pursuit of a different explanation and on the basis of the results of the studies carried out by themselves and their associates over the years, Gardner and Lambert (1972) have advanced a sociopsychological theory of second-language learning, which maintains that:

> The successful learner of a second language must be psychologically prepared to adopt various aspects of behaviour which characterize members of another linguistic-cultural group. The learner's ethnocentric tendencies and his attitudes toward the members of the other group are believed to determine how successful he will be, relatively, in learning the new language. His motivation to learn is thought to be determined by his attitudes toward the other group in particular and toward foreign people in general and by his orientation toward the learning task itself. ... (p. 3)

In brief, Gardner and Lambert's (1972) position may be viewed as consisting of three theoretical elements: (1) Attitude and motivation function as variables independent of aptitude and general intelligence. (2) Success in learning a second language is a function of a favourable attitude towards another culture and of a desire to learn about that culture, coupled with a favourable attitude towards the language to be learned. (3) Learning a second language for socio-cultural reasons is more likely to result in higher achievement than learning the language merely for pragmatic or utilitarian purposes.

To date, Gardner and Lambert's (1972) attitudinal/motivational complex has come to be referred to as the integrative motive.

Broadly speaking, the integrative motive is an attitudinal/motivational configuration identified as one

of two independent factors associated with achievement in a second language (Gardner, Smythe, Clément & Gliksman, 1976, pp. 198-199). It is generally defined as "the willingness or desire to learn the language of a valued other language community in order to become psychologically closer to that community" (Gardner, 1976, p. 11) or as "a high level of drive on the part of the individual to acquire the language of a valued second-language community in order to facilitate communication with that group" (Gardner, Smythe, Clément & Gliksman, 1976, p. 199). It is similar to, but more complex and encompassing than, its "conceptual predecessor", the integrative orientation, which refers only to the student's reasons for learning a second language. A person is said to have an integrative orientation if his learning a second language is prompted by a desire to identify and be at ease with members of the second-language group, to communicate with them, to take part in their activities, to understand their art and culture, and to eventually become a member of the group. A person is said to be instrumentally oriented if he learns a second language for purely utilitarian or pragmatic purposes (Gardner & Lambert, 1972, p. 3). The integrative orientation and

the instrumental orientation are only two of the components of the integrative motive.

The initial study of attitudinal/motivational attributes in second-language learning was conducted by Gardner and Lambert (1959). The study might have in turn been stimulated by Ervin's (1954, cited in Clément, Gardner & Smythe, 1976, p. 3) adaptation of Mowrer's (1950) two-factor theory of first-language acquisition to the acquisition of a second language. According to Mowrer (1950), the child finds his parents' activities reinforcing since they are often associated with the gratification of his needs. Because these activities are also frequently paired with parents' vocalizations, the latter, too, assume the functions of secondary reinforcers. At the same time, the sounds uttered by the child himself, which are similar to those in the parents' language, also have reinforcing properties by way of auditory feedback. Mowrer (1950) refers to the child's tendency to imitate his parents in this way as "identification". Ervin (1954) postulates that a similar identification process is operative in second-language acquisition. Gardner and Lambert (1959) thus contend that one will be more motivated to acquire the language of a second-language group if one has favourable

attitudes towards that group, as well as a desire to integrate oneself into its culture.

B. Current State of the Art. Since the initial study by Gardner and Lambert (1959), a number of investigations have further demonstrated the positive relationship between attitudinal variables and second-language achievement in French (Gardner & Lambert, 1972; Randhawa & Korpan, 1973; Smythe, Stennett & Feenstra, 1972), in English (Clément, Gardner & Smythe, 1977a; Gardner & Santos, 1970; Lukmani, 1972; Oller, Hudson & Liu, in press, cited in Asakawa & Oller, 1977), and in Hebrew (Anisfeld & Lambert, 1961).

Recently, a number of new findings have emerged in respect of this attitudinal/motivational complex. In line with previous findings and/or earlier theorizing, the integrative motive has been shown to be related to students' proficiency or performance in French (Gardner & Smythe, 1975), persistence or re-enrolment in the course when it was optional (Clément, Smythe & Gardner, 1978; Gardner & Smythe, 1975), use of French in an inter-ethnic contact situation outside the classroom (Clément, Gardner & Smythe, 1977b), and participation in French class activities (Gliksman & Gardner, 1976).

Attempts have also been made to delineate the components of the integrative motive. To date six such components have been identified. They are: attitudes towards the learning situation, classroom anxiety, instrumentality, integrativeness, motivation and parental encouragement (Gardner et al., 1976, p. 199). Attitudes towards the learning situation include those towards both the teacher and the course. Classroom anxiety refers to feelings of anxiety or intimidation students have in the second-language classroom situation; it has a negative effect on the integrative motive. Instrumentality indicates the extent to which students feel that learning the second language is important for pragmatic or utilitarian purposes (e.g., to get a good job, to be better educated, or to achieve future success). Integrativeness refers to favourable attitudes towards the second-language community, an expressed interest in communicating with members of that community, and the extent to which students feel that learning the second language is important in order to meet with and become more knowledgeable about that community. Motivation consists of motivational intensity (i.e., the amount of effort expended to learn the second language), desire to learn the second language, and attitudes towards learning

the second language. Parental encouragement refers to the view by students that they are encouraged by their parents to learn the second language.

In an attempt to further clarify the concept of the integrative motive and determine the major role attitudes play in the process of second-language acquisition, Gardner and Smythe (1976) examined the data collected from three groups of grade 11 students. The first group consisted of 204 anglophone students learning French in a monolingual, anglophone milieu; the second, 180 anglophone students learning French in a bilingual (English/French) setting; and the third, 151 francophone students learning English in a bilingual (French/English) surrounding. Measures of ten predictor variables (viz., attitudes towards the learning situation, classroom anxiety, ethnocentrism, instrumentality, integrativeness, interest in foreign languages, language aptitude or IQ in the case of the francophone sample, motivation, need achievement and parental encouragement) were subjected to a series of first-order and semi-partial correlational analyses with five criteria (viz., behavioural intention to re-enrol in French the next year, French/English speech, grades in French/English, opportunities to use French/English outside school, and

self-ratings). On the basis of the results thus obtained, Gardner and Smythe (1976) conclude that:

> Motivation would appear to be the major causative variable in determining individual differences in both linguistic and non-linguistic criteria, but attitudes serve to influence appreciably the students' motivational level. ... Achievement in a second language is mediated to a considerable extent by motivational variables, but attitudes associated with the second language serve to support a student's motivation in the lengthy task of acquiring the second language. (p.13)

Citing similar findings of another extensive, cross-national study involving approximately 1,000 students in each of grades seven through 11, Gardner (1976) confirms the above, thus:

> These findings clarify the causal sequence by indicating that the outcomes are generally related to the motivation, and that the motivation is related to attitudinal characteristics, but that the outcomes are not related to the attitudinal characteristics in and of themselves. The importance of the integrative motive stems from its linking of motivational characteristics to attitudinal variables which themselves are rooted in the social cultural milieu. (p. 16)

It seems apparent, then, that it is the motivational element within the integrative motive, but not its attitudinal counterpart, that is directly related to second-language learning outcomes. Such an observation, however, should not in any way minimize the significance

of the attitudinal variables, for they serve the major function of supporting motivation.

At this point it may be appropriate to ask whether all the attitudinal variables are of equal weight or importance both as motivational supports and as "indirect outcome predictors". As shown in Table 1 reproduced from Gardner (1976), some variables (e.g., evaluation of the learning situation and integrativeness) are likely to relate more highly to motivation.

In his concluding remarks cited above, Gardner (1976) seems to have suggested a causal relationship between the integrative motive and second-language study outcomes — the causal chain being: attitudinal characteristics ⟶ motivation ⟶ outcomes. However, it appears that the relationship may also be reciprocal or interactional. In other words, these variables may interact such that a high integrative motive might cause favourable outcomes which in turn might cause still higher integrative motive; conversely, a low integrative motive might lead to poor outcomes which in turn might bring about even lower integrative motive. The same may be said of attitudes and motivation within the integrative motive.

Table 1

The Relationship of Ten Variables to Outcomes of Second Language Study (Grade 7 Sample)[1]

		Grade	Speech	Intention
Interest in Foreign Languages	.72	.32	.23	.42
Integrativeness	.72	.25	.19	.42
Evaluation of the Learning Situation	.72	.30	.22	.50
Instrumentality	.55	.16	.03	.36
Parental Encouragement	.54	.17	.12	.34
Need Achievement	.25	.21	.19	.19
Ethnocentrism	-.13	-.16	-.08	-.12
Major Individual Difference Variables				
French Class Anxiety	-.19	-.26	-.32	-.13
Language Aptitude	.14	.31	.26	.15
Motivation		.41	.26	.60

1 Reproduced from Gardner (1976), p. 10.

Whether its relationship with second-language learning outcomes is a causal or reciprocal one, the integrative motive, as an attitudinal/motivational complex, is acquired. It may, therefore, be susceptible to change or modification, especially where its attitudinal variables are concerned. Should this be the case, it is suggested that one of the likely mediating variables may be the interpersonal relationship between student and teacher in the classroom.

C. An Old Problematic Situation. The conceptualization of the integrative motive and its subsequent development to date, as outlined above, have significant implications. Not only do they seem to help explain or predict behaviours and outcomes in second-language learning; they also point to the important role of the teacher in facilitating such behaviours and outcomes. While little can be done to alter students' aptitude and intelligence, something may be attempted to modify and improve students' attitudes towards the second-language community — thereby increasing their motivation to learn the language.

It may be recalled that the integrative motive comprises several components, of which the learning situation is one with a high correlation. The teacher

is an integral and vital part of the learning situation as well as an actual or perceived representative of the second-language community. It is, therefore, suggested that if the student holds favourable attitudes towards his second-language teacher, his integrative motive may be proportionately high.

Nevertheless, an old problem still prevails. A teacher is more likely than not to evoke different attitudes from different students within the same class. Hence, given the significant role of the teacher, two questions may be raised: (1) Can positive student attitudes towards the teacher be enhanced? (2) If so, how?

An answer to the above questions may be found, at least in part, in the conclusions of recent research on psychological differentiation. As previously mentioned (see Introduction), there is empirical evidence that students and teachers matched in field-dependence-independence tend to perceive each other positively, whereas their mismatched counterparts tend to view one another negatively (DiStefano, 1969; Moore, 1977). This suggests that one way of enhancing positive attitudes from the student towards the teacher is to match

students and teachers on the basis of field-dependence-independence.

The concept of field-dependence-independence is examined in the next section. In so doing, special attention will be given to those aspects of the concept and recent findings in the field that are of particular relevance to the problem posed above.

2. Field-Dependence-Independence

The concept of field-dependence-independence is dealt with in three subsections. First, an overview of its nature and evolution is provided. Next, reference is made to some of the major differences between field-dependent and field-independent individuals in their cognitive functioning, personal attributes and interpersonal behaviour. Finally, the interaction effects of student-teacher match-mismatch in field-dependence-independence are examined.

A. The Concept and Its Evolution. Field-dependence-independence (FDI), as originally conceptualized and currently being revised, refers to individual differences in the degree of dependence on internal or external referents in cognitive functioning. It is a cognitive style. Style, as distinct from ability, is

defined as "... the sum total of the details of behaviour that influence the attainment of a goal comparatively little but give to an individual or to a particular performance a characteristic, almost an identifying, manner" (English & English, 1958, p. 531, cited in Witkin & Goodenough, 1976, p. 43).

As a cognitive style, FDI has a number of characteristics. First, it is a self-consistent and pervasive dimension of individual functioning, which relates in its formation to the organism as a whole, and which manifests itself in the perceptual, intellectual, personality, and social or interpersonal domains. Second, it refers to individual differences in "process" rather than "content" variables; in other words, it involves individual differences in "how" rather than "what" people perceive, think, learn, and/or relate to others. Third, it is stable over time. Fourth, it is bipolar and neutral with regard to level and value judgments; that is, it is inherently neither good nor bad; each pole has adaptive value under specified circumstances and may, thus, be assessed positively in terms of such circumstances (Witkin & Goodenough, 1976, pp. 42-48; Witkin, Moore, Goodenough & Cox, 1977, pp. 15-16).

FDI is functionally defined on the basis of performance on the Rod-and-Frame Test (RFT) and/or the Embedded-Figures Test (EFT) (Witkin & Goodenough, 1976, p. 23). With the RFT, the subject is first seated in a completely darkened room and faces a luminous rod surrounded by a tilted luminous frame. He is then asked to adjust the rod to the vertical position while the frame remains in its initial tilted position. If he establishes verticality in spite of the optical interference of the surrounding frame, he is designated field-independent (FI). Conversely, he is labelled field-dependent (FD) if his ability to establish verticality is largely affected or handicapped by the frame. In the case of the EFT, the subject is first shown a simple figure and then required to find it in a complex design in which the simple figure is effectively embedded. Subjects labelled FD on the RFT usually have difficulty locating the simple figure, while their FI counterparts perform the same task fairly easily.

Over the past decade-and-a-half, the theory of psychological differentiation has been fairly extensively researched and commented on. As a result, a large body of new information and commentaries has accumulated, suggesting the need for clarification and

elaboration of the theory. Accordingly, Witkin and Goodenough (1976) have proposed a new model, which is schematically shown in Appendix 1, and described as follows:

> It consists of a number of constructs representing dimensions of individual differences varying in degree of specificity. These constructs are ordered hierarchically, forming a pyramidal structure. The most general construct is located at the apex of the pyramid and specific test variables are at its base. The interrelations among constructs in the pyramid may be interpreted as factors in a factor-analytic structure, although the pyramid is not the product of factor analysis.... Working downward in the pyramidal structure, a dimension located at any level is involved, to some degree, in all the more specific dimensions nested below it. Thus, taking the field-dependence-independence dimension as the point of departure, the theory proposes that it is involved in restructuring, overcoming embeddedness, etc. ... Working upward in the model, a dimension at any level in the pyramidal structure involves the dimension immediately above it, plus 'something new' — that is, something not represented in the level above. (pp. 15-16)

As indicated in Appendix 1, the revised model differs from its predecessor in four major ways. First, it "has a larger number of delineated constructs and a more hierarchical structure" (Witkin & Goodenough, 1976, p. 13). Second, it transfers the designation "FDI" from its former lower position as a perceptual disembedding ability to a higher-level dimension of self-nonself segregation (Witkin & Goodenough, 1976, p. 48). Third,

it gives "a more organismic character to differentiation theory" with its introduction of "the neurophysiological-location construct" (Witkin & Goodenough, 1976, p. 18). Fourth, by combining the cognitive-restructuring and personal-autonomy variables into a single cognitive-style dimension, it adds another criterial attribute to FDI as a cognitive style — that of level-bipolarity and value-neutrality (Witkin & Goodenough, 1976, p. 13).

While theoretical interpretations are, in principle, expected to flow from the apex to the base of the pyramid, empirical work to date has focused its efforts on the constructs at the base. Hence the model is more extensively researched in some regions than in others. In this connection, Witkin and Goodenough (1976) contend that the level of self-nonself segregation or FDI (the area enclosed by dotted lines in Appendix 1) is "the most general dimension of cognitive functioning that has been identified" (p. 44).

The concept of FDI first evolved as an individual's tendency to use the external visual field or the body as a primary referent for perception of the upright. According to Witkin and Goodenough (1976), the field around us, understood through vision, generally has the character of a framework, with its main axes

corresponding to the true vertical and horizontal directions of space. In their earliest attempt to conceptualize the self-consistent individual differences in performance on the RFT, Witkin et al. (1954/72) noted that the individual differences in perception of the upright represented differences in the tendency to use the external visual field or the body as a primary referent. This notion led them to adopt "field-dependent" and "field-independent" as appropriate designations for the contrasting ways by which different individuals establish verticality. At this point of time, however, their observations were restricted to the orientation tasks. Hence the designations were intended to refer quite literally to the extent to which use was made of the external visual field or the body in perceiving verticality.

The results of further studies of self-consistency brought about the next major conceptual step in the evolution of FDI when they suggested that this dimension could also be conceived as involving separation of an item (rod or body) from an organized field (frame or room). This notion was verified by means of perceptual tasks (e.g., the EFT) which required the subject to separate an item from an organized field of

which it was a part, but which did not necessitate perception of verticality or body-field juxtaposition. Findings such as those obtained by means of the EFT suggested that FDI might be conceived to involve individual differences also in ease or difficulty in separating an item from an organized field or overcoming an embedding context (Witkin et al., 1954/72). Thus, FDI was specifically conceived as a perceptual analytic ability which shows itself pervasively throughout an individual's perceptual functioning.

Since separating a part from its embedding context is as much a feature of problem-solving tasks as it is of perceptual ones, FDI has also been shown to pervade in an individual's intellectual activities. Moreover, an individual has the tendency to deal with the field more actively by acting upon it or more passively by leaving the stimulus material "as is". Such a tendency, as observed in the EFT, may be expected to show itself in congruent fashion when the individual has to deal with a field lacking clear inherent structure. Many studies have shown that FI people would impose structure on such a field and thereby experience it as organized, whereas FD people would not (Witkin et al., 1962/74). Another conceptual step was therefore taken to expand FDI which

was now conceived as an articulated-global field approach. In this conception the articulated-global dimension became an ability variable.

With additional research linking the individual differences described thus far to differences in a still wider array of areas, a further theoretical step was taken to conceptualize the expanded picture of self-consistency in individual psychological functioning, and FDI was thus placed within the framework of the theory of psychological differentiation (Witkin et al., 1962/74).

Psychological differentiation consists of a number of salient features. To begin with, it implies separation of psychological activities from one another, for instance, feeling from perceiving, acting from thinking. Next, it suggests specificity of functioning within each activity as integral components of a differentiated system. Finally, it means self-nonself segregation or clear boundaries between the system and its environment.

As well, differentiation develops across the whole system. That is, it shows itself more or less uniformly throughout an individual's psychological activities. Accordingly, Witkin and Goodenough (1976) suggest four "indicators" of psychological differentiation. The first of these, articulated cognitive

functioning, includes both analysis and structuring in intellectual as well as perceptual activities, and views FDI as "the perceptual analytical or overcoming-embeddedness component of the larger articulated-global dimension" (Witkin & Goodenough, 1976, p. 9). The second, sense of separate identity, refers to an individual's identification of attributes, needs and values which he recognizes as his own and as distinct from those of others. The third, articulated body concept, refers to an awareness of the body as having definite limits and the parts within as discrete yet interrelated. Finally, the fourth indicator concerns itself with "control over impulse expression, and use of specialized defenses for dealing with the consequences of potentially disturbing experiences" (Witkin & Goodenough, 1976, p. 10).

However, differentiation is not inherently related to effectiveness of integration. In other words, more elaborate relationships among system components and between the system and its surroundings do not necessarily constitute harmonious working together of the system components with one another and of the system as a whole with its environment (Witkin, 1965).

The development of the concept of FDI described thus far may be viewed as constituting the early model of

the theory of psychological differentiation. This early model has now been superseded by the revised model previously outlined.

Whether the revised model or its earlier counterpart is used as a point of reference, individuals on opposite poles of the FDI continuum have naturally been found to differ from one another in a number of ways. Some of the major differences noted to date are referred to in the ensuing subsection.

B. FDI and Intrapersonal Characteristics. Since its initial proposal (Witkin et al., 1954/72), FDI has been shown to be related to a number of intrapersonal characteristics. Some of these characteristics are reported by Witkin and his colleagues, though the citations may include references to results published by others. In view of the purpose of the present study, only those characteristics which pertain to cognitive functioning and interpersonal behaviour are cited.

In style of experiencing and at level of intellectual functioning, FD people tend to be global and impressionistic, whereas FI people tend to be analytic, structured and articulated. This means that where relationship with the surrounding field is concerned, FD individuals tend to blend items together into a

fused and impressionistic whole. In contrast, FI individuals are able to perceive items as discrete from their backgrounds or to reorganize a field that is organized and to impose structure on one that is inherently relatively unstructured and so perceive it as organized (Witkin et al., 1962/74, pp. 13-14).

In dealing with the consequences of potentially disturbing experiences, FD people tend to resort to less specialized defenses, such as repression and denial, whereas FI people are likely to employ such specialized defenses as intellectualization, isolation and projection (Witkin & Goodenough, 1976, p. 14). FD people also have less impulse control and less self-control of behaviour than do FI individuals (Witkin et al., 1962/74, pp. 204-213).

With regard to educational-vocational choice and pursuit, FD people tend to favour domains which are social in content and which require interpersonal involvement, but do not particularly stress cognitive-restructuring skills. In contrast, FI persons are likely to prefer domains which are abstract in content and which necessitate for their conduct cognitive-restructuring skills rather than interpersonal interaction (Witkin & Goodenough, 1976, pp. 46-47).

As learners, FD people are more affected by criticism than are FI persons (Witkin, Moore, Goodenough & Cox, 1977, p. 20).

Among teachers, those who are FD tend to favour teaching situations that allow interaction with students, to be more student-centred and to show strength in establishing a warm and personal learning environment. On the other hand, FI teachers are inclined to favour teaching situations that are impersonal in nature and oriented towards the more cognitive aspects of teaching, to be more teacher-centred and to exhibit strength in the organization and direction of student learning (Witkin, Moore, Goodenough & Cox, 1977, pp. 27-29).

In terms of social dependence and interpersonal behaviour, FD people are more likely than FI people to attend to social sources of information, to rely on external referents when the situation is ambiguous, to move physically close to those with whom they interact, and to be more ready in revealing their feelings and thoughts to others (Witkin & Goodenough, 1976, pp. 23-25). On the other hand, FI people are more likely than FD people to be rated high on such attributes as autonomy, initiative, responsibility, self-reliance and

ability to think for oneself (Witkin & Goodenough, 1977, p. 668).

As well, FD people tend to describe themselves and to be described by others in such terms as: accommodating, affectionate, considerate, friendly, gregarious, polite, sociable, tactful, warm, affiliation-oriented, non-evaluative and accepting of others, interested in people, socially outgoing, have a concern for people, have wide acquaintainceship, like people and are liked by others, make others feel comfortable with them, prefer interpersonal and group to intrapersonal circumstances, seek relations with others, and show participativeness and need for friendship. In contrast, among the descriptors of FI people are: aloof, ambitious, demanding, inconsiderate, individualistic, opportunistic, rude, cold and distant in relation with others, concerned with philosophical problems, ideas and principles rather than people, interested in power and intellectual activities but not humanitarian activities, more discriminating and selective in their friendships, task-oriented, have work-oriented values (e.g., efficiency, control, competence), manipulate people as a means of achieving personal goals, prefer solitary

activities, and value cognitive pursuits (Witkin & Goodenough, 1977, pp. 672-678).

Moreover, FD people tend to evaluate others more positively than do FI people (Witkin & Goodenough, 1977, p. 678). Also, FD and FI people appear to be similar in experiencing feelings of hostility, in acknowledging such feelings, or in recognizing hostility in others. However, FD people are more likely than their FI counterparts to avoid expressions and actions of hostility against others (Witkin & Goodenough, 1977, p. 678).

In addition, FD and FI people have been found to be different in their word categories, hand gestures to accompany speech, and modes of communication (Witkin, 1973, pp. 39-41). In the area of learning French as a second language, FD students exhibit higher integrative orientation than do their FI counterparts (Gayle, 1976, p. 102).

The clusters of characteristics enumerated above appear to suggest that in general, FD people, as a group, are better endowed with social skills and thereby more likely to get along well in social interactions. Nevertheless, they are likely to be at a disadvantage in situations calling for cognitive-restructuring skills and such attributes as autonomy, initiative,

responsibility and self-reliance. The reverse may be said for FI people. However, emphasis must be laid on the level-bipolar and value-neutral nature of the FDI dimension. Hence the intrapersonal characteristics referred to must not be taken to mean that FD people are categorically superior or inferior to FI individuals, although such characteristics might have significant influence on interpersonal relationships.

C. FDI and Student-Teacher Interaction. It was pointed out at the conclusion of the preceding subsection that, while individual differences in FDI do not necessarily imply any value judgment, they might significantly affect the form and nature of interpersonal relationships. It is, therefore, proposed to examine such influence in this subsection, with special reference to the classroom situation.

A learning-teaching process constitutes some form of social interaction. The effects of individual differences in FDI within such a context are adeptly summed up in the following principle.

> The full contribution of cognitive style to any social interaction is more than the sum of the effects of each participant's style. Interactions acquire unique properties which are emergents of the particular combination of characteristics of the individuals involved. (Witkin, Moore, Goodenough & Cox, 1977, pp. 32-33)

Concerning the most likely outcome of such interactions, Witkin et al. (1977) further contend as follows:

> Several bases are suggested by the literature on field-dependence-independence for the tendency of persons matched in cognitive style to like each other better and, perhaps, to make greater progress in achieving the goal of the interaction, whether that goal is better learning by students or improved feelings in patients. (Witkin, Moore, Goodenough & Cox, 1977, pp. 34-35)

The bases referred to are those of similarity — similarity in interests, personality characteristics, and modes of communication. The contention cited above may be theoretically supported by the similarity-attraction hypothesis advanced by Byrne, Griffitt and Stefaniak (1967), which states that:

> ... attraction toward another individual is a positive linear function of the proportion of his personality characteristics which are similar to those of the subject. (p. 82)

This hypothesis has been empirically substantiated on a large number of different criterion measures (Byrne, 1971, pp. 165-197). It may, therefore, be taken to predict that people who are similar to one another are more likely to be attracted to one another than people who are dissimilar. In other words, the more similar two people are to each other, the more likely they would tend to like each other.

To date studies of the combinatory effects of FDI on student-teacher interaction have concentrated primarily on the interactional outcome when students and teachers are matched and/or mismatched on this dimension. The first such study was conducted by DiStefano (1969).

DiStefano (1969) hypothesized that FI persons would perceive others, and would be perceived by others, differently than would FD persons when the degree of FDI of the respective subjects and judges was controlled. He based his theoretical rationale on those aspects of the studies reported by Witkin et al. (1962/74). First, he referred to the importance of interactions between mother and child, contending that such interactions not only serve as partial explanations of the child's differential development in FDI but also imply potential differences in interpersonal functioning. Second, he regarded the process of social perception as parallel to overcoming an embedded context involved in the EFT. He argued that interpersonal perception involved separation of person from the embedding environment as well as the ability to differentiate the characteristics of the person so perceived from the totality of a vast number of exhibited characteristics. Third, he stressed that interpersonal perception might be included in the

differentiation hypotheses since Witkin et al. used persons, rather than inanimate figures, as the "objects of perception" (DiStefano, 1969, pp. 2-3).

In DiStefano's (1969) study, 10 male teachers (five highly FD, five highly FI) and 110 male students (11 selected at random from each teacher's class, ranging from grades 10 to 12) served as subjects. FDI (or MFA, mode of field approach, as referred to by DiStefano) was measured by means of the EFT while 21 semantic differential scales from Osgood, Suci and Tannenbaum (1957) and 26 unipolar scales adapted from Peabody (1967) were used to measure interpersonal perceptions.

The major finding of the study was that students and teachers matched in FDI tended to perceive one another positively while those who were mismatched tended to perceive one another negatively. One significant inference that can be made from the above is that interpersonal perception depends not only on the extent of FDI of the perceived but also, and, indeed, more, on that of his perceiver. The resultant interpersonal perception is in turn related to the degree of similarity or dissimilarity in FDI between perceiver and perceived. In other words, interpersonal perception is biased

positively if perceiver and perceived are similar in FDI; it is biased negatively if perceiver and perceived are different in FDI.

Despite its sophisticated design, DiStefano's (1969) study appears to fall short on two counts. First, since it involved only male teachers and male students, it did not allow for the occurrence of possible sex match-mismatch effects, thereby restricting the generalizability of its findings. Second, its method of classifying FD and FI subjects leaves room for doubt as to whether such subjects have been sufficiently differentiated, especially at the FI extreme. Of the five teachers classified as FI, only three were within the upper third of the continuum, scoring 25, 23 and 19 respectively out of a potential range of -8 to +32. The possibility of overlap of FD and FI populations is even greater in the case of the student subjects, who were classified as FD or FI according to whether they scored below or above the group mean. Of the 58 students classified as FI, only five were actually above the lower limit of the upper third (i.e., a score of 19) and none scored higher than 23.

A second major study of the effects of student-teacher match-mismatch in FDI was done by Witkin et al.

(in preparation, cited in Witkin & Goodenough, 1977, p. 682 and in Witkin, Moore, Goodenough & Cox, 1977, p. 34).[2] A four-session minicourse was organized with a curriculum so designed as to make possible expression of likely subject-matter and teaching-technique preferences of FD and FI teachers and subject-matter and learning-strategy preferences of FD and FI students. The minicourse was taught by 24 teachers (six FD males, six FD females, six FI males and six FI females). Each class consisted of four 14- to 15-year-old students (one FD boy, one FD girl, one FI boy and one FI girl). The results failed to show the expected student-teacher cognitive-style match-mismatch effect. Instead, a student-teacher sex match-mismatch effect was noted: students and teachers of the same sex tended to perceive one another more positively than did students and teachers of the opposite sex.

While it is unfair to criticize the above study in the absence of a full report thereof, mention might be ventured of its sample size. The number of teachers and their distribution in terms of FDI appears reasonably

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2 See personal communication with author in Appendix 2.

adequate. The number of students (i.e., a total of 96, or one each of FD and FI boys and girls for each of the 24 teachers), however, seems much too small to render the sample truly representative. Such a small student sample, it is felt, might undermine the credibility or acceptability of the findings of the study.

Moreover, the minicourse might not have provided long enough time for student-teacher cognitive-style match-mismatch effect to occur.

A third and most recent study was that carried out by Moore (1977). In his investigation, Moore (1977) attempted to determine whether student-teacher interpersonal perception would be more favourable when the degree of differentiation of student and teacher was optimally matched than when the degree of differentiation of student and teacher was radically mismatched. Concurrently, he also sought to find out whether student self-concept would be more positive, and student achievement in mathematics and in reading higher. Moore (1977) first cited previous empirical evidence that students and teachers with similar degrees of differentiation tend to communicate better with one another and view one another in more positive terms than students and teachers who are mismatched in their

degrees of differentiation. He then argued that in a matched situation, the teacher would be sensitive to the student's needs and feelings and, therefore, could better help him with his academic problems. The student, on the other hand, might respond more favourably to the instructional programme. Such compatible and productive interaction might, over time, lead to a change towards a more positive self-concept and, eventually, a more positive attitude towards, and higher achievement in, mathematics and reading for students matched with their teachers in degree of differentiation.

In Moore's (1977) study, 154 grade six teachers were first assessed in degree of differentiation. Of these, 32 (eight each of males and females low in degree of differentiation and eight each of males and females high in degree of differentiation) were chosen. The student sample consisted of 833 boys and girls, out of whom 362 (122 boys and 60 girls low in degree of differentiation, 57 boys and 123 girls high in degree of differentiation) were selected. Degrees of differentiation of both students and teachers were measured by means of the Sophistication-of-Body Concept Scale, while Davidson Lang Check List of Traits was employed to assess student-teacher interpersonal perception and

student self-concept. In addition, student attitude to, and achievement in, mathematics and reading were respectively measured by means of Attitude to Mathematics Inventory, Attitude to Reading Inventory, The Canadian Test of Basic Skills Modern Mathematics Supplement for Grade Six, and The Reading Comprehension Test for Grade Six.

The results confirmed the hypothesis that in matched student-teacher dyads there are more positive interpersonal perception as well as more positive student self-concept. However, the match-mismatch effects failed to demonstrate significant difference in terms of attitude to, and achievement in, mathematics and reading, though they seemed to be in the expected direction. Interaction effects attributable to student-teacher sex match-mismatch were also observed.

To some extent, Moore's (1977) study was an extension of DiStefano's (1969). Moore (1977), however, made a number of improvements in methodology and design. Not only did he provide an opportunity for sex match-mismatch effects to occur and use a much larger sample; he also identified his extreme groups more accurately as they all scored within the top (8-10) or bottom (2-4) third of the potential scale (1-10).

While studies of student-teacher interactions have been limited to three up to this point, cognitive-style match-mismatch effects have been observed in other social interaction contexts. For example, Folman (1973) found that highly attracted therapist-patient pairs were more similar in perceptual style than low attraction pairs and that therapist-patient pairs more similar in perceptual style had lower premature termination rates than did dissimilar pairs.

Greene (1972) observed that client perception of regard, empathy, genuineness and the total relationship were significantly more positive when worker-client cognitive styles were congruent than when they were incongruent.

DiStefano (1973), employing as subjects sales managers and salesmen in a telephone and an insurance company, found that interpersonal superior-subordinate evaluation tended to be positive when the pairs had similar perceptual styles and negative when their perceptual styles were dissimilar.

Wong (1976) found that college roommates who, at the end of the academic year, chose to continue living together the following year, were more similar to each

other in cognitive style than were roommates who chose to separate.

The studies cited above were conducted in different situations, for different purposes, and with different methodological designs. All except one of them, however, have demonstrated a direct relationship between interpersonal perception and FDI match-mismatch. It seems reasonable, therefore, to conclude that students and teachers matched in FDI would view each other more positively whereas mismatched students and teachers would view each other more negatively. Such a phenomenon may have important implications for the student's attitudes towards his second-language teacher and, consequently, his integrative motive in second-language learning. In the next section, a rationale for such a suggestion is proposed.

3. Theoretical Links and Expectations

As reported in the preceding section, it has been hypothesized and empirically demonstrated that students and teachers matched in FDI perceive each other more positively while mismatched students and teachers perceive each other more negatively. It may thus be suggested that matched students and teachers have a more

positive interpersonal relationship with one another whereas their mismatched counterparts have a more negative one. It may further be suggested that a positive interpersonal relationship is mutually satisfying to both student and teacher, and that such a situation is conducive to positive outcomes. A positive student-teacher relationship may generate a sort of classroom atmosphere or psychological climate in which mutual trust, respect and concern prevail, and which is likely to enhance the student's participation in class, application of skill or knowledge, persistence in the course, and proficiency in the subject area. The opposite may be true of a negative student-teacher relationship. Thus, within a second-language study context, student-teacher relationship may be related to the student's proficiency in, and use of, the second language as well as his participation in the classroom and persistence in the course. It may be recalled that all these linguistic and/or non-linguistic outcomes have been demonstrated to be related to the student's integrative motive. Since student-teacher match-mismatch in FDI has been found to be related to student-teacher interpersonal perceptions, which are likely to be related to the same behaviours and outcomes that the integrative motive has been shown to be related

to, it appears not unreasonable to suggest that student-teacher match-mismatch in FDI and the integrative motive may also be related to each other.

A similar but slightly different speculation may also be ventured. As suggested above, a positive student-teacher relationship may be mutually satisfying. A satisfying state of affairs is one which the organism does nothing to avoid, often doing things which maintain or renew it (Thorndike, 1913, p. 2). Hence, within a mutually satisfying relationship, the student, if only so as to maintain this satisfying state of affairs, may be expected to engage himself more readily and frequently in the various activities which are consistent with the teacher's expectations. He may, thus, enhance an even more positive student-teacher relationship. In return, the teacher, being consistently satisfied with the student's behaviours, may be expected to provide the student with further reinforcement, thereby rendering his interpersonal relationship with the student even more satisfying. The result of such an interaction may be higher student integrative motive.

At this point it may be appropriate to reiterate that the relationship between the integrative motive and second-language study outcomes and that between the

attitudinal and motivational components within the integrative motive may be interactional or reciprocal as well as causal. That is, while attitudes may affect motivation which may in turn determine outcomes, the "sequential chain" may also be expected to proceed in the reverse direction. Hence, regardless of their initial integrative motive, if students can somehow be induced or encouraged to participate actively in class, to make spontaneous use of the second language, to persist in the second-language programme, and to become more proficient in the second language, such behaviours may in turn induce them to undergo a change in their motivation and attitudes. This change may render the outcomes (or behaviours) and the integrative motive (or attitudes) more consistent with each other. Such a speculation may find theoretical support in recent social psychological research which suggests that people rely on their own behaviour in order to arrive at inferences about their attitudes (Bem, 1965). It has earlier been suggested that a positive student-teacher relationship is likely to bring about the behaviours mentioned. Thus, the speculation above may serve as a supportive adjunct to those before it.

That student-teacher match-mismatch in FDI may be related to student integrative motive in second-language learning may also be considered in another direction. To begin with, it is assumed that teachers of French as a second language in Ontario schools are mainly francophones from Quebec and Ontario or bilingual (English/French) anglophones across Canada. The former are ipso facto members and representatives of the second-language (French) community. The latter, by virtue of their greater-than-average or even near-native linguistic proficiency in French, may be regarded as quasi-members or perceived representatives of the second-language group in classroom situations. This assumption renders student-teacher relationship even more crucial as a determinant of student integrative motive in second-language (French) learning. It is suggested that if the student holds positive attitudes towards his French teacher as a result of their being matched in FDI, he may also be expected to transfer such attitudes towards the second-language community of which the teacher is a member or representative, thereby increasing his integrative motive. This suggestion may be theoretically substantiated by the principle of stimulus generalization. It may also find theoretical support in Heider's (1958) balance

hypothesis. According to Heider (1958), "... there is a tendency toward balanced states in human relationships" (p. 210). By a balanced state is meant "a situation in which the perceived units and experienced sentiments co-exist without stress..." (p. 176).

It has been shown that student-teacher match in FDI does foster positive student-teacher interpersonal perceptions which may be expected to result in positive student attitude towards the French teacher and, subsequently, higher student integrative motive. Thus, it appears reasonable to suggest that student-teacher match-mismatch in FDI may also be related to student integrative motive.

Assuming that student-teacher match-mismatch in FDI may in fact be related to student integrative motive, the problem at hand is to speculate on the direction such a relationship may take.

Since interpersonal perceptions are significantly more positive in matched than in mismatched student-teacher interactions, it seems reasonable to expect student integrative motive to be higher when students and teachers are matched in FDI than when they are mismatched.

Differences may also occur within the two matched groups and the two mismatched groups themselves, though possibly to a much lesser degree. In this connection, it may be recalled that FD people, as a group, tend to possess personality characteristics that are more conducive to better interpersonal relationship, tend to evaluate others more positively, and tend to be more integratively oriented towards the learning of French as a second language. Hence, it appears reasonable to expect student integrative motive to be relatively higher in the FD than in the FI match. Similarly, student integrative motive may be expected to be higher when FD students are mismatched with FI teachers than when FI students are mismatched with FD teachers.

4. Statement of the Research Problem and Hypotheses

The problem of the present study is to attempt to answer two questions: (1) Is student integrative motive in second-language learning related to student-teacher match-mismatch in field-independence-independence? (2) If so, how?

On the basis of the theoretical expectations outlined above and the suggestive nature of previous research, the following hypotheses are formulated:

1. Student integrative motive is higher when students and teachers are matched in FDI than when they are mismatched.

2. Student integrative motive is higher when FD students and teachers are matched than when FI students and teachers are matched.

3. Student integrative motive is higher when FD students are mismatched with FI teachers than when FI students are mismatched with FD teachers.

CHAPTER II

RESEARCH METHODOLOGY

This chapter is about the methodology adopted in conducting the experiment to test the hypotheses stated in the preceding chapter. It consists of four sections. The first two respectively describe the sample and the instruments employed. The third and fourth sections set forth the procedures followed in the collection and analysis of the data.

1. The Sample

The sample consisted of two groups of subjects: teachers and students.

The teacher group included nine teachers of French as a second language at the grade seven level. Of these, five were males and four were females. Of the five male teachers, three taught one class each, one taught three, and the fifth one taught four. Of the four female teachers, two taught one class each, one taught four, and the fourth one taught five. The nine teachers together taught a total of 21 classes.

The student group was composed of the students in the 21 classes taught by the nine teachers referred

to above. There were in all 534 seventh-graders (274 boys and 260 girls). To ensure that French was really being learned as a second language, it was specified that participation in the present study had to be limited to those students who were of non-French origin and did not normally speak French at home.

2. The Instruments

Two instruments were used: (A) The Group Embedded-Figures Test (GEFT) developed by Oltman, Raskin and Witkin (1971) to measure the degree of FDI of both the students and the teachers, and (B) The Attitude/ Motivation Battery elaborated by Gardner and Smythe (1975) to assess student integrative motive in second-language learning. Each of the two instruments is described below.

A. The Group Embedded-Figures Test (GEFT). The GEFT (Witkin, Oltman, Raskin & Karp, 1971, pp. 26-32) is a paper-and-pencil test designed to provide an adaptation of the original individually administered EFT for use in studies necessitating group testing (see Appendix 3). As a substitute for the EFT, it has been modelled as closely as possible on its original or "parent" form in regard to format and mode of presentation.

Like the EFT, the GEFT tests the subject's ability to find a simple form hidden in a complex figure and to trace the former in pencil directly over the lines of the latter. To this end, eight simple geometrical forms are printed on the back of the test booklet and 25 complex figures within the booklet. The subject is prevented from seeing simultaneously the simple form and the complex figure containing it; he may, however, look at the simple form as often as he wishes.

The GEFT consists of three sections: the first contains seven very simple items intended primarily for practice purposes, and each of the second and third sections contains nine more difficult items. The subject is allowed two minutes for the first section and five minutes for each of the second and third sections. The score is the total number of simple forms correctly traced in the second and third sections combined (i.e., it may range from 0 to 18). A low score indicates field-dependence while a high score reflects field-independence.

To estimate the reliability of the GEFT, Witkin et al. (1971) computed correlations between the scores in the second and third sections. The reliability estimate, corrected by the Spearman-Brown prophecy formula, was found to be .82 for both males (N = 80) and

females (N = 97), comparing favourably with those of the EFT (Witkin et al., 1971, p. 28). Recently, Amin (1977, p. 62) obtained a similar figure, .88 for both boys (N = 142) and girls (N = 160).

The validity coefficients of the GEFT, obtained by comparison with other known tests of FDI, as reported by Witkin et al. (1971, p. 29), are as follows: -.82 for males (N = 73) and -.63 for females (N = 68) with the EFT; -.39 for males (N = 55) and -.34 for females (N = 68) with the Portable Rod-and-Frame Test (PRFT); and .71 for males (N = 55) and .55 for females (N = 68) with the Articulation-of-Body-Concept Scale (ABC).

On the basis of the above, it appears that the GEFT is an appropriate and useful replacement for the EFT when individual testing proves impractical. That it may be so is best confirmed by its developers in these words:

> The ease of administration and scoring of the test, as well as the preliminary evidence given ... with respect to reliability and validity, make it appear ... that the GEFT is a satisfactory substitute for the EFT in research group testing. (Witkin et al., 1971, p. 26)

B. The Attitude/Motivation Battery. The Attitude/Motivation Battery, as elaborated by Gardner and Smythe (1975), is a paper-and-pencil questionnaire

that consists of four main sections. Together, these four sections contain 25 subscales or 166 items arranged in a fixed random order.

The abridged or modified version of the Attitude/ Motivation Battery employed in the current investigation, however, consists of three main sections or 17 subscales with 121 items in all (see Appendix 4).

Section one includes 61 statements, devised according to a Likert format. The subjects are required to indicate on a 7-point scale the extent to which they agree or disagree with the statements given. There are all together seven subscales. They are:

a) French Classroom Anxiety (five items): A high score (maximum = 35) indicates lack of discomfort about participating during French class.

b) French Use Anxiety (eight items): A high score (maximum = 56) indicates lack of anxiety when using French outside the classroom.

c) Degree of Instrumentality (four items, all positively worded): A high score (maximum = 28) reflects agreement regarding the pragmatic or utilitarian value of learning French.

d) Integrative Orientation (four items, all positively worded): A high score (maximum = 28) reflects

acceptance of the validity of integrative reasons for learning French, i.e., the importance of learning French so as to be able to socially interact with, and to share the culture of, the second-language group.

e) Attitudes Towards French Canadians (10 items, all positively worded): A high score (maximum = 70) signifies positive attitudes towards the group.

f) Attitudes Towards European French (10 items, all positively worded): A high score (maximum = 70) reflects positive evaluation of European French people.

g) Attitudes Towards Learning French (10 items, half worded positively and half negatively): A high score (maximum = 70) represents positive attitudes towards learning French.

Section two contains two subscales or 20 incomplete statements which the subjects are required to complete by choosing one of the three alternatives given. The answers are scored on a 3-point scale. The two subscales are:

h) Motivational Intensity (10 items): A high score (maximum = 30) indicates self-report of a high degree of effort being made to learn French.

i) Desire to Learn French (10 items): A high score (maximum = 30) signifies a strong desire to learn

French. This subscale differs from Motivational Intensity in that it provides an index of how attracted the subject is to learning French without referring to the actual effort expended.

Section three, which follows a semantic differential format, includes two lists of 25 pairs of descriptive bipolar adjectives each arranged on a 7-point scale. The concept to be evaluated, "My French Teacher" or "My French Course" as the case may be, is printed at the top of each list. There are all together eight subscales or two groups of four subscales each, as follows:

j-m) Attitudes Towards French Teacher (five items each for Competence, Inspiration and Rapport and 10 for Evaluation): A high score (maximum = 175) indicates favourable attitudes towards the French teacher.

n-q) Attitudes Towards French Course (five items each for Difficulty, Interest and Utility and 10 for Evaluation): A high score (maximum = 175) indicates favourable attitudes towards the French course.

The internal-consistency (i.e., Kuder-Richardson$_{20}$) reliability coefficients of all but one of the subscales in the Attitude/Motivation Battery with approximately 300 students at each level from grades

seven through 11, as reported by Gardner and Smythe (1975), are shown in Table 2.

The Attitude/Motivation Battery has been especially developed and subsequently validated for the measurement of the integrative motive. It is also the only instrument of its kind currently available for this purpose.

3. The Collection of Data

The testing was conducted by the researcher with the assistance of a science graduate who received prior instruction on how to administer the tests and how to deal with questions raised during the testing sessions. The data were gathered from the two schools in Ottawa in mid-May 1978 and from those elsewhere in late June 1978.

Before the tests were administered on each occasion, the subjects, both students and teachers, were informed that the general purpose of the present study was to examine the possible relationship between cognitive styles and second-language acquisition, and that absolute anonymity would be guaranteed each and every respondent.

Following the introductory remarks, the GEFT booklets were distributed. After every subject had properly identified themselves with their age and sex

Table 2

Internal-Consistency (KR_{20}) Reliability Coefficients of the Subscales of The Attitude/Motivation Battery[1]

Subscale	Grade				
	7	8	9	10	11
French Classroom Anxiety	.75	.82	.83	.84	.85
Degree of Instrumentality	.56	.63	.58	.58	.49
Integrative Orientation	.82	.87	.84	.82	.85
Attitudes Towards French Canadians	.84	.88	.87	.86	.89
Attitudes Towards European French	.90	.91	.91	.88	.93
Attitudes Towards Learning French	.94	.95	.95	.94	.95
Motivational Intensity	.86	.87	.84	.82	.84
Desire to Learn French	.88	.89	.87	.86	.87
French Teacher-Competence	.84	.83	.84	.87	.82
French Teacher-Evaluation	.94	.94	.95	.96	.94
French Teacher-Inspiration	.89	.88	.91	.94	.93
French Teacher-Rapport	.93	.84	.87	.92	.89
French Course-Difficulty	.68	.70	.78	.80	.82
French Course-Evaluation	.92	.94	.93	.93	.94
French Course-Interest	.85	.89	.91	.92	.93
French Course-Utility	.90	.90	.91	.91	.90

[1] Adapted from Gardner and Smythe (1975), p. 4:50, p. 5:35.

correctly indicated, the test was administered in accordance with the instructions in the test manual (Witkin, Oltman, Raskin & Karp, 1971, pp. 27-28). Immediately upon the expiry of the allotted time, the test booklets were collected. The teachers were then asked to leave the classroom and the students to complete the Attitude/Motivation Battery.

Initially, 11 teachers and 713 students took part in this study. However, two teachers were later excluded: one because the FDI score (11 out of 18) was not indicative of FD or FI; the other because his classes did not complete the Attitude/Motivation Battery as a result of his objection to being evaluated by his students. A total of 179 students were later excluded because of their incomplete answers in the Attitude/Motivation Battery. Of these, 166 were asked to discontinue half-way through the test at the insistence of the vice-principal who, in support of his colleague's objection to being evaluated by his students, maintained that it was highly unethical ever to let students evaluate their teachers.

Among the remaining nine teachers and 534 students, those who scored between zero and six (or seven in the case of the teachers) on the GEFT were

classified as FD whereas those scoring between 13 and 18 were identified as FI. The means and standard deviations of the teachers' and the students' scores on the GEFT are shown in Table 3. The resultant distribution of FD and FI male and female students and FD and FI male and female teachers is shown in Table 4.

4. The Analysis of Data

Prior to the analysis of the data, the raw scores for all the subscales of the Attitude/Motivation Battery were converted to standard scores before being summed to yield a total index of the integrative motive.

Strictly speaking, there was only one dependent variable — student integrative motive in second-language learning. However, as the relationship hypothesized hinged very largely on the student's attitudes towards his teacher as a result of match-mismatch in FDI, it was thought desirable to treat this component of the integrative motive as an additional and separate criterion measure. Attitudes towards the French teachers could be computed in two different ways. One way was to use only the score on the French Teacher-Evaluation subscale as had been the case in previous

Table 3

Means and Standard Deviations of Teachers' and Students' Scores on the GEFT

		N	M	SD
FD Teachers	Male	3	7.00	.00
	Female	1	.00	.00
FI Teachers	Male	2	14.50	.70
	Female	3	17.00	1.00
FD Students	Male	103	3.30	1.77
	Female	125	3.60	1.91
FI Students	Male	75	14.94	1.46
	Female	52	14.58	1.61

Table 4

Distribution of FD and FI Students and Teachers

		FD Teachers		FI Teachers	
		Male (3)	Female (1)	Male (2)	Female (3)
		5	1	5	10
FD Students	Male	29	2	27	45
	Female	43	5	27	50
FI Students	Male	22	5	12	36
	Female	11	1	7	33

Actual number of teachers given in parentheses.

research (Clément, Gardner & Smythe, 1977a; Gardner, 1976; Gardner & Smythe, 1975, 1976; Gardner, Smythe, Clément & Gliksman, 1976). The other way was to employ the total score on all the four subscales in the Attitudes Towards French Teacher group (i.e., subscales j-m) so as to give possibly a more comprehensive description. Thus, the analysis of the data was to be performed, as it were, on four dependent variables: (1) Attitudes Towards French Teacher - A (AFTA), one subscale; (2) Attitudes Towards French Teacher - B (AFTB), sum of four subscales; (3) Attitude/Motivation Index - A (AMIA), sum of 11 subscales as in the case of previous research which used only the French Teacher-Evaluation and the French Course-Evaluation subscales to compute the Learning Situation score (Gardner, 1976; Gardner & Smythe, 1976; Gardner, Smythe, Clément & Gliksman, 1976); and (4) Attitude/Motivation Battery - B (AMIB), sum of all 17 subscales.

Moreover, since the integrative motive was a composite of 17 subscales (see description of the Attitude/Motivation Battery on pp. 50-54), it seemed relevant to find out how these subscales correlate with one another. Hence, seven correlation matrices were also obtained on the 17 subscales (see Appendix 5A - 5D).

As indicated in Table 4, only one FD female teacher was involved in the present study. This created some difficulty in the design as one of the cells consisted of only one replication. The situation might be remedied by having the teacher sex factor removed if it could be ascertained that there were no sex effects on the teachers. Accordingly, an analysis of variance (ANOVA) on each of the above-mentioned four dependent variables was performed on the total sample (534 students and nine teachers) with student sex and teacher sex as independent variables. The results are shown in Table 5.

An examination of the results in Table 5 reveals the following, among other things. First, there was no significant interaction effect in any of the four variables. Second, there was no sex effect on the teachers on any of the four dependent variables. Third, there was sex effect on the students on all four dependent variables. Thus, the proposed or contemplated removal of the teacher sex factor was justified. Hence, the statistical design was revised as shown in Table 6.

The research hypotheses were subsequently tested in their null form by means of orthogonal contrasts. The three hypotheses were respectively translated into

Table 5

Summary of ANOVA by Student Sex and Teacher Sex on Four Dependent Variables

Source	SS	df	MS	F	P
	Attitudes Towards French Teacher - A				
SSex	8.246	1	8.246	8.347	.004
TSex	.103	1	.103	.104	.747
SSex x TSex	1.121	1	1.121	1.135	.287
Residual	523.538	530	.988		
	Attitudes Towards French Teacher - B				
SSex	55.860	1	55.860	4.223	.040
TSex	3.929	1	3.929	.297	.586
SSex x TSex	10.627	1	10.627	.803	.371
Residual	7011.020	530	13.228		
	Attitude/Motivation Index - A				
SSex	2281.150	1	2281.150	37.832	.000
TSex	8.908	1	8.908	.148	.701
SSex x TSex	5.164	1	5.164	.086	.770
Residual	31957.266	530	60.297		
	Attitude/Motivation Index - B				
SSex	4470.715	1	4470.715	32.240	.000
TSex	4.819	1	4.819	.035	.852
SSex x TSex	17.746	1	17.746	.128	.721
Residual	73493.938	530	138.668		

Table 6

Distribution of Students and Teachers Involved in Data Analysis

		FD Teachers 6(4)	FI Teachers 15(5)
FD Students	Male	31 - G1	72 - G2
	Female	48 - G3	77 - G4
FI Students	Male	27 - G5	48 - G6
	Female	12 - G7	40 - G8

Actual number of teachers given in parentheses.

Contrasts 1, 2 and 3. Since sex effect had been found on the students, a fourth comparison, Contrast 4, was made using the student sex factor, although it had not been originally intended for the present study.

With reference to the relative positions of the eight cells in Table 6, the four orthogonal contrasts could be written as follows:

$$\psi_1 = (\mu_1 + \mu_3 + \mu_6 + \mu_8) - (\mu_2 + \mu_4 + \mu_5 + \mu_7)$$

$$\psi_2 = (\mu_1 + \mu_3) - (\mu_6 + \mu_8)$$

$$\psi_3 = (\mu_2 + \mu_4) - (\mu_5 + \mu_7)$$

$$\psi_4 = (\mu_1 + \mu_2 + \mu_5 + \mu_6) - (\mu_3 + \mu_4 + \mu_7 + \mu_8)$$

These a priori multiple comparisons are to be computed according to the following formula:[2]

$$F = (\Sigma C_i \bar{X}_i)^2 / [MS_E (\Sigma C_i^2 / N_i)]$$

The level of probability of type I error, i.e., of rejecting the null hypothesis when it is true, will be set at .05.

The results of the data analysis will be presented and discussed in the following chapter.

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2 B. J. Winer. Statistical Principles in Experimental Design, (2nd ed.). New York: McGraw-Hill, 1962/71, p. 175.

CHAPTER III

PRESENTATION AND DISCUSSION OF RESULTS

This chapter is concerned with the results of the analysis of the data described in the previous chapter. It comprises three main sections. In the first section, the research problem and hypotheses are recapitulated. In the second section, the results are presented and discussed in relation to the research hypotheses. The third section consists of a presentation and discussion of other significant results obtained.

1. Recapitulation of the Research Problem and Hypotheses

As stated at the end of the first chapter, the present study asked two questions: (1) Is student integrative motive in second-language learning related to student-teacher match-mismatch in FDI? (2) If so, how?

In an attempt to answer these questions and on the basis of theoretical expectations arising from the suggestive nature of previous research, the following hypotheses were advanced:

1. Student integrative motive is higher when students and teachers are matched in FDI than when they are mismatched.

2. Student integrative motive is higher when FD students and teachers are matched than when FI students and teachers are matched.

3. Student integrative motive is higher when FD students are mismatched with FI teachers than when FI students are mismatched with FD teachers.

These hypotheses were tested in their null form by means of orthogonal contrasts on four dependent variables. The level of probability of type I error was set at .05.

2. Results Pertaining to the Hypotheses

The mean scores on the four dependent variables for each of the eight groups (cells) are presented in Table 7. Table 8 indicates the results of the orthogonal contrasts.

As shown in Table 8, none of the observed F values was large enough to constitute significant difference at the .05 level for any of the three contrasts. Hence, none of the hypotheses could be rejected in its null form. In other words, the results have failed to confirm any of the research hypotheses.

Faced with such results, one may naturally be inclined to conclude that the speculations made on the basis of the theories under reference and the empirical evidence of previous research have failed to withstand

Table 7

Group Means on Four Dependent Variables with Student Sex, Student FDI and Teacher FDI as Independent Variables

			FD Teachers	FI Teachers
FD Students	Male	Attitudes Towards French Teacher - A	- .42	- .10
		Attitudes Towards French Teacher - B	-1.16	- .23
		Attitude/Motivation Index - A	-2.75	-2.33
		Attitude/Motivation Index - B	-4.22	-3.20
	Female	Attitudes Towards French Teacher - A	.30	.07
		Attitudes Towards French Teacher - B	.75	.02
		Attitude/Motivation Index - A	3.15	1.98
		Attitude/Motivation Index - B	4.40	2.52
FI Students	Male	Attitudes Towards French Teacher - A	.14	- .06
		Attitudes Towards French Teacher - B	.74	.02
		Attitude/Motivation Index - A	1.38	-1.29
		Attitude/Motivation Index - B	2.15	-1.53
	Female	Attitudes Towards French Teacher - A	.03	.28
		Attitudes Towards French Teacher - B	.42	.95
		Attitude/Motivation Index - A	3.60	2.28
		Attitude/Motivation Index - B	4.87	3.75

Table 8

Results of Orthogonal Contrasts (F Values) on Four Dependent Variables

Variables	MS_{error}	Contrast 1	Contrast 2	Contrast 3
AFTA	.997	.006	1.172	.272
AFTB	13.822	.045	1.393	.922
AMIA	61.638	.692	.057	3.130
AMIB	142.935	.441	.294	2.817

df = 1,347; $_{.95}F_{(1,347)} = 3.87$.

the test of the present study. Nevertheless, a note of caution might be in order, lest such a conclusion should be too hastily drawn. For while every effort had been made to ensure the proper conduct of the study, there might still have been circumstances beyond control which might have singly or jointly confounded the results. One might, therefore, be well advised at this point to re-examine the two most crucial elements of the current investigation: (1) the theoretical rationale that led to the stated hypotheses and (2) the methodology by which these hypotheses were tested.

With regard to the theoretical rationale, it may be recalled that the relationship hypothesized was one of attitudinal transfer — from student-teacher match in FDI to positive student-teacher interpersonal relationship and, subsequently, to higher student integrative motive. Hence, difference in student integrative motive was, to a large extent, conditional upon difference in students' attitudes towards their French teachers. Conversely, since there was no significant difference in students' attitudes towards their French teachers, the absence of significant difference in student integrative motive is understandable.

Thus, the failure to support the hypotheses appears to have been caused by the fact that student-teacher match-mismatch might have failed to bring about the expected student-teacher interpersonal perceptions in the first place. This contradiction to the earlier findings by DiStefano (1969) and Moore (1977) might have been attributed to a number of factors.

To begin with, both DiStefano's (1969) and Moore's (1977) studies were carried out in situations where the mother tongue was used. The present investigation, however, involved a second language and, indeed, a second culture to some extent. It might just be possible that interpersonal perceptions develop and proceed differently under different socio-culturo-linguistic conditions. While interpersonal attraction might be a function of similarity in a social milieu where the mother tongue is employed, it might be one of dissimilarity in a second-language setting. Within the classroom, the student might find the second-language teacher interesting and attractive because the latter is or represents a different entity which might bring forth new experiences and skills above and beyond those in the former's present repertoire. On the other hand, the awareness of socio-culturo-linguistic difference might

enable the second-language teacher to foster and exhibit greater understanding of and sensitivity to the needs of his or her students which he or she might otherwise ignore in a first-language environment. The existence of such a reversed mode of operation is, of course, somewhat speculative. Its speculative nature, however, might not necessarily have stopped it from serving as a confounding factor in the present study.

A second and related confounding factor might, paradoxically, have arisen from the wide-spread implementation or enforcement of the bilingualism policy, both within the school system and by society at large. Whatever advantages bilinguality might promise and deliver, there would still be students and/or their parents opposed to such a policy or to having to be subjected to it. Such people might, rightly or wrongly, perceive the bilingualism policy and its implementation as a violation of personal rights, although the same situation might have greatly motivated others to learn and benefit from the second language. Nevertheless, the practical implications of bilinguality or the lack of it, especially as they relate to employment prospects, seem to reduce freedom of choice. Hence, a varying number of students, possibly supported by their parents, might

feel that they had been circumstantially forced to take French. One repercussion of such feelings might have been resentment to or dislike of the French programme and whoever or whatever was associated with it. Such a sentiment might naturally have been detrimental to student-teacher interpersonal relationship and, when sufficiently strong, resulted in negative attitudes towards the French-language teacher, marring any positive feelings that similarity in intrapersonal characteristics might otherwise have brought about.

A third and, again, related confounding factor might have come from an even more powerful, though also more subtle, source. This refers to the general attitude anglo- or non-franco-Canadians appear to hold towards the current political scene in Quebec. There seems to have been among non-franco-Canadians a general sense of antipathy towards Quebec as a direct reaction to its government's introduction of Bill 101 and declared intention to sever from the Confederation, as well as to a variety of intentional or misconstrued "unfriendly acts" or "expressions of hostility". Also, there seems to have been a tendency among the same population to transfer or extend this sense of antipathy to the French language or, indeed, to the franco-Canadian community.

Having ventured to mention the above, the writer hastens to add that it is, of course, not his intention ever to make wild accusations or falsify reality, or to indulge in spreading rumours with political insinuations. Nevertheless, the not-too-few isolated or related incidents he has actually witnessed or learned about through the media, when viewed together, do seem to lend support to the speculation ventured. It might, therefore, be possible that some students might really have gone to their French classes with preconceived antipathy. Such preconceived sentiments might have in turn not only contributed to their low integrative motive but also masked or obliterated their positive attitudes towards the French-language teacher which might otherwise have resulted from their being matched in FDI.

The theoretical rationale, having been re-examined at considerable length, attention may now be focused on the research methodology. In this respect, one possible weakness might have been the size of the teacher sample. As this consisted of only nine teachers, it might have been too small to be truly representative. Had a larger number of teachers been available (say, 30-40 as originally planned), a better opportunity might have been provided for the observation of more instances

of student-teacher interaction. Yet it was difficult enough just to secure the cooperation of such a small number. It might, therefore, be suggested that this circumstantial handicap be taken into consideration when interpreting the results of the present study.

3. Other Significant Results

As mentioned at the end of the previous chapter, one additional comparison, Contrast 4, was made to examine the difference between male and female students. Measures on 20 dependent variables were obtained in this case. The results are presented in Table 9.

In addition, an analysis of variance (ANOVA) was performed on all the 17 subscales of the Attitude/ Motivation Battery, using student sex, student FDI and teacher FDI as independent variables. Results which are significant are shown in Tables 10 and 11.

An examination of Table 9 and Appendix 7 reveals that the female students outscored their male counterparts on all 20 subscales, although the differences on five of them were not large enough to be significant at the .05 level.

As indicated in Table 10, significant differences occurred on Attitudes Towards French Teacher - A when

Table 9

Results of Orthogonal Contrast Between Male and Female Students on 20 Dependent Variables

Variables	MS_{error}	F
AFTA	.997	5.111 *
AFTB	13.822	2.255
AMIA	61.638	16.871 ***
AMIB	142.935	14.184 ***
AFCOA	1.003	11.843 ***
AFCOB	11.239	14.851 ***
LSA	3.345	9.795 **
LSB	2.016	8.094 **
FCA	.968	.403
FUA	.978	3.749
CA	2.760	2.374
INS	.960	14.639 ***
IO	.961	14.782 ***
AFC	.990	12.855 ***
AEF	.977	.201
INT	6.527	9.273 **
MI	.922	15.407 ***
DLF	.965	20.189 ***
ALT	.917	20.287 ***
MOT	7.388	21.000 ***

df = 1,347; $_{.95}F_{(1,347)} = 3.87$.

* $p < .025$; ** $p < .005$; *** $p < .001$.

Table 10

Summary of ANOVA by Student Sex, Student FDI and Teacher FDI on Two Dependent Variables

Source	SS	df	MS	F	P
	Attitudes Towards French Teacher - A				
SSex	7.905	1	7.905	7.926	.005
SFDI	1.579	1	1.579	1.583	.209
TFDI	.032	1	.032	.032	.859
SSex x SFDI	.316	1	.316	.317	.574
SSex x TFDI	1.053	1	1.053	1.055	.305
SFDI x TFDI	.163	1	.163	.164	.686
SSex x SFDI x TFDI	4.019	1	4.019	4.030	.045
Residual	346.095	347	.997		
	Attitudes Towards Learning French				
SSex	30.620	1	30.620	33.380	.000
SFDI	.485	1	.485	.529	.468
TFDI	4.486	1	4.486	4.890	.028
SSex x SFDI	.520	1	.520	.567	.452
SSex x TFDI	.034	1	.034	.037	.848
SFDI x TFDI	.010	1	.010	.011	.915
SSex x SFDI x TFDI	1.252	1	1.252	1.365	.243
Residual	318.310	347	.917		

Table 11

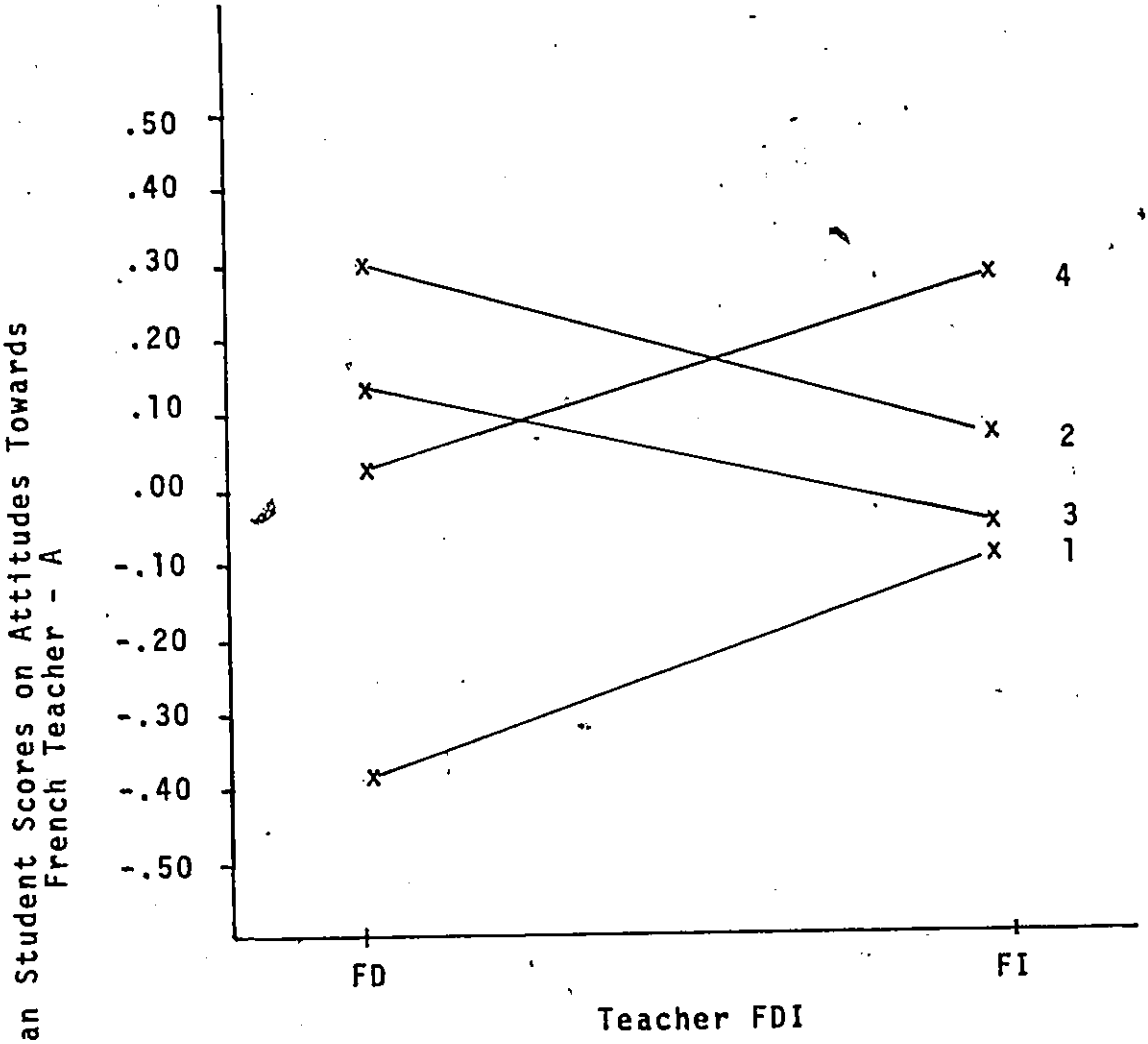
Summary of ANOVA by Student Sex, Student FDI and Teacher FDI on Two Other Dependent Variables

Source	SS	df	MS	F	P
French Class Anxiety					
SSex	4.818	1	4.818	1.746	.187
SFDI	13.930	1	13.930	5.047	.025
TFDI	7.955	1	7.955	2.882	.090
SSex x SFDI	.184	1	.184	.067	.797
SSex x TFDI	.748	1	.748	.271	.603
SFDI x TFDI	4.166	1	4.166	1.509	.220
SSex x SFDI x TFDI	2.498	1	2.498	.905	.342
Residual	957.805	347	2.760		
Integrative Orientation					
SSex	24.272	1	24.272	25.246	.000
SFDI	4.035	1	4.035	4.197	.041
TFDI	1.468	1	1.468	1.527	.217
SSex x SFDI	.114	1	.114	.119	.731
SSex x TFDI	.106	1	.106	.110	.740
SFDI x TFDI	.081	1	.081	.084	.772
SSex x SFDI x TFDI	2.679	1	2.679	2.786	.096
Residual	333.609	347	.961		

student sex, student FDI and teacher FDI interacted with one another. Reference to Appendix 7 reveals two further phenomena: (1) the girls again outscored the boys and (2) there was a trend in the girls' behaviour or performance that was in agreement with the expectations postulated in the present study, whereas the boys tended to move in just the opposite direction. This second phenomenon is graphically represented in Figure 1.

The results presented thus far may be reiterated as follows: (1) student integrative motive was higher with the girls than with the boys and (2) the kind and direction of student-teacher interpersonal relationship previously hypothesized appeared to apply to the girls but not to the boys.

One possible explanation for the girls' display of higher integrative motive might be socio-culturally bound. Rightly or wrongly society seems to have traditionally perceived and encouraged interest in and mastery of languages as an appropriate and prized virtue for the female. While the women's liberation movement might have revolutionized many social institutions and values, girls as a group might still be relatively more prone to adhere to this particular criterion of



1. FD male students.
2. FD female students.
3. FI male students.
4. FI female students.

Figure 1. Line graph of student sex and student FDI showing mean student scores on Attitudes Towards French Teacher - A plotted against teacher FDI

excellence and accomplishment tradition appears to have prescribed or advocated for them.

Another possible explanation might be closely related to the theoretical expectations of the present study. That is, the girls exhibited higher integrative motive because they held more favourable attitudes towards their French teachers than did the boys. Here, it might be suggested that, with the girls, the relationship chain previously hypothesized appears to prevail — student integrative motive was related to student attitudes towards the French teacher which was in turn related to student-teacher match-mismatch in FDI. Not only did such a relationship prevail; it also did so in the direction predicted. That is, student integrative motive was higher (1) when students and teachers were matched in FDI than when they were mismatched; (2) when FD students and teachers were matched than when FI students and teachers were matched; and (3) when FD students were mismatched with FI teachers than when FI students were mismatched with FD teachers.

Now, a rather searching question. Why should this causal or reciprocal relationship have seemed to hold true with the girls but not with the boys? Several explanations might be ventured.

First, as has been previously alluded to, females might, having been nurtured by tradition, regard second-language learning in more positive light, to begin with. Thus, the girls might have perceived their French teacher as a helper, a need-gratifier or a facilitator in their fulfillment of one of their expected social roles.

Second, society still seems to expect the male, rather than the female, to be the principal provider or bread earner. Hence, as has been previously pointed out, some of the boys might have perceived the implementation of the bilingualism policy as constituting a circumstantial threat or curtailment of personal freedom and choice. Their perception of their French-language teacher might, therefore, have been biased negatively even before any student-teacher interaction ever took place. In contrast, the girls, being less threatened or disturbed and viewing the bilingualism issue as less imposing, might have entered the interaction either with positive attitudes or at least with a neutral mind. Such a psychological state might have been more conducive to the natural occurrence of cognitive-style match-mismatch effects.

Third, and in line with Erikson's (1950/63) contention regarding social modalities between the sexes,

females, as a group, tend to be inclusive or accommodating as opposed to males who generally tend to be intrusive or retaliatory. Thus, assuming that society at large favoured bilingualism, the girls might have gone along with the tide rather than against it or subjected to it grudgingly as some of the boys might have done. The consequence might again have been total absence or mitigation of prejudice or resentment which might contaminate the normal effects of student-teacher match-mismatch in FDI.

Fourth, and following the same line of reasoning, the repercussions of the political scene in Quebec previously referred to might have exerted less negative influence on the girls.

As shown in Table 11, significant main effects were also found for student FDI on two subscales, namely, French Classroom Anxiety and Integrative Orientation. An examination of the group means in Appendix 7 indicates that the FI students scored higher in both cases. In other words, the FI students were both more at ease in the French class and more integratively oriented than the FD students.

The first finding seems easily understandable. As previously mentioned, FD people are generally more

affected by criticisms and reliant on external referents in ambiguous situations. In the classroom, therefore, FD students might frequently, if not constantly, experience or suffer a sense of uncertainty as to whether they would be favourably assessed and accepted, whether they would be able to measure up to the expectations others might have of them. Such sense of uncertainty might be even more acute in a second-language classroom in which a new and strange language and culture are operative. Hence, it might not be too surprising to find FD students in a state of anxiety, especially in the second-language classroom. In contrast, FI students are usually more autonomous and self-reliant and, therefore, more at ease in any situation, including that of a second-language classroom.

The finding on integrative orientation in the present study is contrary to that in Gayle's (1976). Gayle (1976), it may be recalled, found FD students more integratively oriented than FI students. The disparity, however, might be explained, at least in part, with reference to the intrapersonal characteristics of FD and FI individuals on the one hand and to the prevalent social/political climate in respect of bilingualism on the other. Around the time Gayle's (1976) study was

conducted, bilingualism might have been at its height of popularity. Then, it was not only pragmatically beneficial but also socially reinforcing to enrol in French-language programmes and to articulate one's desire to identify with the valued second-language community. Since Gayle's (1976) study, however, the social/political scene might have changed. FD students are generally more likely than FI students to attend to social sources of information and to rely on external referents when the situation is ambiguous. In contrast, FI students are usually rated more highly on such attributes as autonomy, initiative, self-reliance and ability to think for oneself. Thus, while FD students' integrative orientation might have fluctuated with the vicissitudes of public opinion and sentiment, FI students' might have remained fairly consistent. This difference in intrapersonal behaviour might in turn have accounted for the different findings in Gayle's (1976) study and the current investigation.

One final main effect that might merit attention concerns students' attitudes towards learning French. As indicated in Table 10 and Appendix 7, the FD teachers seemed to have outperformed their FI counterparts in this respect.

The above finding seems well within theoretical expectation when the intrapersonal characteristics of FD and FI teachers are considered. FD teachers tend to favour situations that allow interactions with students, to be more student-centred and to show strength in establishing a warm and personal learning environment. These characteristics, together with the many others they possess which are facilitative to positive interpersonal relationships, might have enabled the FD teachers to be perceived in positive light by both the FD and the FI students. On the contrary, FI teachers are inclined to favour situations that are impersonal and to be teacher-centred. These characteristics, plus the many others they possess which are likely to handicap or deter social interactions, might have made the FI teachers appear cold and alienating to the FD students while interfering and restrictive to the FI students. As has been theorized in the present study, students' attitudes towards their teachers might be subsequently reflected in or related to their attitudes towards learning the subject taught by or closely associated with the teacher.

SUMMARY AND CONCLUSIONS

The present study was conceived as an attempt to answer a series of questions arising from previous research findings on psychological differentiation and the integrative motive in second-language learning. Its primary purpose was to determine whether student integrative motive in second-language learning is related to student-teacher match-mismatch in field-dependence-independence (FDI). More specifically, it tested the following hypotheses:

1. Student integrative motive is higher when students and teachers are matched in FDI than when they are mismatched.

2. Student integrative motive is higher when FD students and teachers are matched than when FI students and teachers are matched.

3. Student integrative motive is higher when FD students are mismatched with FI teachers than when FI students are mismatched with FD teachers.

The sample consisted of nine teachers (five males and four females) and 534 seventh-graders (274 boys and 260 girls) from eastern Ontario.

The degree of FDI of both the students and the teachers was measured by means of the Group Embedded-Figures Test (GEFT) developed by Oltman, Raskin and Witkin (1971) while the Attitude/Motivation Battery

elaborated by Gardner and Smythe (1975) was employed to assess student integrative motive.

The research hypotheses were tested in their null form by means of orthogonal contrasts. In addition, an analysis of variance (ANOVA) was performed on all the subscales of the Attitude/Motivation Battery. The level of probability of type I error was set at .05.

The results failed to support the hypotheses stated above. This, however, does not necessarily mean that the theoretical expectations have been totally invalid.

As pointed out in the discussion of the results, the non-significant findings in the present study might have been due to the fact that, contrary to the conclusions in previous research (DiStefano, 1969; Moore, 1977), student-teacher match-mismatch in FDI for this particular sample did not result in the expected student-teacher interpersonal perceptions. This unexpected outcome might in turn have been attributed to a variety of circumstantial factors which might, singly or jointly, have confounded the results. The small size of the teacher sample, for instance, might have considerably restricted the instances of student-teacher interaction. Public opinion of and reaction to the political scene in

Quebec and the repercussion of the bilingualism policy, too, might have to be taken into consideration. Moreover, a second-language learning-teaching situation might, in itself, have been enough to transform or distort the effects of student-teacher interaction normally present when interpersonal communication proceeds in the mother tongue.

Mention, however, must be made of the somewhat speculative nature of the last factor suggested. Would interpersonal perceptions really vary as a function of the socio-linguistic context in which they occur? Would student-teacher interpersonal relationship in a second-language situation really differ from that in a mother tongue surrounding? These questions seem important enough to stimulate a future research effort. It is suggested that answers to these questions might not only lead to a better understanding of the theory of psychological differentiation but also help to clarify the "similar-different" dichotomy between first- and second-language learning.

Its failure to confirm the research hypotheses notwithstanding, the present study has yielded significant results in various aspects of the integrative motive. To the extent that these results could

be generalized, the following tentative conclusions might be drawn.

Females, as a group, tend to exhibit higher integrative motive than do males. To some extent, this might serve as a partial explanation for the commonly-held belief that females are generally better than males at languages. Where attitudes towards the second-language teacher are concerned, females also tend to support the similarity-attraction hypothesis, whereas the opposite seems to hold true for males.

Why are females more integratively motivated than males in the learning of a second language? Do females really differ from males in interpersonal perceptions? If so, what are some of the factors that contribute to this disparity? A second research effort might, therefore, be suggested. In this connection, the present study might be replicated and, perhaps, improved in a number of ways, as follows.

The teacher sample might be augmented to comprise say, 30-40 teachers, equally divided in sex. The student sample might be composed of eleventh- or twelfth-graders or young adults mainly for two reasons. First, individual differences and stability in FDI might be at their peak in this age range. Second, the students'

more advanced linguistic proficiency and level of comprehension might ensure greater accuracy or "truthfulness" in their responses to the statements in the Attitude/Motivation Battery. Subject to administrative exigencies, a longitudinal study might be more preferable. If a cross-sectional study is the only alternative, pretest and posttest measures might be suggested. In order that the results might be free from or less contaminated by political implications, the study might be carried out in Switzerland with French, German or Italian as a second language or in the Scandinavian countries with English or German as a foreign language.

FI students, on the whole, tend to be more at ease in the second-language classroom as well as more integrative oriented towards the learning of the second language. The first phenomenon is easily understandable on the basis of FI individuals' intrapersonal characteristics. The second one is more complicated although an explanation has been suggested in the previous chapter. One thing, however, appears fairly certain — the two are very closely related.

Would low anxiety in the second-language classroom lead to high integrative orientation towards the learning of the second language? What could be done to

reduce anxiety, especially among FD students, in the second-language classroom? Answers to these questions might have important pedagogical implications. Hence, an investigation might be suggested in this direction.

Finally, FD teachers are more likely than FI teachers to bring about more favourable attitudes towards learning a second language. This seems to imply that FD teachers are more able to meet the needs of students, regardless of the latter's sex and FDI.

Would the above phenomenon occur only in a second-language context or, indeed, only with this particular sample? Or would it apply equally to other subject areas for which the mother tongue is employed as the medium of communication? These questions might provide the problem for a further study. It is suggested that answers to these questions might bring about significant implications for both teachers and educational administrators.

In closing, it is recognized that the present study seems to have raised more questions than it has answered. This might, however, be construed as a strength as well as a weakness. It is hoped that the findings in the various studies suggested will, when viewed in conjunction with those in the present one,

collectively contribute to a further clarification and extension of the two major theories referred to. It is further hoped that the results to be obtained will provide a clearer perspective with respect to the relationship the current investigation has sought to establish.

REFERENCES

Amin, M.E. - The relationship between psychological differentiation and performance on conditional reasoning tasks. Unpublished doctoral dissertation, University of Ottawa, 1977.

Asakawa, Y., & Oller, J. Attitudes and attained proficiency in EFL: A sociolinguistic study of Japanese learners at the secondary level. Revue de la Société pour la Promotion de l'Enseignement de l'Anglais (Langue Seconde) au Québec, 1977, 1(3), 71-80.

Bem, D. J. An experimental analysis of self-persuasion. Journal of Experimental Social Psychology, 1965, 7, 199-218.

Byrne, Donn. The attraction paradigm. New York: Academic Press, 1971.

Bryne, D., Griffitt, W., & Stefaniak, D. Attraction and similarity of personality characteristics. Journal of Personality and Social Psychology, 1967, 5(1), 82-90.

Carroll, J. B. The prediction of success in intensive foreign language training. In R. Glasser (Ed.), Training research and education. Pittsburg: University of Pittsburg Press, 1962, pp. 87-136.

Clément, R., Gardner, R. C., & Smythe, P. C. Motivational variables in second language acquisition: A study of francophones learning English. Canadian Journal of Behavioural Science, 1977, 9(2), 123-133. (a)

Clément, R., Gardner, R. C., & Smythe, P. C. Inter-ethnic contact: Attitudinal consequences. Canadian Journal of Behavioural Science, 1977, 9(3), 205-215. (b)

Clément, R., Smythe, P. C., & Gardner, R. C. Persistence in second-language study: Motivational considerations. Canadian Modern Language Review, 1978, 34(4), 688-694.

DiStefano, J. J. Interpersonal perceptions of field independent and field dependent teachers and students (Doctoral dissertation, Cornell University, 1969). Dissertation Abstracts International, 1970, 31, 463A-464A. (University Microfilms No. 70-11,225)

DiStefano, J. J. Perceptual biases in subordinate-superior relations (Working Paper Series No. 43R). London, Ontario: School of Business Administration, University of Western Ontario, 1973.

English, H. B., & English, A. C. A comprehensive dictionary of psychological and psychoanalytical terms. New York: David McKay, 1958. (Cited in Witkin & Goodenough, 1976)

Erikson, Erik, H. Childhood and society (2nd ed.). New York: Norton, 1963. (Originally published, 1950)

Ervin, S. Identification and bilingualism. Harvard University, 1954, (mimeo). (Cited in Clément, R., Gardner, R. C. & Smythe, P. C.. Motivational variables in second language acquisition: A study of francophones learning English. (Research Bulletin No. 351). London, Ontario: Department of Psychology, University of Western Ontario, 1976)

Folman, R. Z. Therapist-patient perceptual style, interpersonal attraction, initial behaviour, and premature termination (Doctoral dissertation, Boston University, 1973). Dissertation Abstract International, 1973, 34, 1746B. (University Microfilms No. 73-23,482)

Gardner, R. C. Social factors in second language acquisition and bilinguality (Research Bulletin No. 342). London, Ontario: Department of Psychology, University of Western Ontario, 1975.

Gardner, R. C. Psychological aspects of second language acquisition (Research Bulletin No. 6). London, Ontario: Language Research Group, Department of Psychology, University of Western Ontario, 1976.

Gardner, R. C., Gliksman, L., & Smythe, P. C. Attitudes and behaviour in second language acquisition: A social psychological interpretation. Canadian Psychological Review, 1978, 19(3), 173-186.

Gardner, R. C., & Lambert, W. E. Motivational variables in second-language acquisition. Canadian Journal of Psychology, 1959, 13, 266-272.

Gardner, R. C., & Lambert, W. E. Attitudes and motivation in second-language learning. Rowley, Massachusetts: Newbury House, 1972.

Gardner, R. C., & Santos, E. H. Motivational variables in second-language acquisition: A Philippine investigation (Research Bulletin No. 149). London, Ontario: Department of Psychology, University of Western Ontario, 1970.

Gardner, R. C., & Smythe, P. C. Second language acquisition: A social psychological approach (Research Bulletin No. 332). London, Ontario: Department of Psychology, University of Western Ontario, 1975.

Gardner, R. C., & Smythe, P. C. The role of attitudes in acquiring the language of another ethnic group (Research Bulletin No. 7). London, Ontario: Language Research Group, Department of Psychology, University of Western Ontario, 1976.

Gardner, R. C., Smythe, P. C., Clément, R., & Gliksman, L. Second-language learning: A social psychological perspective. Canadian Modern Language Review, 1976, 32(3), 198-213.

Gayle, G. M. H. An integrative orientation towards a second language, authoritarianism and psychological differentiation. Unpublished doctoral dissertation, University of Ottawa, 1976.

Gliksman, L., & Gardner, R. C. Some relationships between students' attitudes and their behaviours in the French classroom (Research Bulletin No. 5). London, Ontario: Language Research Group, Department of Psychology, University of Western Ontario, 1976.

Greene, M. A. Client perception of the relationship as a function of worker-client cognitive styles (Doctoral dissertation, Columbia University, 1972). Dissertation Abstracts International, 1972, 33, 3030A-3031A. (University Microfilms No. 72-31,213)

Heider, F. The psychology of interpersonal relations. New York: Wiley, 1958.

Lukmani, Y. M. Motivation to learn and language proficiency. Language Learning, 1972, 22, 261-273.

Moore, R. F. Self-nonself-differentiation and its relation to student-teacher interpersonal perceptions, academic achievement, and self-concept. Unpublished doctoral dissertation, University of Ottawa, 1977.

Mowrer, O. H. Learning theory and personality dynamics. New York: Ronald, 1950.

Oller, J., Hudson, A., & Liu, P. Attitudes and attained proficiency in ESL: A sociolinguistic study of native speakers of Chinese in the U.S. Mimeo. Department of Linguistics, University of New Mexico, in press. (Cited in Asakawa & Oller, 1977)

Oltman, P. K. A portable rod-and-frame apparatus. Perceptual and Motor Skills, 1968, 26, 503-506.

Randhawa, B. S., & Korpan, S. M. Assessment of some significant affective variables and the prediction of achievement in French. Canadian Journal of Behavioural Science, 1973, 5, 24-33.

Smythe, P. C., Stennett, R. C., & Feenstra, H. J. Attitude, aptitude and type of instructional program in second language acquisition. Canadian Journal of Behavioural Science, 1972, 4, 307-321.

Spolsky, B. Attitudinal aspects of second language learning. Language Learning, 1969, 19, 271-285.

Thorndike, E. L. Educational psychology: The psychology of learning (Vol. 2). New York: Teachers College, 1913.

Witkin, H. A. Psychological differentiation and forms of pathology. Journal of Abnormal Psychology, 1965, 70, 317-336.

Witkin, H. A. The role of cognitive style in academic performance and in teacher-student relations (Research Bulletin 73-11). Princeton, New Jersey: Educational Testing Service, 1973.

Witkin, H. A., Dyk, R. B., Faterson, H. F., Goodenough, D. R., & Karp, S. A. Psychological differentiation. Potomac, Maryland: Erlbaum, 1974. (Originally published, Wiley, 1962)

Witkin, H. A., & Goodenough, D. R. Field dependence revisited (Research Bulletin 76-39). Princeton, New Jersey: Educational Testing Service, 1976.

Witkin, H. A., & Goodenough, D. R. Field dependence and interpersonal behavior. Psychological Bulletin, 1977, 84(4), 661-689.

Witkin, H. A., Goodenough, D. R., & Karp, S. A. Stability of cognitive style from childhood to young adulthood. Journal of Personality and Social Psychology, 1967, 7(3), 291-300.

Witkin, H. A., Goodenough, D. R., Oltman, P. K., Moore, C. A., Emmerich, W., & McDonald, F. The role of cognitive style in teacher behavior, student learning and teacher-student interaction. Manuscript in preparation, 1976. (Cited in Witkin & Goodenough, 1977 and in Witkin, Moore, Goodenough, & Cox, 1977)

Witkin, H. A., Lewis, H. B., Hertzman, M., Machover, K., Meissner, P. B., & Wapner, S. Personality through perception. Westport, Connecticut: Greenwood Press, 1972. (Originally published, Harper, 1954)

Witkin, H. A., Moore, C. A., Goodenough, D. R., & Cox, P. W. Field-dependent and field-independent cognitive styles and their educational implications. Review of Educational Research, 1977, 47(1), 1-64.

Witkin, H. A., Moore, C. A., Oltman, P. K., Goodenough, D. R., Friedman, F., Owen, D. R., & Raskin, E. Role of the field-dependent and field-independent cognitive styles in academic evolution: A longitudinal study. Journal of Educational Psychology, 1977, 69(3), 197-211.

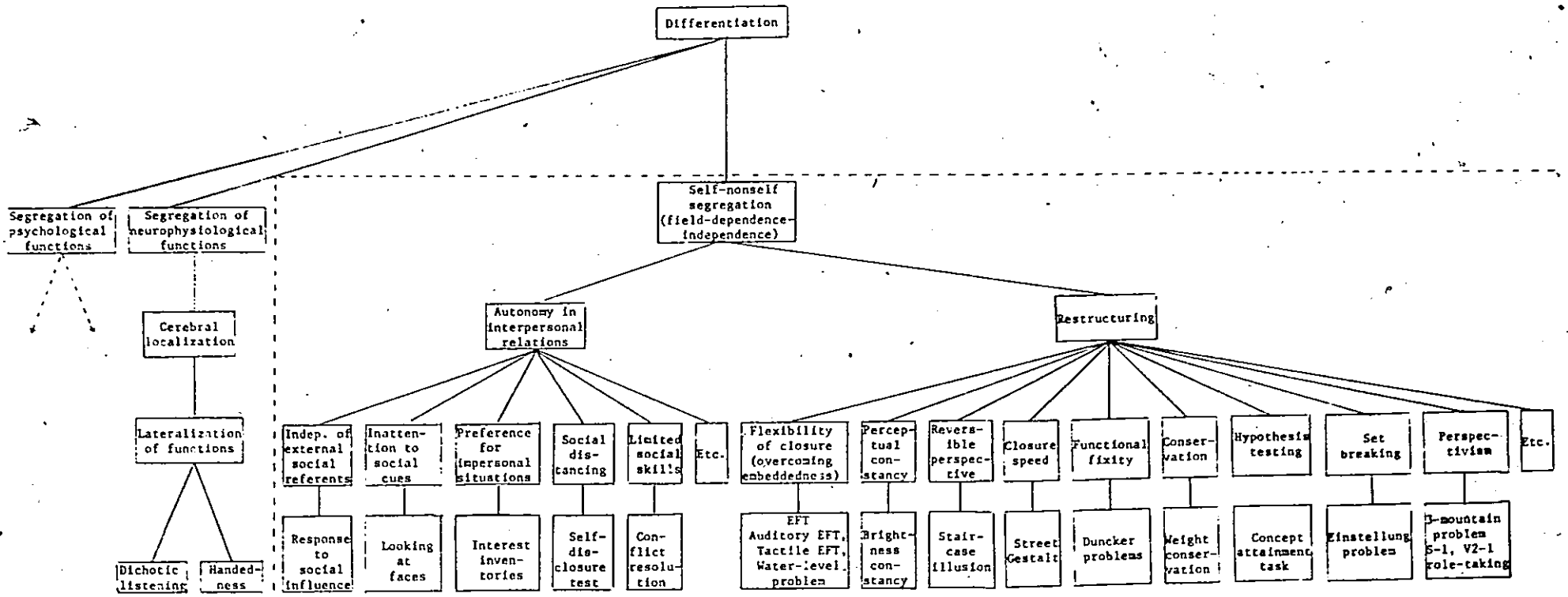
REFERENCES

Witkin, H. A., Oltman, P. K., Raskin, E., & Karp, S. A. Manual for children's embedded-figures test and group embedded-figures test. Palo Alto, California: Consulting Psychologist Press, 1971.

Wong, K. L. Psychological differentiation as a determinant of friendship choice. Unpublished doctoral dissertation, City University of New York, 1976.

APPENDIX 1

WITKIN & GOODENOUGH'S PROPOSED NEW MODEL OF THEORY OF PSYCHOLOGICAL DIFFERENTIATION



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Division
of
Psychological Studies

December 20, 1977

Mr. Hon-wing Lee
Psychopedagogy Concentration
Faculty of Education
University of Ottawa
1245 Kilborn Avenue
Ottawa K1H 6K9, Canada

Dear Mr. Lee:

I just now found your letter on returning from a trip to Europe. Hence the delay in this reply.

First, you are welcome to cite Field Dependence Revisited as a reference, although I should tell you that it is being revised for publication. The other reference you cite is to a study in which data analyses are still continuing, so there is not yet a paper I can send you.

Do you have access to the three bibliographies we have prepared on field dependence-independence, which are likely to be useful to you in identifying studies relevant to your study? If you do not, let me know and I will be glad to send them to you.

Sincerely,

Herman A. Witkin

HAW:gn

APPENDIX 3

THE GROUP EMBEDDED-FIGURES TEST (GEFT)

Note. Copyright restrictions prevent reproduction of the said test.

FOR RESEARCHER'S USE ONLY

Code Number _____

THIS SECTION WILL BE REMOVED IMMEDIATELY AFTER THE QUESTIONNAIRE IS CODED

PLEASE PRINT

NAME _____ _____ _____
Last Name First Name Initial

SCHOOL _____ GRADE _____

BIRTHDATE ____ _____ _____ SEX _____
Day Month Year (Female or Male)

To begin with, may I take this opportunity of thanking you most sincerely for agreeing to help me with my research. Your answers to any or all questions will be treated with the strictest confidence. Although I ask for your name on the cover page, I do so only because I must be able to associate your answers to this questionnaire with those of the test which you have just completed. It is important for you to know, however, that before the questionnaires are examined, your questionnaire will be numbered, the same number will be put on the section containing your name, and then that section will be removed. In this way I shall be able to match the questionnaires through matching numbers and avoid having to associate your name directly with the questionnaire.

For the results of this survey to be meaningful, it is important that you be as accurate and as frank as possible in your answers. If you do not want to answer any particular item, or for that matter the entire questionnaire, you do not have to. However, you should realize that the usefulness of this questionnaire will be lessened to the extent that you do not answer each item. I would, therefore, urge you to answer all items unless it is important to you personally to omit certain ones. If you have difficulties or questions about any of the items, please raise your hand and someone will come to your assistance.

Following are a number of statements with which some people agree and others disagree. There are no right or wrong answers since many people have different opinions. I would like you to indicate your opinion about each statement by circling the alternative below it which best indicates the extent to which you disagree or agree with that statement.

Following is a sample item. Circle the alternative below the statement which best indicates your feeling.

1. Canadian hockey players are better than Russian hockey players.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

In answering this question, you should have circled one of the above alternatives. Some people would circle Strongly Disagree, others would circle Strongly Agree, and still others would circle one of the alternatives in between. Which one you circled would indicate your own feelings based on everything you know and have heard. Note, <u>there is no right or wrong answer</u>. All that is important is that you indicate your personal feeling.

For each of the items on the following pages, I want you to give your immediate reactions. Don't waste time thinking about each statement. <u>Give your immediate feeling after reading each statement</u>. On the other hand, please do not be careless as it is important that I obtain your true feelings.

1. I am afraid the other students will laugh at me when I speak French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

2. French is an important part of the school programme.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

3. The European French are cheerful, agreeable and good humored.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

4. Studying French can be important for me because it will enable me to better understand and appreciate French Canadian art and literature.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

5. If I should ever meet a French-speaking person, I would feel relaxed talking with him.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

6. Some of our best citizens are of French-Canadian descent.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

7. Studying French can be important for me because I think it will someday be useful in getting a good job.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

8. I really enjoy learning French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

9. The European French are trustworthy and dependable.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

10. Studying French can be important for me because I will be able to participate more freely in the activites of other cultural groups.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

11. I am sure I would feel calm and sure of myself if I had to order a meal in a French restaurant.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

12. I would rather spend my time on subjects other than French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

13. Studying French can be important for me only because I'll need it for my future career.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

14. I would like to know more French Canadians.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

15. I never feel quite sure of myself when I am speaking in our French class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

16. I have a favorable attitude towards the European French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

17. I would feel comfortable speaking French in an informal gathering where both English and French speaking people are present.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

18. Learning French is a waste of time.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

19. Studying French can be important for me because it will alow me to meet and converse with more and varied people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

20. The more I learn about the European French, the more I like them.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

21. I plan to learn as much French as possible.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

22. If Canada should lose the French culture of Quebec, it would indeed be a great loss.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

23. It embarrasses me to volunteer answers in our French class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

24. Studying French can be important for me because other people will respect me more if I have a knowledge of a foreign language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

25. I think that learning French is dull.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

26. I would feel confident and relaxed if I had to ask street directions in French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

27. French Canadians add a distinctive flavour to the Canadian culture.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

28. I hate French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

29. For the most part, the European French are sincere and honest.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

30. I always feel that the other students speak French better than I do.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

31. Studying French can be important for me because it will allow me to be more at ease with fellow Canadians who speak French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

32. French Canadians have preserved much of the beauty of the old Canadian folkways.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

33. When I am making a telephone call, I would get flustered if it were necessary to speak French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

34. I love learning French.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

35. I have always admired the European French people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

36. The French-Canadian heritage is an important part of our Canadian identity.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

37. I would like to get to know the European French people better.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

38. I get nervous and confused when I am speaking in my French class.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

39. If I had to speak French with someone in authority it would cause me great discomfort.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

40. French Canaidans are a very sociable, warm-hearted and creative people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

41. Studying French can be important for me because it will make me a more knowledgeable person.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

42. The European French are considerate of the feelings of others.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

43. The more I get to know the French Canadians, the more I want to be fluent in their language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

44. The European French are a very kind and generous people.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

45. I am sure I would get nervous whenever I had to speak French to a sales clerk.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

46. Learning French is really great.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

47. Most French Canadians are so friendly and easy to get along with that Canada is fortunate to have them.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

48. When I leave school, I shall give up the study of French entirely because I am not interested in it.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

49. English Canadians should make a greater effort to learn the French language.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

50. I would feel uncomfortable speaking French in any situation.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

51. The European French are very friendly and hospitable.

Strongly Disagree	Moderately Disagree	Slightly Disagree	Neutral	Slightly Agree	Moderately Agree	Strongly Agree

Please answer each of the following items by circling the letter of the alternative which appears to be <u>most</u> applicable to you. I should like to remind you that no individual teacher will have access to the questionnaires or any other information which associates your responses to this questionnaire with your name. I would urge you to be <u>as accurate as possible</u> since the success of this investigation depends upon it.

1. If I had the opportunity to speak French outside of school, I would:

   a) speak French most of the time, using English only if really necessary.
   b) speak it oocasionally, using English whenever possible.
   c) never speak it.

2. During French class, I would like:

   a) to have as much English as possible spoken.
   b) to have a combination of French and English spoken.
   c) to have only French spoken.

3. I actively think about what I have learned in my French class:

   a) once in awhile.
   b) hardly ever.
   c) very frequently.

4. If there were a French Club in my shcool, I would:

   a) be most interested in joining.
   b) attend meetings once in awhile.
   c) definitely not join.

5. If French were not taught in school, I would:

   a) try to obtain lessons in French somewhere else.
   b) not bother learning French at all.
   c) pick up French in everyday situations.(i.e., read French books and newspapers, try to speak it whenever possible, etc...).

6. When I am in French class, I:

   a) never say anything.
   b) answer only the easier questions.
   c) volunteer answers as much as possible.

7. If I had the opportunity and knew enough French, I would read French magazines and newspapers:

a) not very often.
b) as often as I could.
c) never.

8. If there were a local French T.V. station, I would:

a) turn it on occasionally.
b) never watch it.
c) try to watch it often.

9. Compared to my other courses, I like French:

a) the same as all the others.
b) the most.
c) least of all.

10. When I hear a French song on the radio, I:

a) change the station.
b) listen to the music, paying attention only to the easy words.
c) listen carefully and try to understand all the words.

11. If it were up to me whether or not to take French, I:

a) would drop it.
b) don't know whether I would take it or not.
c) would definitely take it.

12. When I have a problem understanding something we are learning in French class, I:

a) just forget about it.
b) immediately ask the teacher for help.
c) only seek help just before the exam.

13. If there were French-speaking families in my neighbourhood, I would:

a) speak French with them sometimes.
b) speak French with them as much as possible.
c) never speak French with them.

14. When it comes to French homework, I:

a) just skim over it.
b) put some effort into it, but not as much as I could.
c) work very carefully, making sure I understand everything.

15. If I had the opportunity to see a French play, I would:

a) definitely go.
b) go only if I had nothing else to do.
c) not go.

16. Considering how I study French, I can honestly say that I:

a) really try to learn French.
b) will pass on the basis of sheer luck or intelligence because I do very little work.
c) do just enough work to get along.

17. If the opportunity arose and I knew enough French, I would watch French T.V. programmes:

a) never.
b) sometimes,
c) as often as possible.

18. After I get my French assignments back, I:

a) just throw them in my desk and forget them.
b) look them over, but don't bother correcting mistakes.
c) always rewrite them, correcting my mistakes.

19. I find stydying French:

a) no more interesting than most subjects.
b) not interesting at all.
c) very interesting.

20. If my teacher wanted someone to do an extra French assignment, I would:

a) definitely volunteer.
b) only do it if the teacher asked me directly.
c) definitely not volunteer.

The purpose of this part of the questionnaire is to determine your ideas and impressions about your French Course and your French Teacher. I call these things, concepts. In answering this section, you will be asked to rate these concepts on a number of scales. On the following pages, there is a concept given at the top of the page, and below that a group of scales. You are to rate each concept on each of the scales in order. Following is how you are to use the scales.

If the word at either end of the scale very strongly describes your ideas and impressions about the concept at the top of the page, you would place your check-mark as shown below:

friendly _X_ : ____ : ____ : ____ : ____ : ____ : ____ unfriendly

OR

friendly ____ : ____ : ____ : ____ : ____ : ____ : _X_ unfriendly

If the word at either end of the scale describes somewhat your ideas and impressions about the concept (but not strongly so), you would place your check-mark as follows:

dangerous ____ : _X_ : ____ : ____ : ____ : ____ : ____ safe

OR

dangerous ____ : ____ : ____ : ____ : ____ : _X_ : ____ safe

If the word at either end of the scale only slightly describes your ideas and impressions about the concept, you would place your check-mark as follows:

fast ____ : ____ : _X_ : ____ : ____ : ____ : ____ slow

OR

fast ____ : ____ : ____ : ____ : _X_ : ____ : ____ slow

If the word at either end of the scale doesn't seem to be at all related to your ideas and impressions about the concept, you would place your check-mark as follows:

useful ____ : ____ : ____ : _X_ : ____ : ____ : ____ useless

If you rated the concept snake, your ratings may have been like the following:

SNAKE

friendly	____	____	____	____	X	____	____	unfriendly
dangerous	X	____	____	____	____	____	____	safe
fast	____	____	____	____	____	X	____	slow
useful	____	____	____	X	____	____	____	useless

In this example, snake is seen as slightly unfriendly, extremely dangerous, somewhat ~~s~~pw, and neither useful nor useless. There are no right or wrong answers. I want you to indicate your own ideas and impressions. If you have any questions, please ask them now. In answering this part of the questionnaire, work q quickly and don't stop to think about each scale. It is your immediate impressions in which I am interested.

MY FRENCH TEACHER

imaginative	____:	____:	____:	____:	____:	____:	____	unimaginative
unindustrious	____:	____:	____:	____:	____:	____:	____	industrious
considerate	____:	____:	____:	____:	____:	____:	____	inconsiderate
interested	____:	____:	____:	____:	____:	____:	____	disinterested
inefficient	____:	____:	____:	____:	____:	____:	____	efficient
fascinating	____:	____:	____:	____:	____:	____:	____	tedious
reliable	____:	____:	____:	____:	____:	____:	____	unreliable
sensitive	____:	____:	____:	____:	____:	____:	____	insensitive
interesting	____:	____:	____:	____:	____:	____:	____	boring
unfriendly	____:	____:	____:	____:	____:	____:	____	friendly
capable	____:	____:	____:	____:	____:	____:	____	incapable
suspicious	____:	____:	____:	____:	____:	____:	____	trusting
colourless	____:	____:	____:	____:	____:	____:	____	colourful
sincere	____:	____:	____:	____:	____:	____:	____	insincere
intelligent	____:	____:	____:	____:	____:	____:	____	unintelligent
bad	____:	____:	____:	____:	____:	____:	____	good
dull	____:	____:	____:	____:	____:	____:	____	exciting
patient	____:	____:	____:	____:	____:	____:	____	impatient
impolite	____:	____:	____:	____:	____:	____:	____	polite
incompetent	____:	____:	____:	____:	____:	____:	____	competent
cheerless	____:	____:	____:	____:	____:	____:	____	cheerful
disorganized	____:	____:	____:	____:	____:	____:	____	organized
undependable	____:	____:	____:	____:	____:	____:	____	dependable
approachable	____:	____:	____:	____:	____:	____:	____	unapproachable
unpleasant	____:	____:	____:	____:	____:	____:	____	pleasant

MY FRENCH COURSE

useful	____:	____:	____:	____:	____:	____:	____	useless
unpleasant	____:	____:	____:	____:	____:	____:	____	pleasant
confusing	____:	____:	____:	____:	____:	____:	____	clear
nice	____:	____:	____:	____:	____:	____:	____	awful
dull	____:	____:	____:	____:	____:	____:	____	exciting
valuable	____:	____:	____:	____:	____:	____:	____	worthless
meaningless	____:	____:	____:	____:	____:	____:	____	meaningful
complicated	____:	____:	____:	____:	____:	____:	____	simple
unsatisfying	____:	____:	____:	____:	____:	____:	____	satisfying
tedious	____:	____:	____:	____:	____:	____:	____	fascinating
unnecessary	____:	____:	____:	____:	____:	____:	____	necessary
rewarding	____:	____:	____:	____:	____:	____:	____	unrewarding
easy	____:	____:	____:	____:	____:	____:	____	difficult
colourless	____:	____:	____:	____:	____:	____:	____	colourful
unappealing	____:	____:	____:	____:	____:	____:	____	appealing
noneducational	____:	____:	____:	____:	____:	____:	____	educational
agreeable	____:	____:	____:	____:	____:	____:	____	disagreeable
boring	____:	____:	____:	____:	____:	____:	____	interesting
unenjoyable	____:	____:	____:	____:	____:	____:	____	enjoyable
hard	____:	____:	____:	____:	____:	____:	____	effortless
important	____:	____:	____:	____:	____:	____:	____	unimportant
painful	____:	____:	____:	____:	____:	____:	____	pleasurable
complex	____:	____:	____:	____:	____:	____:	____	elementary
bad	____:	____:	____:	____:	____:	____:	____	good
absorbing	____:	____:	____:	____:	____:	____:	____	monotonous

APPENDIX 5

CORRELATION MATRICES ON THE 17 SUBSCALES OF THE ATTITUDE/MOTIVATION BATTERY

FCA = French Classroom Anxiety

FUA = French Use Anxiety

INS = Degree of Instrumentality

IO = Integrative Orientation

AFC = Attitudes Towards French Canadians

AEF = Attitudes Towards European French

ALF = Attitudes Towards Learning French

MI = Motivational Intensity

DLF = Desire to Learn French

FTC = French Teacher-Competence

FTE = French Teacher-Evaluation

FTI = French Teacher-Inspiration

FTR = French Teacher-Rapport

FCD = French Course-Difficulty

FCE = French Course-Evaluation

FCI = French Course-Interest

FCU = French Course-Utility

Correlation Matrix on the 17 Subscales of the Attitude/Motivation Battery for the Total Sample

	FCA	FUA	INS	IO	AFC	AEF	ALF	MI	DLF	FTC	FTE	FTI	FTR	FCD	FCE	FCI	FCU
FCA		.45	.09	.17	.17	.11	.29	.36	.33	.11	.10	.10	.12	.41	.23	.22	.26
FUA			.27	.41	.42	.29	.51	.52	.54	.21	.22	.28	.25	.45	.41	.40	.36
INS				.70	.59	.42	.57	.48	.49	.35	.33	.29	.31	.32	.53	.42	.58
IO					.70	.50	.72	.60	.68	.38	.36	.33	.34	.33	.59	.50	.63
AFC						.61	.73	.63	.69	.40	.40	.36	.36	.36	.58	.51	.60
AEF							.48	.45	.48	.30	.28	.27	.28	.26	.39	.38	.37
ALF								.80	.85	.46	.48	.48	.44	.45	.76	.69	.75
MI									.85	.41	.43	.46	.40	.50	.70	.67	.67
DLF										.41	.44	.44	.40	.48	.73	.67	.68
FTC											.83	.70	.75	.23	.59	.54	.59
FTE												.79	.83	.25	.66	.61	.58
FTI													.73	.30	.67	.72	.55
FTR														.25	.61	.57	.54
FCD															.50	.48	.41
FCE																.87	.85
FCI																	.71
FCU																	

N = 534, r > .12 is significant at .002 level.

Correlation Matrices on the 17 Subscales of the Attitude/Motivation Battery for Male and Female Students

	FCA	FUA	INS	IO	AFC	AEF	ALF	MI	DLF	FTC	FTE	FTI	FTR	FCD	FCE	FCI	FCU
FCA		.54	.14	.24	.19	.12	.40	.45	.40	.23	.23	.20	.26	.42	.31	.30	.32
FUA	.36		.28	.40	.41	.32	.52	.58	.58	.25	.27	.29	.30	.44	.41	.43	.38
INS	.47	.23		.78	.66	.45	.63	.52	.54	.41	.40	.35	.36	.38	.62	.48	.67
IO	.06	.40	.51		.73	.51	.74	.62	.67	.39	.37	.37	.35	.38	.64	.52	.69
AFC	.14	.42	.42	.63		.61	.74	.64	.71	.43	.43	.39	.38	.36	.59	.52	.64
AEF	.10	.24	.33	.48	.60		.52	.48	.53	.33	.32	.30	.30	.31	.44	.41	.44
ALF	.17	.48	.41	.66	.69	.41		.80	.84	.52	.50	.51	.46	.46	.78	.70	.79
MI	.28	.45	.32	.50	.58	.40	.74		.85	.44	.43	.52	.41	.49	.73	.70	.70
DLF	.25	.50	.34	.64	.62	.40	.82	.81		.44	.44	.48	.40	.49	.75	.69	.71
FTC	-.03	.14	.23	.36	.34	.23	.40	.38	.38		.86	.73	.78	.27	.63	.55	.63
FTE	-.07	.15	.17	.30	.32	.17	.42	.37	.40	.79		.80	.87	.25	.65	.59	.60
FTI	-.01	.25	.18	.28	.33	.22	.45	.40	.40	.67	.78		.77	.31	.69	.71	.59
FTR	-.04	.18	.20	.30	.31	.24	.39	.36	.38	.70	.77	.68		.27	.60	.56	.54
FCD	.40	.45	.15	.20	.30	.16	.37	.46	.39	.15	.22	.28	.20		.55	.53	.42
FCE	.15	.39	.29	.45	.50	.30	.68	.59	.65	.55	.65	.68	.60	.39		.87	.88
FCI	.13	.36	.26	.43	.46	.32	.65	.59	.61	.53	.62	.73	.58	.38	.86		.77
FCU	.19	.33	.32	.47	.46	.24	.61	.53	.57	.55	.54	.53	.54	.30	.78	.64	

Upper triangular matrix for male students, N = 274, r > .19 significant at .001 level.
Lower triangular matrix for female students, N = 260, r > .19 significant at .001 level.

Correlation Matrices on the 17 Subscales of the Attitude/Motivation Battery for FD Male and Female Students

	FCA	FUA	INS	IO	AFC	AEF	ALF	MI	DLF	FTC	FTE	FTI	FTR	FCD	FCE	FCI	FCU
FCA		.32	.32	.20	.17	.18	.35	.38	.30	.19	.23	.21	.26	.22	.26	.27	.26
FUA	.39		.30	.47	.52	.38	.55	.63	.56	.30	.32	.41	.29	.50	.49	.54	.41
INS	.04	.24		.78	.65	.42	.63	.54	.55	.45	.50	.43	.43	.24	.61	.52	.66
IO	.14	.45	.57		.72	.56	.75	.68	.67	.34	.38	.39	.37	.28	.63	.57	.67
AFC	.23	.47	.44	.65		.72	.76	.72	.74	.44	.48	.48	.38	.43	.65	.63	.68
AEF	.15	.27	.30	.47	.67		.57	.63	.62	.40	.38	.40	.32	.36	.55	.52	.51
ALF	.31	.52	.46	.69	.72	.41		.86	.79	.48	.48	.49	.40	.41	.79	.71	.81
MI	.36	.46	.36	.52	.60	.40	.74		.85	.36	.37	.46	.30	.45	.73	.70	.70
DLF	.32	.49	.40	.66	.67	.44	.83	.82		.38	.39	.42	.33	.46	.75	.70	.68
FTC	-.04	.10	.38	.42	.45	.30	.46	.41	.42		.86	.80	.79	.18	.60	.57	.65
FTE	.01	.17	.28	.34	.43	.26	.49	.42	.47	.81		.85	.88	.23	.64	.60	.59
FTI	.02	.25	.35	.41	.49	.32	.51	.43	.49	.72	.81		.80	.30	.66	.68	.60
FTR	.07	.22	.34	.31	.37	.31	.43	.41	.43	.74	.78	.75		.26	.58	.56	.53
FCD	.47	.46	.13	.20	.30	.21	.43	.56	.40	.18	.32	.35	.32		.53	.60	.35
FCE	.19	.42	.40	.49	.54	.32	.68	.62	.68	.61	.76	.77	.70	.46		.87	.88
FCI	.18	.39	.35	.48	.55	.40	.67	.64	.68	.62	.72	.78	.65	.43	.88		.75
FCU	.24	.34	.37	.50	.49	.26	.64	.55	.57	.64	.70	.65	.67	.35	.82	.70	

Upper triangular matrix for FD male students, N = 103, r > .30 significant at .001 level.
Lower triangular matrix for FD female students, N = 125, r > .27 significant at .001 level.

Correlation Matrices on the 17 Subscales of the Attitude/Motivation Battery for FI Male and Female Students

	FCA	FUA	INS	IO	AFC	AEF	ALF	MI	DLF	FTC	FTE	FTI	FTR	FCD	FCE	FCI	FUA
FCA		.62	.16	.27	.07	.15	.45	.53	.52	.36	.30	.22	.29	.49	.36	.36	.39
FUA	.41		.28	.41	.29	.25	.58	.60	.65	.36	.36	.32	.41	.43	.48	.42	.48
INS	.05	.32		.77	.69	.52	.67	.56	.59	.36	.34	.30	.35	.37	.64	.47	.77
IO	.07	.30	.13		.70	.59	.76	.63	.68	.38	.32	.30	.40	.43	.60	.43	.76
AFC	.10	.31	.21	.64		.61	.54	.63	.68	.28	.31	.29	.36	.31	.49	.38	.63
AEF	.22	.10	.15	.26	.38		.52	.44	.50	.24	.22	.19	.32	.36	.36	.28	.46
ALF	.01	.42	.10	.51	.55	.35		.85	.90	.54	.52	.53	.55	.60	.83	.73	.86
MI	.09	.34	.16	.48	.46	.37	.67		.86	.54	.51	.56	.56	.57	.80	.74	.80
DLF	.17	.49	.10	.63	.43	.25	.76	.70		.46	.45	.49	.50	.60	.77	.69	.79
FTC	.05	.17	-.07	.41	.29	.12	.42	.47	.45		.85	.74	.79	.39	.66	.57	.60
FTE	-.10	.06	-.06	.35	.24	.05	.37	.35	.34	.83		.80	.90	.32	.70	.63	.58
FTI	.03	.26	.03	.16	.08	.17	.39	.28	.26	.63	.75		.77	.40	.70	.74	.53
FTR	-.37	-.04	-.06	.27	.20	-.02	.33	.25	.19	.63	.80	.59		.33	.67	.58	.58
FCD	.50	.46	.27	.36	.26	.10	.04	.28	.24	.18	.02	.02	-.14		.59	.61	.53
FCE	.11	.23	-.05	.26	.29	.14	.54	.31	.38	.41	.47	.61	.39	.04		.87	.89
FCI	.08	.24	.05	.27	.20	.16	.50	.32	.32	.30	.38	.67	.40	.04	.87		.73
FCU	.02	.20	-.01	.35	.27	.04	.35	.19	.34	.38	.47	.51	.32	.09	.75	.65	

Upper triangular matrix for FI male students, N = 75, $r > .34$ significant at .001 level.
Lower triangular matrix for FI female students, N = 52, $r > .41$ significant at .001 level.

MEANS AND STANDARD DEVIATIONS OF STUDENTS' RAW SCORES ON THE 17 SUBSCALES OF THE ATTITUDE/MOTIVATION BATTERY

Variables	Male (N = 274)		Female (N = 260)		Total (N = 534)	
	M	SD	M	SD	M	SD
FCA	20.135	6.657	20.796	7.069	20.457	6.862
FUA	29.095	10.068	30.927	9.818	29.987	9.980
INS	19.978	5.719	21.888	3.843	20.908	4.984
IO	19.547	5.956	21.838	4.787	20.663	5.533
AFC	42.646	12.807	47.369	10.203	44.946	11.840
AEF	40.909	9.129	42.061	7.089	41.470	8.212
ALF	40.982	16.608	50.669	13.769	45.698	16.028
MI	18.898	5.099	21.954	4.346	20.386	4.983
DLF	18.193	4.910	20.992	4.397	19.556	4.869
FTC	25.723	7.013	26.315	5.797	26.011	6.451
FTE	51.387	14.939	54.761	11.820	53.030	13.603
FTI	21.577	7.813	22.496	7.429	22.024	7.635
FTR	24.091	7.063	25.304	6.071	24.682	6.621
FCD	18.004	7.518	20.669	6.671	19.301	7.236
FCE	43.518	16.912	50.958	13.345	47.140	15.712
FCI	19.376	8.228	21.850	7.410	20.580	7.931
FCU	24.124	9.175	28.919	6.336	26.459	8.269

GROUP MEANS ON 20 DEPENDENT VARIABLES WITH STUDENT SEX, STUDENT FDI AND TEACHER FDI AS INDEPENDENT VARIABLES

Dependent Variables	Group							
	1	2	3	4	5	6	7	8
AFTA	-.42	-.10	.30	.07	.14	-.06	.03	.28
AFTB	-1.16	-.23	.75	.02	.74	.02	.42	.95
AMIA	-2.75	-2.33	3.15	1.98	1.38	-1.29	3.60	2.28
AMIB	-4.22	-3.20	4.40	2.52	2.15	-1.53	4.87	3.75
AFCOA	-.37	-.27	.36	.25	.10	-.14	0.21	.21
AFCOB	-1.11	-1.01	1.17	.83	.27	-.46	1.09	1.01
LSA	-.80	-.37	.66	.32	.24	-.20	.25	.48
LSB	-2.27	-1.23	1.91	.85	1.01	-.43	1.51	1.96
FCA	-.09	-.21	-.01	-.06	.46	.14	.53	.15
FUA	-.01	-.07	.17	.09	.04	.01	.68	-.02
CA	-.10	-.28	.16	.03	.50	.14	1.21	.13
INS	-.41	-.20	.29	.18	.12	-.15	.60	.15
IO	-.32	-.32	.36	.18	.21	-.20	.24	.46
AFC	-.36	-.22	.38	.18	-.01	-.11	.26	.25
AEF	-.04	.05	.15	.04	.23	-.15	.16	-.04
INT	-.73	-.48	.89	.40	.43	-.46	.66	.67
MI	-.23	-.40	.26	.43	.08	-.16	.27	.20
DLF	-.31	-.27	.32	.36	-.10	-.22	.31	.30
ALF	-.18	-.34	.56	.27	.11	-.26	.29	.35
MOT	-.72	-1.00	1.14	1.05	.09	-.63	.88	.85

Scores on underlined variables obtained by summing standard scores on respective component variables.

Refer to Table 6 on p. 63 for identification of groups.

RAW DATA ON STUDENT SAMPLE

ID	AGE	SEX	FDI	AFT	AFC	CA	INS	INT	MOT	AMI
1 30	13	1	0	142	135	46	19	124	100	566
1 21	14	1	0	102	100	53	21	125	90	491
1 8	14	1	0	114	118	70	22	117	89	530
1 25	15	1	1	106	101	59	23	87	106	482
1 1	14	1	2	110	109	43	16	101	87	466
1 16	12	1	4	81	89	43	25	128	107	473
1 4	12	1	5	125	147	56	23	101	111	563
1 15	14	1	7	123	112	63	23	116	87	524
1 12	13	1	9	145	160	75	24	114	123	641
1 3	13	1	12	106	97	82	21	113	60	479
1 9	13	1	13	168	156	57	26	161	121	689
1 11	13	1	14	101	114	43	17	125	72	472
1 10	14	1	15	123	123	59	26	114	107	552
1 26	13	1	15	135	116	54	25	131	83	544
1 29	13	1	15	152	163	82	21	123	108	649
1 23	14	1	18	94	89	49	16	91	75	414
1 18	13	2	1	159	146	54	28	122	110	619
1 24	14	2	4	114	140	58	19	114	105	550
1 2	13	2	5	115	122	54	21	113	103	528
1 14	13	2	5	116	100	40	21	93	47	417
1 20	13	2	6	142	150	87	22	146	116	663
1 27	12	2	6	153	141	65	17	102	95	573
1 31	13	2	7	145	126	38	23	107	92	531
1 17	14	2	9	156	125	45	22	129	101	578
1 13	13	2	9	123	144	47	25	125	97	561
1 7	13	2	10	131	123	42	21	91	92	500
1 19	13	2	12	155	121	47	19	112	95	549
1 22	13	2	14	72	82	87	28	126	90	485
1 6	13	2	14	113	134	67	21	117	96	548
1 5	12	2	15	160	133	42	27	110	108	580
1 28	13	2	15	85	84	38	19	60	57	343
2 1	14	1	1	30	37	29	21	80	40	237
2 11	13	1	3	175	175	79	22	143	118	712
2 10	14	1	8	73	116	65	27	107	71	459
2 19	14	1	8	154	100	60	18	100	65	497
2 13	13	1	9	157	169	83	27	140	114	690
2 17	14	1	11	125	165	71	28	159	119	667
2 21	13	1	11	111	104	38	22	97	64	436
2 18	14	1	12	112	70	45	23	111	66	427
2 16	13	1	14	119	112	66	28	120	96	541
2 3	13	1	14	79	143	60	26	98	98	504
2 14	12	1	15	152	111	29	27	102	67	488
2 8	12	1	16	140	134	82	28	142	106	632
2 20	13	1	18	170	151	69	16	121	123	650
2 4	13	2	3	111	130	77	24	128	85	555
2 6	13	2	4	59	80	37	19	88	54	337
2 2	14	2	5	150	130	53	21	122	104	580
2 22	13	2	5	100	99	41	22	93	78	433
2 12	13	2	6	83	104	66	16	109	94	472
2 9	14	2	7	163	136	72	21	112	85	589
2 15	13	2	7	106	117	58	23	112	101	517
2 7	13	2	11	67	100	45	22	106	83	423
2 23	14	2	11	131	152	41	21	144	117	606
2 5	14	2	13	175	170	86	28	141	120	720
3 12	14	1	1	175	169	60	22	129	101	656
3 24	13	1	3	136	80	40	24	109	66	455
3 1	14	1	3	131	105	60	24	119	95	534
3 7	13	1	4	163	167	67	25	131	112	665
3 11	13	1	4	157	146	64	22	137	111	637
3 21	13	1	5	157	162	67	23	127	116	652
3 17	14	1	6	104	78	59	14	114	94	463
3 13	13	1	8	163	154	55	22	90	86	570
3 6	13	1	8	112	105	49	23	100	65	454
3 4	12	1	8	118	146	57	25	118	98	562

ID	AGE	SEX	FDI	AFT	AFC	CA	INS	INT	MOT	AMI
3 20	13	1	9	164	120	49	26	121	90	570
3 16	14	1	10	139	87	32	27	115	74	474
3 18	13	1	11	132	107	47	24	108	80	498
3 2	13	1	11	167	157	71	22	137	103	657
3 19	13	1	16	136	38	56	6	69	37	342
3 8	14	1	17	129	108	42	22	88	68	457
3 15	13	2	1	133	81	51	22	123	83	493
3 14	13	2	3	152	140	52	20	119	110	593
3 22	14	2	4	138	111	44	28	123	96	540
3 25	12	2	4	168	168	75	26	130	115	682
3 5	12	2	5	166	162	49	18	113	112	620
3 3	13	2	6	135	116	57	22	125	122	577
3 10	13	2	6	165	140	58	25	116	105	609
3 23	14	2	8	135	115	52	20	104	98	524
3 9	13	2	9	170	124	57	23	96	86	556
4 11	14	1	0	108	109	41	4	69	55	386
4 15	14	1	1	25	25	16	8	63	32	169
4 21	15	1	3	110	79	52	16	69	51	377
4 18	14	1	3	91	85	33	25	101	68	403
4 6	13	1	4	111	163	90	22	145	130	661
4 9	14	1	5	142	76	41	17	94	60	430
4 23	13	1	5	105	61	62	13	45	47	333
4 8	14	1	7	100	107	66	7	66	91	437
4 13	15	1	7	113	93	38	22	61	64	391
4 3	13	1	8	93	108	29	20	89	47	386
4 2	13	1	8	116	75	23	9	70	38	331
4 20	13	1	8	156	148	36	21	129	96	586
4 12	13	1	9	141	163	43	27	125	107	606
4 28	13	1	10	134	122	55	26	117	74	528
4 26	13	1	14	147	155	45	26	101	102	576
4 4	13	1	15	139	109	55	24	119	88	534
4 24	13	2	1	147	148	65	23	110	99	592
4 17	15	2	3	165	99	35	18	110	61	488
4 10	13	2	5	115	139	73	21	107	98	553
4 27	13	2	5	123	130	55	21	110	106	545
4 22	13	2	6	136	157	65	23	143	121	645
4 1	13	2	8	124	99	55	19	92	75	464
4 19	13	2	9	99	74	46	21	110	79	429
4 7	13	2	9	123	101	46	19	85	53	427
4 6	13	2	10	147	135	56	20	117	108	583
4 14	13	2	11	144	143	57	23	114	101	582
4 25	14	2	11	115	96	60	10	66	56	403
4 16	13	2	16	105	117	47	26	104	69	468
5 5	13	1	3	145	132	70	27	134	99	607
5 1	13	1	4	125	150	48	25	118	113	579
5 13	14	1	4	163	158	66	28	129	117	661
5 11	13	1	11	119	135	31	23	89	57	454
5 8	12	1	11	130	139	50	23	115	106	563
5 6	14	1	15	123	82	69	23	108	74	479
5 12	13	1	17	91	110	63	22	121	102	509
5 16	13	1	17	103	111	56	21	101	88	480
5 3	13	1	17	158	160	48	22	117	101	606
5 4	14	2	3	121	145	53	18	112	100	549
5 7	13	2	4	117	144	69	25	111	103	569
5 2	13	2	5	61	49	29	24	103	70	336
5 10	13	2	6	118	139	56	26	111	104	554
5 9	13	2	7	96	68	20	26	88	55	353
5 14	13	2	13	114	125	72	23	101	104	539
6 24	14	1	1	159	137	71	20	103	110	600
6 20	13	1	3	130	119	46	22	101	107	525
6 13	13	1	6	172	149	87	19	138	124	689
6 7	14	1	6	162	140	39	27	129	119	616
6 6	13	1	8	129	91	30	19	89	45	403
6 9	13	1	9	129	129	53	20	115	107	553
6 17	13	1	9	145	79	43	18	106	65	456
6 14	13	1	10	153	142	64	19	128	116	622
6 21	14	1	10	151	120	37	16	95	93	512
6 31	13	1	11	162	141	64	23	124	113	627

ID	AGE	SEX	FDI	AFT	AFC	CA	INS	INT	MOT	AMI
6 28	13	1	12	164	153	57	21	131	114	640
6 30	13	1	13	119	120	61	14	95	89	498
6 22	13	1	14	155	84	55	11	49	53	407
6 19	13	1	16	161	88	31	22	136	67	505
6 15	13	2	0	154	143	52	22	128	126	625
6 26	13	2	1	146	140	47	26	126	117	602
6 10	13	2	3	118	116	42	25	118	93	512
6 4	14	2	3	135	126	52	15	115	119	562
6 23	14	2	4	144	72	22	18	62	38	356
6 27	14	2	4	112	132	78	28	119	116	585
6 5	13	2	5	160	171	54	26	131	117	659
6 2	14	2	6	138	129	57	25	122	110	581
6 1	13	2	6	139	123	52	22	116	96	548
6 8	14	2	7	143	146	35	23	144	107	598
6 16	13	2	7	146	159	85	23	125	116	654
6 3	13	2	8	159	151	20	17	118	99	564
6 25	13	2	12	136	143	57	20	128	111	595
6 29	13	2	13	132	138	65	24	122	104	585
6 12	13	2	13	155	139	57	26	131	104	612
6 11	13	2	13	147	133	63	19	127	104	593
6 18	13	2	17	83	79	52	24	103	63	404
7 24	13	1	0	121	70	48	13	93	51	396
7 2	14	1	2	104	102	33	26	126	111	502
7 13	14	1	4	139	114	42	18	84	58	455
7 27	14	1	7	117	96	17	14	111	85	440
7 17	13	1	14	114	86	40	22	102	79	443
7 25	13	1	15	152	151	55	26	124	111	619
7 19	13	1	16	149	147	56	23	124	110	609
7 16	12	1	17	166	153	88	25	123	118	673
7 10	14	1	17	158	136	64	12	91	93	554
7 8	14	2	0	109	108	22	19	106	115	479
7 18	14	2	1	143	155	84	26	136	118	662
7 20	14	2	1	118	101	34	28	117	98	496
7 11	14	2	3	79	34	25	10	81	39	268
7 14	14	2	3	147	139	44	15	100	107	552
7 22	13	2	4	143	155	69	28	163	128	686
7 21	13	2	4	122	117	50	16	72	81	458
7 4	12	2	4	161	144	49	25	160	122	661
7 6	13	2	5	137	127	64	23	94	85	530
7 15	13	2	5	173	151	38	21	165	114	662
7 23	13	2	6	153	161	56	21	115	118	624
7 9	13	2	6	114	99	21	25	52	51	362
7 3	14	2	6	141	140	63	25	115	108	592
7 1	13	2	6	164	146	46	26	125	102	609
7 5	14	2	8	139	119	32	27	121	102	540
7 12	13	2	8	141	160	56	17	98	121	593
7 7	13	2	10	137	138	56	20	115	102	568
7 26	13	2	16	170	167	85	23	121	123	689
8 11	15	1	0	91	111	54	16	94	71	437
8 27	14	1	1	153	132	62	17	109	95	568
8 21	14	1	1	109	104	42	23	76	65	419
8 18	15	1	1	102	98	57	18	101	70	446
8 28	14	1	2	119	54	36	14	80	38	341
8 23	14	1	4	154	99	31	23	110	57	474
8 17	14	1	5	92	67	34	20	96	60	369
8 6	15	1	5	82	57	48	12	88	56	343
8 24	16	1	7	106	81	62	18	105	59	431
8 25	14	1	11	156	93	34	19	124	73	499
8 19	14	1	13	58	25	45	4	44	30	206
8 15	13	1	13	154	142	61	28	131	109	625
8 7	14	1	14	112	120	54	22	98	88	494
8 3	14	1	14	119	61	22	24	116	47	389
8 8	13	1	16	111	54	36	18	89	45	353
8 5	14	1	16	108	99	40	24	100	72	443
8 1	14	2	2	136	131	67	24	118	104	580
8 12	14	2	2	146	113	59	28	123	102	571
8 29	14	2	2	161	98	27	26	107	79	498
8 4	15	2	3	131	143	80	23	152	122	651

APPENDIX 8

ID	AGE	SEX	FDI	AFT	AFC	CA	INS	INT	MOT	AMI
8 2	14	2	3	151	144	60	28	127	105	615
8 22	14	2	4	128	116	28	25	104	97	498
8 10	14	2	5	113	87	34	19	105	74	432
8 9	14	2	5	150	114	53	25	114	90	546
8 13	14	2	6	130	139	48	25	113	111	566
8 16	14	2	7	161	162	49	26	131	113	642
8 20	15	2	10	115	162	91	22	135	127	652
8 26	14	2	10	143	111	45	22	104	82	507
8 14	14	2	14	149	108	42	22	91	81	493
9 3	14	1	7	86	85	31	20	90	54	366
9 14	15	1	8	56	77	42	20	92	55	342
9 15	14	1	10	105	91	31	21	108	63	419
9 5	14	1	11	98	93	45	19	107	89	451
9 4	14	1	11	75	72	41	22	92	64	366
9 1	14	1	12	135	94	31	21	110	81	472
9 2	14	1	13	128	52	44	12	72	34	342
9 22	14	2	3	142	144	48	21	107	89	551
9 21	14	2	3	123	101	26	19	92	45	406
9 18	14	2	3	92	101	46	24	110	98	471
9 17	14	2	3	100	71	47	20	86	51	375
9 16	14	2	3	86	101	50	22	72	76	407
9 7	14	2	7	124	147	64	24	118	118	595
9 8	14	2	7	140	142	44	24	107	93	550
9 12	14	2	8	108	115	54	22	104	105	508
9 13	14	2	9	132	120	41	24	109	74	500
9 10	14	2	9	139	127	61	23	96	91	537
9 20	14	2	10	151	145	54	16	103	105	574
9 6	14	2	12	92	96	54	18	86	54	400
9 9	14	2	14	137	140	64	23	120	113	597
9 19	14	2	17	152	122	39	19	117	92	541
9 11	14	2	18	143	138	24	16	112	115	548
10 18	13	1	2	105	111	83	24	147	117	587
10 25	13	1	2	125	121	38	26	98	86	494
10 7	14	1	3	111	50	28	18	83	48	338
10 14	13	1	3	57	55	47	10	57	45	271
10 1	13	1	4	103	100	49	18	101	77	448
10 5	13	1	6	120	91	45	19	97	55	427
10 13	13	1	6	81	89	36	14	62	45	327
10 23	13	1	6	86	79	49	22	88	78	402
10 32	13	1	7	85	113	40	25	97	74	434
10 3	13	1	7	130	104	31	24	116	82	487
10 4	13	1	8	150	125	47	23	100	80	525
10 34	13	1	8	106	102	34	23	84	43	392
10 27	13	1	8	99	110	25	22	60	36	352
10 8	13	1	9	36	31	21	9	40	38	175
10 17	14	1	9	151	145	66	20	112	87	581
10 24	13	1	10	151	89	56	18	107	67	488
10 33	13	1	10	108	106	38	22	98	44	416
10 22	13	1	13	152	133	33	25	133	105	581
10 26	13	1	15	127	120	34	22	72	59	434
10 11	13	1	15	130	118	62	22	114	99	545
10 6	13	1	16	106	91	51	21	116	55	440
10 21	13	2	1	99	90	56	25	114	92	476
10 20	13	2	4	95	107	41	18	110	88	459
10 2	13	2	6	151	165	55	23	123	124	641
10 12	13	2	7	93	128	52	17	97	93	480
10 16	12	2	7	104	77	55	22	125	89	472
10 30	13	2	7	110	66	40	21	72	36	345
10 31	13	2	7	98	100	43	22	86	60	409
10 19	13	2	8	96	102	49	16	98	69	430
10 29	13	2	9	101	45	22	16	91	55	330
10 9	13	2	9	102	101	42	22	104	89	460
10 15	13	2	13	143	142	47	19	133	104	588
10 10	13	2	13	125	107	43	21	128	87	511
10 28	13	2	15	110	108	29	21	109	80	457
11 2	13	1	2	146	138	47	24	108	92	555
11 6	14	1	2	130	89	33	24	96	68	440
11 3	14	1	3	128	123	50	22	111	75	509

ID	AGE	SEX	FDI	AFT	AFC	CA	INS	INT	MOT	AMI
11 19	14	1	3	150	102	50	28	99	77	506
11 14	14	1	4	49	25	33	8	55	45	215
11 17	15	1	5	168	151	52	27	101	91	590
11 13	14	1	5	147	139	44	20	105	74	529
11 20	15	1	6	111	46	41	16	68	37	319
11 16	13	1	9	161	151	54	26	109	90	591
11 5	15	1	13	137	128	59	23	120	115	582
11 18	13	1	13	76	48	35	11	64	40	274
11 22	15	2	1	117	116	52	19	97	81	482
11 11	16	2	1	143	128	37	24	113	95	540
11 1	14	2	1	148	151	56	26	116	110	607
11 10	14	2	3	135	151	66	25	121	108	606
11 12	14	2	4	121	117	54	22	117	105	536
11 8	16	2	6	129	128	35	20	114	45	471
11 7	14	2	6	146	137	67	28	112	107	597
11 9	15	2	7	117	103	49	13	102	68	452
11 15	16	2	8	145	149	86	28	162	126	696
11 21	14	2	8	99	90	55	11	83	45	383
11 4	14	2	9	148	137	52	25	116	98	576
12 12	14	1	1	109	100	53	19	106	81	468
12 16	15	1	2	107	110	53	18	100	94	482
12 7	14	1	2	126	122	44	23	107	78	500
12 14	15	1	3	120	111	46	14	96	84	471
12 6	14	1	3	114	130	47	17	111	83	502
12 7	14	1	3	33	46	30	4	30	31	174
12 18	14	1	3	111	104	44	22	107	79	467
12 17	16	1	3	145	151	55	28	153	118	650
12 15	15	1	7	143	139	49	16	95	69	511
12 3	14	1	14	118	72	41	12	73	58	374
12 13	14	2	0	151	129	42	24	136	120	602
12 8	15	2	1	155	141	28	10	76	74	484
12 2	15	2	1	113	94	49	19	102	52	429
12 9	14	2	2	154	147	39	24	149	114	627
12 4	13	2	3	126	141	59	23	110	108	567
12 10	13	2	5	107	115	76	17	125	91	531
12 1	15	2	6	156	149	61	21	134	126	647
12 11	14	2	6	121	146	62	21	115	114	579
13 19	14	1	7	76	30	48	6	78	43	281
13 15	16	1	7	92	61	57	16	111	57	394
13 11	14	1	8	121	28	37	8	65	30	289
13 20	14	1	8	66	25	21	14	58	45	229
13 14	14	1	8	129	110	37	17	121	80	494
13 12	14	1	9	126	120	55	27	110	93	531
13 13	13	1	9	126	97	54	15	99	66	457
13 18	17	1	10	118	132	71	16	105	104	546
13 8	14	1	11	163	31	33	4	25	32	288
13 6	14	1	12	142	68	28	11	73	40	362
13 5	15	1	13	122	110	46	25	119	83	505
13 16	14	1	15	25	44	33	17	86	55	260
13 3	15	2	1	102	89	36	20	96	69	412
13 4	15	2	1	90	89	55	22	88	79	423
13 10	14	2	5	58	39	47	11	47	48	250
13 21	14	2	6	112	111	43	24	102	96	488
13 2	14	2	6	118	129	40	24	109	95	515
13 9	14	2	9	94	86	50	20	100	61	411
13 1	14	2	10	156	122	43	24	111	94	550
13 17	14	2	11	147	163	60	24	119	120	633
13 22	15	2	11	132	127	51	21	103	114	548
13 24	14	2	12	149	115	48	16	103	95	526
13 23	14	2	14	150	130	60	25	107	100	572
14 3	14	1	2	109	107	43	21	110	96	486
14 1	14	1	3	98	49	43	8	93	67	358
14 4	14	1	3	37	48	47	18	80	34	264
14 19	14	1	4	85	40	43	4	51	37	260
14 9	15	1	4	32	43	44	10	75	32	236
14 16	14	1	7	54	43	53	17	59	43	269
14 5	14	1	7	44	25	47	12	95	64	287
14 17	14	1	7	91	114	70	15	85	47	422

ID	AGE	SEX	FDI	AFT	AFC	CA	INS	INT	MOT	AMI
14 20	14	1	8	91	37	22	4	69	33	256
14 13	14	1	8	48	59	40	20	118	47	332
14 8	16	1	10	31	55	61	10	57	45	259
14 6	14	1	15	44	93	36	19	117	61	370
14 18	14	1	17	51	44	39	18	97	43	292
14 11	15	2	0	61	55	39	19	100	80	354
14 10	15	2	3	31	37	48	22	120	97	355
14 2	16	2	5	149	162	68	22	132	128	661
14 12	14	2	6	39	47	48	19	87	55	295
14 15	14	2	7	52	140	55	25	112	114	498
14 7	14	2	10	137	141	63	19	115	105	580
14 14	14	2	15	30	143	64	23	99	84	443
15 27	13	1	3	119	129	71	22	166	126	633
15 8	13	1	4	25	78	48	18	92	63	324
15 13	13	1	4	107	79	40	19	100	79	424
15 14	13	1	6	103	100	37	24	110	82	456
15 23	13	1	6	134	115	56	12	80	72	469
15 7	13	1	8	96	107	65	23	112	90	493
15 11	14	1	9	83	76	50	16	86	59	370
15 12	14	1	11	102	86	38	23	98	47	394
15 22	15	1	11	175	160	74	28	140	124	701
15 9	13	1	13	112	116	61	23	96	87	495
15 10	13	1	15	59	35	37	12	55	32	230
15 15	14	2	0	108	136	56	26	89	104	519
15 25		2	0	104	98	53	27	138	96	516
15 24		2	3	123	123	49	26	113	95	529
15 26	14	2	4	158	142	59	21	143	128	651
15 20	13	2	4	144	137	72	27	121	110	611
15 4	14	2	4	143	125	65	22	120	100	575
15 5	13	2	5	92	111	52	17	104	79	455
15 21	14	2	6	102	75	43	14	105	74	413
15 6	13	2	7	101	147	73	22	124	118	585
15 19	14	2	9	119	136	51	22	106	117	551
15 17	13	2	9	146	149	71	23	117	118	624
15 2	13	2	10	99	110	63	22	118	90	502
15 3	13	2	13	132	101	44	21	91	78	467
15 16	13	2	13	101	104	56	19	110	100	490
15 1	13	2	14	138	113	47	23	95	68	484
15 18	13	2	15	117	97	31	26	100	71	442
16 14	14	1	5	129	70	26	19	100	50	394
16 26	16	1	7	117	81	46	18	76	56	394
16 21	14	1	7	173	145	28	20	137	106	609
16 11	14	1	7	124	100	38	19	137	84	502
16 2	14	1	8	152	104	23	28	143	80	530
16 12	14	1	8	101	61	88	28	137	121	536
16 16	14	1	8	111	77	27	25	122	64	426
16 9	14	1	9	116	112	61	21	98	78	486
16 1	14	1	9	113	99	35	19	97	69	432
16 27	14	1	10	160	142	49	20	122	101	594
16 8	14	1	11	89	57	29	24	100	72	371
16 24	14	1	14	137	149	44	23	112	80	545
16 15	14	1	14	153	121	43	17	110	102	546
16 25	14	1	15	166	164	68	20	90	99	607
16 20	14	1	16	138	112	39	26	110	80	505
16 23	14	1	16	155	148	50	20	124	115	612
16 22	14	1	16	163	151	63	19	82	73	551
16 13	14	1	17	127	104	53	24	107	81	496
16 10	14	1	17	141	92	19	16	109	63	440
16 4	14	2	7	91	87	50	28	126	103	485
16 6	14	2	8	103	105	22	26	140	99	495
16 28	14	2	13	145	140	51	26	127	106	595
16 7	14	2	13	142	146	47	27	98	102	562
16 5	14	2	13	116	133	62	19	121	111	562
16 3	14	2	13	146	129	47	19	113	83	537
16 30	14	2	13	117	118	48	20	116	106	525
16 17	15	2	13	153	157	82	25	135	109	661
16 19	14	2	13	143	77	67	20	112	108	527
16 18	14	2	14	163	113	46	17	100	89	528

ID	AGE	SEX	FDI	AFT	AFC	CA	INS	INT	MOT	AMI
16 29	14	2	14	135	139	45	19	108	72	518
16 31	14	2	18	144	114	36	22	130	101	547
17 13	13	1	2	99	79	47	22	110	52	409
17 31	13	1	10	106	56	70	15	97	65	409
17 14	13	1	11	106	100	37	27	103	88	461
17 15	13	1	13	163	157	70	26	133	116	665
17 12	13	1	14	158	108	38	22	126	76	528
17 22	14	1	14	51	64	28	13	96	52	304
17 23	13	1	14	76	79	53	21	112	70	411
17 11	13	1	15	92	79	68	19	137	97	492
17 21	13	1	17	132	109	43	23	133	90	530
17 32	13	1	17	117	111	57	27	109	86	507
17 27	13	2	4	76	83	43	23	102	78	405
17 8	13	2	5	64	44	47	11	89	37	292
17 3	13	2	6	89	110	51	25	114	78	467
17 6	12	2	8	112	91	43	20	96	73	435
17 24	13	2	8	97	109	65	23	96	72	462
17 29	13	2	9	135	128	65	20	122	103	573
17 26	13	2	9	85	87	50	27	116	94	459
17 2	13	2	10	84	85	47	17	96	68	397
17 28	13	2	11	127	116	57	23	122	87	532
17 16	13	2	12	91	84	44	25	106	70	420
17 17	13	2	12	107	86	38	19	104	71	425
17 1	13	2	12	95	124	67	27	112	78	503
17 30	13	2	13	138	136	55	20	128	103	580
17 5	13	2	13	127	124	54	20	123	106	554
17 7	13	2	13	110	122	62	22	91	70	477
17 9	13	2	14	140	113	50	15	103	91	512
17 18	13	2	14	115	88	64	23	110	73	473
17 19	13	2	17	119	121	46	23	139	81	529
17 20	13	2	17	145	134	57	23	130	106	595
17 10	13	2	17	116	81	46	26	109	89	467
17 4	12	2	17	133	91	29	25	127	101	506
17 25	13	2	17	148	131	53	21	115	92	560
18 17		1	1	98	37	49	4	90	36	314
18 3	14	1	4	166	165	74	25	150	125	705
18 6	14	1	5	147	120	50	21	93	76	507
18 4	14	1	6	168	31	48	20	68	40	375
18 1		1	8	133	113	25	22	123	90	506
18 16	15	1	9	127	85	52	16	80	77	437
18 5		1	13	134	100	39	21	95	63	452
18 8	14	2	1	168	162	59	27	162	119	697
18 14	14	2	4	166	146	27	25	117	76	557
18 2	15	2	4	149	171	72	15	144	117	668
18 10	15	2	5	169	143	43	24	74	102	555
18 11		2	6	85	43	47	14	81	74	344
18 7	14	2	6	159	163	47	21	88	101	579
18 12	14	2	7	170	165	51	24	112	108	630
18 15	14	2	7	166	138	40	22	106	111	583
18 13	14	2	7	130	150	55	26	108	110	579
18 9		2	15	125	102	56	25	111	109	528
19 9	14	1	3	96	37	45	7	57	38	280
19 22	15	1	4	175	37	42	13	81	32	380
19 4	15	1	6	157	126	31	18	97	60	489
19 15	15	1	6	165	81	60	18	88	57	469
19 27	14	1	6	144	121	30	24	102	82	503
19 20	15	1	7	136	60	46	14	76	54	386
19 12	14	1	11	64	25	32	4	30	30	185
19 24	14	1	14	128	121	58	22	109	85	523
19 23	14	1	14	164	136	51	23	108	90	572
19 5	14	1	14	121	25	58	4	45	33	286
19 6	13	1	15	169	168	77	28	122	104	668
19 26	14	1	17	170	159	72	28	123	116	668
19 25	15	2	2	143	151	60	19	122	116	611
19 17	15	2	2	152	97	28	21	101	66	465
19 11	14	2	2	162	131	41	28	123	105	590
19 14	14	2	3	151	139	14	26	122	95	547
19 18	15	2	3	139	123	32	20	95	68	477

ID	AGE	SEX	FDI	AFT	AFC	CA	INS	INT	MOT	AMI
19 2	15	2	4	163	165	69	26	122	114	659
19 16	14	2	5	157	160	67	27	132	115	658
19 10	14	2	7	152	110	43	18	87	63	473
19 13	14	2	9	119	103	42	23	95	76	458
19 3	14	2	10	131	124	44	18	88	94	499
19 1	14	2	10	122	67	47	12	66	46	360
19 21	14	2	15	125	106	40	21	109	84	485
19 7	14	2	15	154	119	61	18	81	89	522
19 8	14	2	17	149	137	52	21	95	57	511
19 19	14	2	17	174	148	48	23	94	87	574
20 2	14	1	0	144	130	48	25	134	84	565
20 13	13	1	3	129	98	57	23	86	66	459
20 12	13	1	3	145	87	59	24	80	65	460
20 8	14	1	3	146	144	53	22	126	107	598
20 6	13	1	3	147	115	53	17	96	81	509
20 1		1	5	174	97	50	24	118	88	551
20 22	14	1	5	145	175	58	26	141	116	661
20 23	13	1	7	132	140	45	19	121	111	568
20 19	13	1	7	168	136	68	25	114	89	600
20 18		1	9	111	113	66	24	111	95	520
20 5	14	1	9	152	116	57	28	119	86	558
20 20	13	1	12	150	141	41	23	93	85	533
20 15	13	1	13	133	115	41	13	54	56	412
20 9	13	1	15	154	151	81	23	123	112	644
20 4	13	2	7	131	100	30	22	92	60	435
20 16	14	2	7	139	124	37	28	136	85	549
20 17	14	2	7	109	117	67	26	138	104	561
20 7	13	2	8	168	158	79	24	136	116	681
20 21	13	2	8	160	133	61	22	131	112	619
20 3	13	2	8	144	120	38	24	108	97	531
20 14	13	2	10	169	145	60	19	97	99	589
20 11	14	2	15	167	161	47	26	118	125	644
20 10	13	2	15	175	175	79	21	124	101	675
21 3	13	1	1	162	151	39	23	111	53	539
21 25	14	1	1	146	111	29	17	123	74	500
21 6		1	1	67	39	26	25	132	60	349
21 8	13	1	3	91	101	46	16	103	87	444
21 13	14	1	3	158	158	45	21	113	102	597
21 18	13	1	4	149	108	46	23	107	75	508
21 14	13	1	4	126	126	44	23	101	72	492
21 22	14	1	5	163	130	49	27	123	103	595
21 7	14	1	6	132	100	45	25	97	81	480
21 5	14	1	6	145	151	57	27	112	109	601
21 12	13	1	7	147	124	53	22	107	79	532
21 11	13	1	10	168	108	53	23	95	81	528
21 15	13	1	11	175	139	57	22	110	106	609
21 17	13	1	13	151	131	53	24	119	100	578
21 16	14	1	13	140	144	52	22	108	91	557
21 28	13	1	15	156	143	81	23	137	106	646
21 29	13	1	16	148	132	60	24	107	92	563
21 26	13	1	17	161	134	65	19	89	100	568
21 10	13	2	0	156	161	49	20	105	122	613
21 21	14	2	0	97	126	66	11	61	78	439
21 2	13	2	0	116	99	46	20	97	55	433
21 27		2	1	126	133	50	26	120	109	564
21 20	14	2	2	154	151	48	20	105	96	574
21 24	13	2	3	145	117	48	19	100	73	502
21 1	13	2	3	150	163	71	22	122	124	652
21 9	13	2	3	158	138	61	27	118	107	609
21 23	13	2	4	162	157	63	23	139	123	667
21 4	13	2	6	161	138	56	28	105	107	595
21 19	13	2	8	169	169	45	24	114	108	629

LETTER TO DR R. C. GARDNER

Psychopedagogy Concentration
Faculty of Education
University of Ottawa
1245 Kilborn Avenue
Ottawa K1H 6K9
11 October 1977

Dear Dr Gardner,

I take the liberty of writing to you on the advice of Dr Andre Cote, my thesis supervisor.

A PhD candidate, I am now attempting to examine the relationship between teacher-student cognitive style match-mismatch and student integrative motive in second language learning. I should therefore be most grateful for any advice and help you and/or your colleagues might care to accord me, especially in the area of student integrative motive. Would you be so kind as to grant me an opportunity to consult you in person at some future date? In the meantime, I would much appreciate it if you would be kind enough to send me a copy each of your instruments which measure student integrative motive (both the English Gardner and Smythe 1974 battery and the French Clement, Gardner and Smythe 1975 battery) and of your research bulletins relevant to my proposed study.

Thanking you in advance,

Yours very respectfully,

Hon-wing Lee

Dr R.C. Gardner
Department of Psychology
University of Western Ontario
London
Ontario

The University of Western Ontario, London, Canada

Department of Psychology
Language Research Group

R.C. Gardner and P.C. Smythe
[redacted]
Social Science Centre

October 20, 1977.

Mr. Hon-wing Lee,
Psychopedagogy Concentration,
Faculty of Education,
University of Ottawa,
1245 Kilborn Avenue,
OTTAWA, Ontario,
K1H 6K9.

Dear Mr. Lee:

I have enclosed copies of some of our test batteries, and some relevant research papers. Of course, I would be willing to meet with you at some future date, but I would suggest that you telephone me to establish a time convenient to both of us. A visit here may be unnecessary, however. Dr. Richard Clément who worked with me for five years is now in the Faculty of Psychology at the University of Ottawa. His office is at 554 King Edward, and I am sure that he could tell you everything I can. Also, I am sure you will find him very friendly and helpful.

Yours sincerely,

R. C. Gardner, Ph.D.,
Professor.

RCG:vr
Enclosures

LETTER TO DR HERMAN A. WITKIN

Psychopedagogy Concentration
Faculty of Education
University of Ottawa
1245 Kilborn Avenue
Ottawa K1H 6K9
Canada
2 December 1977

Dear Dr Witkin,

I take the liberty of writing to seek your kind advice and help in connection with my thesis research. A PhD candidate at the University of Ottawa, I am now attempting to examine the relationship between Teacher-Student Field-Dependent-Independent Cognitive-Style Match-Mismatch and Student Integrative Motive in Second-Language Learning.

In my review of the literature on field-dependence-independence, I shall have to rely very heavily on your esteemed publications, especially the more recent ones. Would you please, therefore, be so kind as to i) grant me your specific permission to cite your Field Dependence Revisited (ETS RB-76-39) as a reference, and ii) send me a copy of your The Role of Cognitive Style in Teacher Behavior, Student Learning and Teacher-Student Interaction (quoted as Note 16 in your Field Dependence and Interpersonal Behavior in Psychological Bulletin, Vol. 84, No. 4, July 1977, p. 661-689)?

As my faculty research seminar has been scheduled for early January, I should be most grateful for an early reply. Any further advice you care to accord me will also be deeply appreciated.

Thanking you most sincerely in advance,

Yours very respectfully,

Hon-wing Lee

Dr Herman A Witkin
Division of Psychological Studies
Educational Testing Service
Princeton New Jersey 08540
USA

LETTER TO PROFESSOR R.C. GARDNER PhD

Psychopedagogy Concentration
Faculty of Education
University of Ottawa
1245 Kilborn Avenue
Ottawa K1H 6K9
8 February 1978

Dear Professor Gardner,

Further to my letter of 18 November 1977, I am happy to be able to inform you that my thesis proposal has been accepted by the Faculty of Education here. As expected, Dr Clément accorded me valuable help both before and at my faculty research seminar.

At present I am making preparations and arrangements to collect the necessary data. In this connection, may I have your kind permission to reproduce and use your National Test Battery (the yellow pamphlet you have kindly sent me) to measure student integrative motive? If so, would you please be so kind as to advise me at your early convenience so that I may proceed with the reproduction of the battery.

Yours very respectfully,

Hon-wing Lee

Professor R.C. Gardner PhD
Language Research Group
Department of Psychology
University of Western Ontario
London Ontario N6A 5C2

The University of Western Ontario, London 72, Canada

Faculty of Social Science
Department of Psychology

February 14, 1978.

Mr. Hon-wing Lee,
Faculty of Education,
Psychopedagogy Concentration,
University of Ottawa,
1245 Kilborn Avenue,
OTTAWA, Ontario,
K1H 6K9.

Dear Mr. Lee:

We were pleased to receive your letter of February 8 and of course you may reproduce our National Test Battery. We would appreciate a copy of your results.

Yours sincerely,

R. C. Gardner

R. C. Gardner, Ph.D., per V R
Professor.

RCG:vr

APPENDIX 14

ABSTRACT OF

Student Integrative Motive in Second-Language Learning and Student-Teacher Match-Mismatch in Field-Dependence-Independence[1]

The current investigation was conducted with a view to exploring possible relationships between student integrative motive in second-language learning and student-teacher match-mismatch in field-dependence-independence (FDI). It was hypothesized that student integrative motive would be higher (1) when students and teachers were matched in FDI than when they were mismatched; (2) when FD students and teachers were matched than when FI students and teachers were matched; and (3) when FD students were mismatched with FI teachers than when FI students were mismatched with FD teachers.

The sample included nine teachers (five males and four females) and 534 seventh-graders (274 boys and 260 girls) from eastern Ontario.

The degree of FDI of both the teachers and the students was assessed by means of the Group

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1 Hon-wing Lee, doctoral dissertation presented to the School of Graduate Studies of the University of Ottawa, Canada, March 1979.

Embedded-Figures Test (GEFT) developed by Oltman, Raskin and Witkin (1971) while the Attitude/Motivation Battery elaborated by Gardner and Smythe (1975) was used to measure student integrative motive.

Orthogonal contrasts were performed to test the hypotheses in their null form. As well, an analysis of variance (ANOVA) was done on each of the 17 subscales of the Attitude/Motivation Battery. The level of probability of type I error was set at .05.

The results failed to support the hypotheses, largely because student-teacher match-mismatch in FDI did not seem to result in the expected kind of student-teacher interpersonal relationship found in previous research. Several uncontrollable circumstantial factors were suggested which might have confounded the results at the time the data were collected. Among these were the possible difference in people's modes of operation between first- and second-language situations, the small size of the teacher sample, the political scene in Quebec and the repercussion of the bilingualism policy.

A number of significant main effects emerged. Student integrative motive was higher with the girls than with the boys. The FI students displayed lower anxiety level in the French classroom and higher

integrative orientation towards the learning of French than did their FD counterparts. The students exhibited more favourable attitudes towards learning French with the FD than with the FI teachers.

Significant results on attitudes towards the French teacher were also observed when student sex, student FDI and teacher FDI interacted. In this case, the most favourable attitudes were shown by the FD girls matched with the FD teachers, followed by the FI girls matched with the FI teachers, the FI boys mismatched with the FD teachers, the FD girls mismatched with the FI teachers, the FI girls mismatched with the FD teachers, the FI boys matched with the FI teachers, the FD boys mismatched with the FI teachers, and the FD boys matched with the FD teachers.