The convergence of multiple models of motivation for second language learning: Gardner, Pintrich, Kuhl, and McCroskey

Authors' note

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Abstract

Gardner's socio-educational model of second language acquisition, which revolves around the integrative motive, has generated a great deal of research support. Recently, critics have challenged that the model excludes a number of variables identified as potentially relevant to second language learning. The present study empirically tests for the overlap among 10 concepts from Gardner's model, six concepts from an academic motivation model offered by Pintrich and associates, three concepts from an action control model proposed by Kuhl and associates, and three communication-related variables employed by McCroskey and associates. Factor analysis reveals a three-factor solution which accounts for 55% of the variance in the 22 scales employed. This high degree of empirically demonstrable similarity among concepts from four separate research paradigms indicates the breadth of the Gardner model and the value of testing empirically the theoretical distinctions among specific motivation constructs.

Introduction

In 1959, Gardner and Lambert highlighted the importance of two variables in language learning: aptitude and motivation. This has produced a research agenda that has been followed for decades. Over 40 years later, Clément and Gardner (in press) note that while research activity in the study of aptitude has lagged in recent years, research into the role and process of motivation for second language learning...
is still vibrant. Motivation represents one of the most appealing, yet complex, variables used to explain individual differences in language learning.

The present study attempts to demonstrate links among four theoretical frameworks and their corresponding sets of variables that approach the topic of motivation from different directions. The first framework is Gardner's (1985) socio-educational (S-E) model, which proposes that motivation is based in large part on inter-group attitudes and an attraction to the target language and culture. The second set of variables, offered by Pintrich and associates (Pintrich, Smith, Garcia, & McKeachie, 1991), is focused primarily on variables taken from the broad social-learning literature on motivation (such as self-efficacy, task value, and intrinsic goal orientation) as applied to academic learning contexts. The third model emerges from psycho-physiological studies of motivation by Kuhl (1994a) who proposed a theory of action-control, which highlights the role of three interrelated processes: preoccupation with failure, hesitation in taking action after a decision has been made, and volatility or instability in performing enjoyable activities. The fourth collection of variables, studied by McCroskey and associates (McCroskey & Richmond, 1991), comes from the literature on native language communication. Variables such as willingness to communicate, communication apprehension, and communication competence are making their way into the second language literature. Each of these perspectives will be discussed, followed by a theoretical analysis of the links among them.

GARDNER'S SOCIO-EDUCATIONAL MODEL

Perhaps the most significant development in the study of language learning motivation was Gardner's S-E model. Dörnyei (1994) has commented on this model:

I believe that the most important milestone in the history of L2 motivation research has been Gardner and Lambert's discovery that success is a function of the learner's attitude toward the linguistic-cultural community of the target language, thus adding a social dimension to the study of motivation to learn an L2... By combining motivation theory with social psychological theory, the model of L2 motivation that Gardner and Lambert developed was much more elaborate and advanced than many contemporary mainstream psychological models of motivation in that it was empirically testable and did indeed explain a considerable amount of variance in student motivation and achievement. (p. 519)

Gardner's model incorporates four basic sets of variables (Gardner & MacIntyre, 1993). The first is the socio-cultural milieu and the beliefs associated with the intergroup relations that exist between language communities. The second set of variables is based on individual differences among learners that lie at the heart of Gardner's theory and research. Integrative motivation is the centerpiece of the individual differences studied by Gardner and associates over the years. Acquisition contexts represent the third set of variables in the model and can be grouped into two broad classes, formal learning contexts and informal ones. Finally, language
learning outcomes, both linguistic and non-linguistic, feed back into the rest of the model making it dynamic and its elements modifiable over the course of the language learning experience.

Motivation has been studied as an individual difference variable, but other variables have been implicated as well. The first group falls under the heading of affect and includes variables such as attitudes and motivation (Gardner, 1985), anxiety (Horwitz, Horwitz, & Cope, 1986) and self-confidence (Clément, 1980; Gardner, Tremblay, & Masgoret, 1997). The second group refers to ability and includes language aptitude (Carroll & Sapon, 1959), intelligence (Spolsky, 1989), and field independence (Chapelle & Greene, 1992). The final group is called individual actions and is concerned with language learning strategies (Oxford, 1990). According to Gardner (1996), when an individual has the opportunity to learn an L2, these variables will impact how much and how quickly he/she will learn. Obviously, motivation will be one of the most important factors during the learning process.

Gardner (1996) describes two distinct perspectives one might take on motivation. The first is motivation as a characteristic of the individual or an internal attribute. The second is motivation as an external attribute, meaning that motivation can be created by some external force or reward. A hybrid perspective, and one that the majority of researchers appear to endorse, is that motivation can be an internal attribute that is the result of an external force (Gardner, 1996). Gardner (1996), however, argues that motivation must be a characteristic of the individual and that it cannot be created, out of nothing, by an external force. An external force can arouse motivation, as when a teacher attempts to motivate a student. The potential to be motivated must already exist and be a property of the student in order for a particular pedagogical technique to be effective. As Gardner (1996) simply states, "you can't motivate a rock" (p. 25).

In the socio-educational model, motivation has most frequently been characterised as an Integrative Motive, which is comprised of integrativeness, attitudes toward the learning situation, and motivation (Gardner, 1985). Integrativeness refers to an individual's desire to interact with the L2 group and is measured by three scales: integrative orientation, attitudes toward the target language group, and interest in foreign languages in general. Attitudes toward the learning situation deal with the individual's evaluation of the course and the teacher. Finally, motivation assesses three components related to the L2: the individual's attitude toward learning, desire to learn, and the effort invested, which is referred to as motivational intensity. Thus, Gardner's concept of motivation provides for behavioural, cognitive, and affective components.

A widely misunderstood feature of the Gardner model is the distinction between orientations and motivation; motivation is not synonymous with orientations. On one hand, orientations are clusters of reasons for studying an L2. On the other hand, motivation is an attribute of the individual describing the psychological qualities underlying behavior with respect to a particular task. Motivation is clearly defined...
in Gardner's (1985) socio-educational model as the interplay among desire to achieve a goal, effort expended, and the pleasure associated with a task. Gardner (1996) asserts that all three components must be present for an individual to be motivated. Furthermore, it is possible to recognize the value of a language and to be oriented toward that language, but without activating effort and positive affect, the individual would be oriented but not motivated to learn the L2.

Positive affect also tends to indicate a lack of anxiety about the second language, though the role of anxiety in Gardner's model is not as explicit as the role of motivation. Gardner (1985) found that anxiety was situation-specific and was negatively related to L2 achievement. Research has shown that anxiety is also negatively related to attitudes and motivation (Gardner, Lalonde, & Moorcroft, 1985; Gardner, Day, & MacIntyre, 1992). There has been some question about whether anxiety should be seen as a cause of differences in proficiency or as a product of them (Young, 1986). MacIntyre and Gardner (1994) found experimental evidence that anxiety can lead to decrements in language learning, but Gardner, Tremblay, and Masgoret (1997) found support for a model in which self-confidence was a product of higher L2 proficiency. In Clément's (1980-1986) model, self-confidence is essentially the feeling of proficiency in the L2 and is characterized by low levels of anxiety. Clément argues that self-confidence can be a secondary motivational process running in parallel to the sort of inter-group processes discussed by Gardner (1985).

Although there were bothersome issues, such as the role played by anxiety, as well as published criticisms (Au, 1988; Oller, 1981), Gardner's theory went virtually unchallenged until the mid-1990s. At that time, critics argued that motivation should be studied from different perspectives (see Dörnyei, 1990, 1994; Oxford & Shearin, 1994; Crookes & Schmidt, 1991). These authors claim that Gardner's theory put too much emphasis on the integrative and instrumental distinction and tended to ignore a list of variables from the broad psychological literature on motivation, including extrinsic rewards, self-efficacy, expectancy, attributions, locus of control, and so on. Gardner and Tremblay (1994) responded that the socio-educational model makes a distinction between instrumental and integrative orientations and not motivations. Instrumental motivation is actually discussed in very little detail and, whereas integrative motivation is a key concept in the model, it is not the foremost concept of Gardner's theory.

The critics have argued that an expansion of the socio-educational model seems to be necessary. However, caution must be exercised when proposing new motivational variables and frameworks. At a minimum, such variables should tap into processes not already covered in the socio-educational model. The socio-educational model has been shown to account for a significant amount of variance in language proficiency (Dörnyei, 1998; Gardner & MacIntyre, 1993). To suggest "new research directions" that cover the same conceptual ground would seem to be a wasteful exercise. Therefore, the purpose of the present study is to examine the level of empirical similarity between the variables represented by (1) Gardner socio-

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educational model, (2) Pintrich's MSLQ, (3) Kuhl's ASC-90, and (4) McCroskey's communication variables, using factor analysis.

PINTRICH'S PERSPECTIVE ON ACADEMIC MOTIVATION

The model offered by Pintrich and associates (Pintrich et al., 1991) examines general academic motivation from an expectancy-value perspective. Pintrich, Marx, & Boyle (1993) argue that the process of learning involves both the assimilation of new information, which is a relatively effortless process, and the more difficult process of changing the structure of internalized knowledge, called accommodation. Accommodation places heavy demands on the cognitive system requiring a great deal of effort. For this reason, the process of accommodation is seen as depending on student motivation to a large extent. If we consider language learning, especially at the early stages, a great deal of accommodation is necessary to acquire everything from grammar structure and syntax to cultural norms and idioms. For this reason, the types of motivational variables discussed by Pintrich are likely to apply to the language learning environment. The instrument developed by Pintrich et al., the Motivated Strategies for Learning Questionnaire (MSLQ) has two sections: the motivation subsection and the learning strategy subsection. Only the motivation subsection was used in the present study, in part, because strategies are viewed as an outcome of motivational patterns.

Expectancy-value theories have a long history in psychology (Reeve, 1992). In essence, expectancy refers to the anticipated outcomes of behavior and value refers to the desirability of those outcomes (Tolman, 1959). Six components of the MSLQ were used in the present investigation:

- **Value Component: Intrinsic Goal Orientation.** A student's goal orientation involves the perception of the reasons behind learning something new. An orientation is intrinsic if the reasons for taking the course include such things as challenge, curiosity, and developing expertise. Other researchers have referred to this as a mastery orientation (see Dörnyei, 1998) focused on developing competence in a task for its own sake, rather than for external rewards. Such an orientation would be manifested in a language course particularly in terms of communicative and possibly cultural goals, although these are not mentioned explicitly in the MSLQ items themselves.

- **Value Component: Extrinsic Goal Orientation.** This is often presented as "the opposite of" intrinsic reasons on taking a course. Extrinsic goals include good grades, higher pay, and comparing one's performance to that of others. There is no conceptual reason to consider intrinsic and extrinsic goals as mutually exclusive. Indeed, a student might have both intrinsic and extrinsic goals, just one of them, or neither. The extent to which these orientations correlate will be examined in the present data set.

- **Value Component: Task Value.** Task value represents the perception of how interesting, useful, and important the course is. It measures the extent to
which the course is seen as valuable within the student's frame of reference. This differs from goal orientations, which refer to the reasons why a task is undertaken, not the importance of the task.

- **Expectancy Component: Control of Learning Beliefs.** This component refers to how much the student expects to be able to control the outcomes of the course. If outcomes are contingent upon their own behavior, students will have a high perception of control over learning and should study more effectively. Students with low perceived control over learning would believe that they would not have positive outcomes, no matter how much effort is put into learning.

- **Expectancy Component: Self-Efficacy for Learning and Performance.** This subscale is made up of two parts: the expectancy for success and self-efficacy. Expectancy for success is the amount of performance the person anticipates will arise from his/her behavior. Self-efficacy is the judgment made about one's ability to complete the course and master the material. Overall, the items in the scale reflect a perception of competence.

- **Affective Component: Test Anxiety.** The affective component in Pintrich et al.'s (1991) model is test anxiety. A great deal of research has been conducted into the origins and effects of test anxiety in general (see Sarason, 1986) and some work has been done in the language area as well (Horwitz et al., 1986; MacIntyre & Gardner, 1991). It is a fairly safe conclusion that academic performance is negatively correlated with anxiety. Anxiety has long been viewed as having two components (Leibert & Morris, 1967), a cognitive component (worry/negative thoughts) and an emotional component (affective/physiological arousal).

**Kuhl's Action Control Model**

Kuhl (1994a) takes a different approach to the study of motivation. Kuhl's model focuses on a theory of action versus state orientation. It assesses the individual differences in the ability to initiate and maintain levels of behaviour versus a tendency toward hesitation and rumination. His measurement instrument, the action control scale (ACS-90), was an attempt to integrate the various state and action concepts into one coherent model. He postulated that if the motivation level was high enough, then there would be a tendency towards an action orientation. If motivation were low or moderate, then individual differences in action control would determine the level of action. On one hand, action oriented people tend to be active rather than passive, and unwilling or unable to sit back and do nothing. Those with a state orientation, on the other hand, are more likely to let things happen without intervention. State oriented people tend to contemplate past and present feelings rather than taking action to change their affective state.

Developed primarily to assess individual differences in personality affecting the ability to maintain arousal to start or complete a task, the ACS-90 scale (Kuhl, 1994b) can be extended to include the motivation necessary to learn a second
language. Similar to the other scales used in the present study, the ACS-90 is a self-report measure. The items themselves present concrete situations where the respondent is forced to choose between an action alternative and a state alternative: for example, “When I know I must finish something soon...” The choices are (a) “I have to push myself to get started” or (b) “I find it easy to get it done and over with.” Kuhl (1994b) argues that forced choice is preferable to Likert response scales because the “phenomenal concomitants of action/state orientation in a concrete situation may be easily retrievable from explicit (episodic) memory (c.f. Schacter, 1987), where information concerning the globality of the underlying trait may be represented on an implicit level only” (p. 48).

Kuhl uses the term action control to encompass all of the processes mediating intentions. State orientation is the inability to initiate an intended behavior because of a preoccupation or hesitation. These two key concepts are represented as subscales in Kuhl’s model, along with a volatility scale that represents an excessively energetic action control system. The following three scales make up the ACS-90:

- **Action Orientation Subsequent to Failure versus Preoccupation (AOF).** This scale measures the extent to which intrusive and enduring thoughts cause a person to fail to initiate or change a behavior. The focus on explicit references to past or future state reduces the individual’s availability to engage in other necessary cognitive activities, which are needed to solve a given problem, such as when learning a language. The failure component involves unpleasant feelings associated with not being able to complete the tasks. The failure component occupies half of the AOF questions, but the AOF is not confined to achievement situations. Therefore, Kuhl claims that the preoccupation component is different from, and therefore should not correlate with, the worry component of test anxiety, which is confined to achievement related settings (e.g., the Pintrich Test Anxiety Scale). For example, a student who incorrectly answers a question might be so embarrassed and unable to “get over it” that he will not volunteer an answer again even if he is certain of the answer. Another student in the same situation, given the same reaction from her classmates, might have no difficulty at all attempting to answer a later question because she is low in preoccupation.

- **Prospective and Decision-related Action Orientation versus Hesitation (AOD).** This scale describes difficulties associated with the initiation of an intended activity, without having reference to any decision related behavior. Hesitation involves the inability to translate decisions into action. The AOD is an intermediary between making the decision and actually carrying out the intended behavior. It occurs after the decision of intention to behavior has been made but before the action is actually carried out. It is at this time that people vacillate between continuing their current behavior and following through on the decision to initiate the action that they just contemplated. That is, after deciding on a course of action, people take different amounts of time to act on those decisions. For
example, a language student might decide to take a tourist excursion to the
target language community, having every intention to do so at some future
time, but never actually do it.

- Action Orientation During (successful) Performance of Activities (intrinsic
  orientation) versus Volatility (AOP). This scale contains items that assess the
ability to stay within self-initiated and pleasant activities without shifting
prematurely to alternative activities. It is how well one person can stay
focused on a topic. Kuhl believes that volatility impairs the maintenance of
activities by an over functioning of the action system. Pleasant activities are
abandoned in favor of novel ones simply to satisfy a desire for change. For
example, an Anglophone studying French might experience success but
move on to a new language or other activity, therefore not gaining much
French proficiency despite enjoying the language.

In arguing for the value of his model over existing formulations, Kuhl (1994a) states
that "expectancy-value theories cannot account for the paradoxical behaviors [of
human beings]" (p. 9). Expectancy-value theorists state that humans would likely
engage in those activities that have the highest subjective reward. However, Kuhl
states that these theories do not account for the seemingly contradictory behavior
where humans continually engage in low beneficial behavior while knowing that
there are more rewarding alternative activities that can be performed. This most
directly contradicts Pintrich et al.'s (1991) notion of task value. Pintrich et al. state
that the higher the task value, the more motivated the person will be, and we can
infer this will lead to more emphasis on learning the language. Kuhl argues that
motivation does not imply action. He states that placing a high value on a task will
not necessarily mean a correspondingly high action level. Gardner (1996) has
proposed that motivated behavior requires an intensity of effort, in addition to the
presence of goals and positive affect, thereby bypassing the issue of action-taking
that Kuhl seeks to address.

Perhaps the most significant action one can take in language learning is speaking
the L2. In addition to the motivational processes raised thus far, a host of
communication processes might impinge on L2 communication. It is certain that
some of these processes will be motivational in nature, including those based on
intergroup relations, attraction to the target language and culture, as well as
interpersonal motives of affiliation and control. A recent model (MacIntyre,
Clément, Dörnyei, & Noels, 1998) synthesizes these and other influences in
proposing that communication in the L2 is most immediately preceded by an
intention or willingness to Communicate. This idea has been advanced at both the
trait and state level (see MacIntyre, Babin, & Clément, 1999) to account for both
enduring patterns of reactions as well as the desire to communicate with a specific
person at a specific time.
MCCROSKEY'S PERSPECTIVE ON WILLINGNESS TO COMMUNICATE

Not all people communicate to the same degree as others. Some talk incessantly, some talk if an interlocutor initiates a conversation, and others will remain silent as often as possible. McCroskey and Baer (1985) employed the term “willingness to communicate” to describe an individual difference reflecting the general propensity to initiate communication when free to do so.

Founded upon Burgoon’s (1976) work on unwillingness to communicate, and from McCroskey and Richmond’s (1982) work on shyness, willingness to communicate (WTC) was first used to refer to L1 communication (McCroskey & Baer, 1985). Recently, WTC has been extended to L2 communication situations (Baker & MacIntyre, 2000; MacIntyre & Charos, 1996; MacIntyre et al., 1998). Willingness to communicate is a situation specific conception similar to Ajzen and Fishbein’s (1980) concept of behavioural intentions.

The WTC scale is based upon the assumption that WTC is a personality-based, trait-like predisposition that is consistent across situations and types of receivers (McCroskey & Richmond, 1991). The WTC scale (McCroskey, 1992) has four communication contexts: public speaking, talking in meetings, talking in small groups, and talking in dyads. Each of these is applied to three types of receivers (strangers, acquaintances, and friends) yielding a total of 12 items.

The two most immediate influences on WTC are communication competence and communication apprehension. Self-perceived communication competence tends to be highly correlated with willingness to communicate (McCroskey & McCroskey, 1988). Communication competence represents an adequate ability to pass along or give information, through a verbal or written medium (McCroskey, 1984). In this study, a self-reported construct of perceived competence is used, because perceived competence may play a more significant role in WTC than does actual competence. McCroskey and McCroskey (1988) developed the Self-Perceived Communication Competence Scale (SPCC) using the same basic 12-item structure as employed for the WTC scale described above.

The second key antecedent of WTC is communication apprehension. Communication apprehension is defined as the level of fear associated with real or anticipated communicative outcomes with another person or group of people (McCroskey, 1984). In the present study, the Personal Report of Communication Apprehension (PRCA-24B; McCroskey, 1986) was used. Communication apprehension is consistently one of the best predictors of willingness to communicate and may also play a role in the motivation towards using a language (see Gardner, Day, & MacIntyre, 1992; MacIntyre & Charos, 1996). Communication apprehension can have a substantial, negative impact on communication competence (Rubin, 1990). Apprehensive speakers recall less information and have more negative, task irrelevant thoughts (Ayres, 1992), a point also made by Kuhl (1994b).
THE PRESENT STUDY

The present study was designed to examine the four models described above with specific reference to a language course. Gardner's socio-educational model (1985) was designed to apply to language learning contexts. The other three sets of variables have been studied in other contexts but can easily be applied to language learning. The central question is to what degree do the concepts represented in these four conceptual frameworks overlap? To address the research question, the various scales all will be administered to a group of language learners and the data subjected to factor analysis.

METHOD

PARTICIPANTS

One hundred and fifty-three high school students participated in the study. There were 44 males and 77 females (32 did not indicate their gender). The ages of the subjects ranged from 14 years to 19 years (32 did not indicate their age) and the average age was 16.6 years. All students spoke English as their first language and had between 4 and 15 years experience studying French (Mean=7.8 years).

MATERIALS

Materials in this experiment consisted of a questionnaire that included four different batteries with a total of 22 subscales. They included:

Attitude/Motivation Test Battery
(Gardner, Tremblay, & Masgoret, 1997)

Ten subscales on a 7-point Likert scale measured students' attitudes and motivation for learning French. Items were mixed at random.

1. Attitudes toward French Canadians (α=.76). This scale consists of five positively and five negatively worded items. A high score indicates more positive attitudes. For example, "I would like to know more French Canadians."

2. Attitudes toward Learning French (α=.89). This measure consists of five positively and five negatively worded items, with a high score indicating a positive attitude. For example, "French is really great."

3. Desire to Learn French (α=.86). Five positive and five negative items comprise this measure. High scores reflect positive attitudes. For example, "I wish I were fluent in French."

4. French Class Anxiety (α=.72). This measure consists of five positively and five negatively worded items. A high score represents a considerable level
of apprehension experienced when asked to speak French in the classroom. For example, “It embarrasses me to volunteer answers in our French class.”

5. **French Use Anxiety (α = .76)**. This measure consists of five positively and five negatively worded items. A high score reflects considerable apprehension when asked to use French. For example, “Speaking French bothers me.”

6. **Interest in Foreign Languages (α = .80)**. This measure consists of five positive and five negative items, with a high score indicating an interest in learning and using any L2. For example, “I really have no interest in foreign languages.”

7. **Instrumental Orientation (α = .67)**. This measure consists of four positively and four negatively worded items, which assess the degree to which students seek to learn French for pragmatic reasons. High scores indicate greater endorsement of instrumental reasons for learning French. For example, “Studying French is important because it will make me appear more cultured.”

8. **Integrative Orientation (α = .80)**. Four positively and four negatively worded items make up this measure to assess the extent to which students seek to learn French for integrative reasons such as meeting and communicating with Francophones. High scores indicate greater endorsement of integrative reasons for learning French. For example, “Studying French can be important for me because it will allow me to meet and converse with more and varied people.”

9. **Motivational Intensity (α = .76)**. This measure comprises five positively and five negatively worded items. A high score indicates considerable effort expended to learn French. For example, “I really work hard to learn French.”

10. **Self-Confidence (α = .84)**. This measure combines 11 items from the three self-confidence scales presented in Gardner et al. (1997). The first scale contains 10 positively worded items, 4 of which were used in the present study. For example, “I’m sure I could speak French well in almost any circumstances.” The second scale is called “ability controlled” and contains six positively worded items, which distinguish self-confidence from achievement. Five of these items were used in the present study. For example, “Regardless of how much French I know, I feel confident about using it.” The third scale is called “given ability” and contains three positively and three negatively worded items, which account for differences in self-confidence as well as differences in ability. Two positively worded items were used in the present study. For example, “I am as confident using French as other people who know as much French as I do.”
Action Control Scale
(Kuhl, 1994a)

This measure consists of three subscales. Each scale consists of 12 dichotomous, forced-choice items, which describe a particular situation. The items were presented in mixed random order. The subscales include:

11. **Failure-related action orientation versus preoccupation (AOF)** ($\alpha = .69$). The 12 items in this subscale describe situations in which thoughts concerning unpleasant experiences interfere with one's ability to change behavior. The sum of the answers ranges from 0–12. For example, “When I'm in a competition and have lost every time: (a) I can soon put losing out of my mind, (b) the thought that I lost keeps running through my mind.”

12. **Decision-related action orientation versus hesitation (AOD)** ($\alpha = .74$). The 12 items in this subscale describe difficulties associated with initiating an intended activity without referring to ruminating thoughts due to state orientation. The sum of the answers ranges form 0–12. For example, “When I know I must finish something soon: (a) I have to push myself to get started, (b) I find it easy to get it done and over with.”

13. **Performance-related action orientation versus volatility (AOP)** ($\alpha = .60$). The 12 items in this subscale describe one's ability to continue pleasant activities without a sudden shift to alternative activities. The sum of answers ranges from 0–12. For example, “When I have learned a new and interesting game: (a) I quickly get tired of it and do something else, (b) I can really get into it for a long time.”

The Motivated Strategies for Learning Questionnaire (MSLQ)
(Pintrich et al., 1991)

This scale is composed of two subsections: the motivation subsection and the learning strategy subsection. Only the motivation subsection was used in the present study and it has six subscales. In each of the scales, students rate themselves on a 7-point Likert scale from 1–7 (1 = not at all true of me; 7 = very true of me). Some items were reversed so that students could not simply read the first question and respond with the same answer to all of the questions.

14. **Value component: Intrinsic Goal Orientation** ($\alpha = .74$). The scale has four positively worded items representing the perception of taking the language course for internal reasons, such as challenge, curiosity, and expertise. For example, “In a class like this, I prefer course material that really challenges me so I can learn new things.”

15. **Value component: Extrinsic Goal Orientation** ($\alpha = .70$). This scale consists of four items, all of which are positively worded. Items represent reasons for taking a course, including grades, rewards, and comparing their
performance to that of others. For example, "If I can, I want to get better grades in this class than most of the other students."

16. Value component: Task Value (α=.88). The scale consists of six positively worded items assessing how interesting or exciting the course seems to be. For example, "I am very interested in the content area of this course."

17. Expectancy component: Control of Learning Beliefs (α=.70). This four-item subscale refers to how much the student expects to be able to master the course, given enough effort is put into it. For example, "It is my own fault if I don't learn the material in this course."

18. Expectancy component: Self-Efficacy for Learning and Performance (α=.89). Eight positively worded items measure (1) the expectancy for success and (2) self-efficacy. Expectancy for success is the amount of performance the person anticipates will arise from his/her behavior. Self-Efficacy is the judgement made about one's ability to complete the course. For example, "I expect to do well in this class."

19. Affective component: Test Anxiety (α=.66). Academic performance is negatively related to anxiety, and the scale consists of four items. For example, "I feel my heart beating fast when I take an exam."

Communication measures

20. Self-perceived Communication Competence Scale (McCroskey & McCroskey, 1988) (α=.91). Twelve items assessed the average percentage of time, ranging from 0% to 100%, that students felt competent in using French to speak in 12 situations, for example, "talk in a small group of friends."

21. Willingness to Communicate (McCroskey & Baer, 1985) (α=.97). Twenty items assessed the average percentage of time, ranging from 0% to 100% that students would choose to communicate in French in a variety of situations, for example, "Talk in a large meeting of friends." In addition to the 12 speaking contexts noted in item number 1 above, 8 "filler" items were also included, for example, "Talk with a secretary."

22. Language Anxiety (McCroskey, Richmond, & McCroskey, 1987) (α=.92). Twelve items, taken from a scale assessing communication apprehension, assessed the average percentage of nervousness, ranging from 0% to 100%, that the students felt in communicating in French in 12 situations, for example, "When presenting a talk to a group of strangers."

PROCEDURE

The local school board and principal of the school were contacted and permission to conduct testing was obtained. Informed consent was obtained from the students for their voluntary, anonymous participation. Testing took approximately 45 minutes.
RESULTS

The objectives of the present study were to

- (RQ1) examine the correlations among the Gardner, Kuhl, Pintrich, and McCroskey test batteries,
- (RQ2) investigate the consistency of the proposed models in the present study with the models proposed by Gardner, Kuhl, Pintrich, and McCroskey, and
- (RQ3) test for the degree of overlap among the constructs of the test batteries using factor analysis.

Two hundred and thirty-one correlations were obtained among the 22 variables described above. The complete correlation matrices are provided in the appendix. Space does not permit a complete discussion of all theoretically or statistically significant correlations. There are some interesting correlations both within the test batteries and between them. For instance, Gardner's instrumental orientation significantly correlates with Pintrich's extrinsic goal orientation ($r=.62$). This is not surprising as instrumental and extrinsic orientations essentially measure one's desire to learn for pragmatic gains. It might be surprising that instrumental orientation also correlates significantly with both integrative orientation ($r=.69$) and intrinsic orientation ($r=.47$) despite the frequently cited theoretical distinctions among them. It is findings like these that lead us to further examine the relationships through factor analysis.

The second purpose of this study was to verify the consistency among the models proposed by Gardner, Kuhl, Pintrich, and McCroskey with the models proposed in the present study. Structural equation modeling allows testing of whether a hypothesized model can account for the relationships among the variables. The first causal model is from Gardner's socio-educational model. The model proposes specific correctional and causal relationships linking nine observed variables: attitudes toward French Canadians, interest in foreign languages, French class anxiety, French use anxiety, self-efficacy, desire to learn, motivational intensity, integrative orientation, and attitudes toward learning French.

The model was tested using AMOS 3.51, developed by Arbuckle (1995). For an evaluation of the fit indices reported below, see Hu and Bentler (1995). In the model, all paths were significant ($t>2.0$), except self-confidence to motivation (see Figure 1). The model shows excellent fit to the data. The goodness of fit index (GFI) was .900 and the adjusted goodness of fit index (AGFI) was .812. The Chi-square test was significant ($\chi^2(24)=66.3, p<.05$), but the Chi-square/degrees of freedom ratio was low (2.76). These indices indicate an adequate model. Both the Tucker-Lewis Index (TLI) and the Normed Fit Index (NFI) compare the hypothesized model's structure with the null model. The TLI (.889) and the NFI (.891) indicate a well-defined structure. In addition, the root mean square residual (RMR) (.064) was acceptable, and the RMSEA was only 0.128.

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The second model tested Kuhl’s Action Control Scale (see Figure 2). The Chi-square was nonsignificant ($\chi^2(51) = 62.119$, n.s.), and the Chi-square/degrees of freedom ratio (1.218) was well below 2.0, suggesting a very good model. The goodness of fit index (.929) and the adjusted goodness of fit index (.892) were quite high, as was the Normed Fit Index (.839) and the Tucker-Lewis Index (.955), all of which suggests a well defined model. The RMR (.057) and the RMSEA (.041) were also acceptable.

The third model was Pintrich’s MSLQ (see Figure 3). The Chi-square was significant, ($\chi^2(237) = 817.082$, $p < .05$), and the Chi-square/degrees of freedom (3.242) was well above 2.0, suggesting that there is variance still unaccounted for by the model. The RMR (.282) and the RMSEA (.132) support the hypothesis that there is a great deal of variance left unaccounted for by the proposed model structure. The goodness of fit index (.633), the adjusted goodness of fit index (.563), the Tucker-Lewis fit index (.576), and the Normed fit index (.526) all indicate that

**Figure 1:** Gardner’s motivation model

aFC = attitudes towards French Canadians
ifl = interest in foreign languages
int = integrative orientation
alF = attitudes towards learning French
des = desire to learn French
mi = motivational intensity
Fca = French class anxiety
Fua = French use anxiety
se = self-efficacy
self = self-confidence
the model is not well defined, and substantial improvement should be made. While this model is not completely unacceptable, it is not as strong as the other models presented in the present study.

If the latent variables in the Pintrich model are allowed to correlate among themselves, then a much more acceptable solution is produced. In the revised model, the Chi-square still is significant ($\chi^2 (237) = 440.032, p < .05$), but the Chi-square/degrees of freedom drops to 1.857, which is below 2.0, suggesting a good model. The RMR (.081) and the RMSEA (.081) support the assertion that there is a little variability left unaccounted for by the present model. The goodness of fit index (.796), the adjusted goodness of fit index (.742), the Tucker-Lewis Index (.838), and the Normed Fit Index (.746) all indicate that the model is an adequate representation of the data in the correlation matrix.

Finally, McCroskey's WTC construct (see Figure 4) was analyzed using the structure proposed by MacIntyre (1990). The Chi-square was significant ($\chi^2 (32) = 49.998$, $p < .05$), but the $\chi^2$/df ratio was acceptable (1.56). In addition, the RMR (.035) and the RMSEA (.065) indicate that there was little variance left unaccounted for by the model. The goodness of fit index (.935), the adjusted goodness of fit (.890), the Tucker-Lewis Index (.980), and the Normed Fit Index (.962) all suggest a well-defined model.

Given evidence that each of the models, tested individually, shows adequate fit to the data, we pursued the third goal of the present study, to test for the degree of overlap among the constructs. All 22 variables were included in a principal components analysis with Kaiser normalization and oblique rotation. An application of the scree test suggested extracting three or four factors. After considering both solutions, a three-factor solution accounting for 56% of the variance in the correlation matrix was chosen.
Figure 2: Kuhl's motivation model

aof = action orientation to failure vs. preoccupation
f1 = aof1 + aof2 + aof3
f2 = aof4 + aof5 + aof6
f3 = aof7 + aof8 + aof9
f4 = aof10 + aof11 + aof12

aod = action orientation towards decision
d1 = aod1 + aod2 + aod3
d2 = aod4 + aod5 + aod6
d3 = aod7 + aod8 + aod9
d4 = aod10 + aod11 + aod12

aop = action orientation to performance
p1 = aop1 + aop2 + aop3
p2 = aop4 + aop5 + aop6
p3 = aop7 + aop8 + aop9
p4 = aop10 + aop11 + aop12
intrinsic goal orientation

extrinsic goal orientation

control of learning beliefs

task value

self-efficacy for learning

test anxiety

i1 = intrinsic goal orientation 1
t1 = task value 1 + task value 2
i2 = intrinsic goal orientation 2
t2 = task value 3 + task value 4
i3 = intrinsic goal orientation 3
t3 = task value 5 + task value 6
i4 = intrinsic goal orientation 4
s1 = self-efficacy for learning 1
e1 = extrinsic goal orientation 1
s2 = self-efficacy for learning 2
e2 = extrinsic goal orientation 2
s3 = self-efficacy for learning 3
e3 = extrinsic goal orientation 3
s4 = self-efficacy for learning 4
e4 = extrinsic goal orientation 4
a1 = test anxiety 1
c1 = control of learning beliefs 1
a2 = test anxiety 2
c2 = control of learning beliefs 2
a3 = test anxiety 3
c3 = control of learning beliefs 3
a4 = test anxiety 4
c4 = control of learning beliefs 4

Note: All latent variables were allowed to correlate (bi-directional arrows not shown)

Figure 3: Pintrich's motivation model
Factor one can be called *Attitudinal Motivation*. Examination of the structure matrix (see Table 1), which displays correlations between the variables and the factors, reveals that Attitudinal Motivation receives substantial (> .50) loadings from 14 variables, and significant (> .35) loadings from three variables. All of the Gardner AMTB variables load above .37 on this factor. All of the Pintrich MSLQ variables load above .59 on this factor, except for Test Anxiety. Two other variables load on this factor as well, Performance-Related Action Orientation and Willingness to Communicate. It is not surprising that attitudes towards learning and the desire to learn French both appear on this factor because of their extremely high correlation.
Nor is it surprising that motivational intensity also loads on this factor, as it has a very high correlation with attitudes towards learning ($r=.79$) and desire to learn ($r=.71$). Similarly, the correlations between task value and attitudes towards learning ($r=.77$) and desire to learn ($r=.71$) indicate that these variables converge on measuring the amount of worth placed on the second language. Task value also correlates highly with intrinsic goal orientation ($r=.69$). Given that the interrelations of these variables are reflected in the structure of Factor I, it is clearly related to the attitudes expressed by the respondents. For reference, the pattern matrix showing the coefficients used to construct the factor scores is presented in Table 2.

**Table 1: Structure matrix**

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Table 2: Pattern matrix

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* loading>.35
** loading>.5

key: Value task value
ALF attitudes toward learning French
Efficacy self-efficacy
Extrinsic extrinsic goal orientation
Integ integrativeness
Effort motivational intensity
Instr instrumentality
Interest intrinsic goal orientation
Confidence self-confidence
UseAnx french use anxiety
Control control of learning beliefs
AFC attitudes toward French Canadians
Hesitation failure-related action orientation
Preoccupation decision-related action orientation
Volatility performance-related action orientation
ClassAnx french class anxiety
LanguageAnx language anxiety
WTC willingness to communicate
Factor II can be called Motivated Action. It contains substantial loadings from four variables, and significant results from three additional variables. Kuhl's test battery makes up the majority of this second factor. The negative factor loadings can be interpreted in the same way as negative correlations. The specific pattern of positive and negative loadings suggest that this particular factor is defined such that high scores indicate a lack of motivated action. This does not alter the interpretation of the factor but would affect the expected correlations involving factor scores obtained from the present analysis. Anxiety, communication competence, and WTC also load on this factor, which is not surprising because anxiety, competence, and WTC can essentially impact one's preoccupation with and decision to perform an activity like L2 communication. Also, intrinsic goal orientation was included in this factor, indicating that reasons for studying an L2 might help determine whether or not one takes action to learn the L2. The Action Motivation factor shows a surprisingly low correlation with the Attitudinal Motivation factor ($r = .197$).

Factor III can be called Self-confidence. It obtained four substantial loadings and four significant loadings. As with Factor II, the pattern of positive and negative loadings indicates that high scores on this factor would be indicative of low self-confidence. The highest loadings are obtained for measures of French class anxiety, communication apprehension, and French use anxiety. The factor is also defined by low ratings of self-confidence, perceived communicative competence, intrinsic goal orientation, and decision-related action. The final variable loading on this factor is Willingness to Communicate. Examining the key correlations underlying this factor, self-efficacy and self-confidence correlated at .68 suggesting that these are very similar variables that measure the beliefs one has concerning their abilities. They both involve the belief that one can control the outcome of the learning situation based upon the amount of effort expended. The self-confidence factor induces a conviction that one's ability is dependent upon the effort put into the language learning process. Thus, anxiety is a detriment to this process as it induces a state of self-doubt where uncertainty reigns supreme. However, similar to Gardner's model, this factor also contains communication competence, which creates the perception that one has the knowledge to perform in the L2. The Self-Confidence factor is relatively independent of both the Attitudinal Motivation factor ($r = .139$) and the Action Motivation factor ($r = .152$).

It is particularly interesting that WTC loads on all three factors, indicating a strong relationship with motivational processes. WTC is related to Attitudinal Motivation possibly because if a person is willing to communicate in the L2, it seems likely that she or he has a positive attitude toward it and a reason or motive for doing so. WTC can also be related to the Action Motivation factor as it involves a conscious decision to embark on a particular course of action. Finally, WTC can help to increase Self-confidence by increasing frequency of communication, which would allow an individual to be in more L2 communication situations where they could improve their L2 communication skills. With less novel L2 situations, the individual is likely to feel more competent when communicating.
The major purpose of this study (RQ3) was to examine the degree of overlap among four sets of variables. The three motivation models, as well as the communication variables, all are likely to be relevant to the language learning process. Clearly, the present data shows that there is substantial overlap among the various concepts addressed by the scales employed. The 22 variables tested can be reduced to three factors that account for over half of the variance in the correlations among the original variables.

The first factor accounts for the majority of the variables tested. Gardner's Integrative Motive and Pintrich's Expectancy-Value model defined the Attitudinal Motivation factor and appear to have much in common. It might be surprising that there is such a high degree of overlap, but it should be noted that the Gardner model has always covered a great deal of conceptual ground. Perhaps it is not surprising that the value students place on a language course and their expectancies for success in that course would be reflected in the same factor. Whereas the concepts clearly can be distinguished theoretically, the degree of empirical similarity is quite high in this sample. It remains an empirical question whether similar results would be obtained in different socio-cultural or educational environments.

The highest loadings on Attitudinal Motivation come from task value, attitudes toward learning French, and desire to learn French. These variables share the theme of seeing value in learning the language. Four of the orientation scales, representing goals for language learning, also load highly on this factor. The integrative and instrumental orientations load together on Attitudinal Motivation and are accompanied by both intrinsic and extrinsic goal orientations. It might be expected that integrative and intrinsic orientations should be closely related, both referring to the inherent usefulness of language learning for its own sake. Likewise, one might expect that instrumental and extrinsic orientations would load together because both emphasize the pragmatic gains from language learning. Furthermore, it might be assumed that all four orientations loading together on one factor would be anomalous or counter-intuitive. However, there is no theoretical reason to require that the variables will be uncorrelated despite the fact that they are conceptually distinct. Indeed, it is easy to imagine students who value the target language for both its communication and pragmatic gains and students who value neither. Prior research has shown that integrative and instrumental orientations correlate with each other in several samples (Gardner & MacIntyre, 1993; Gardner, Tremblay, &Masgoret, 1997). The correlations reported for the present study show that these orientations can be highly correlated.

As Gardner (1996) has noted, the correlations among the integrative, instrumental, intrinsic, and extrinsic orientations must not be mistaken for related concepts applied to motivation. By definition, motivation implies taking effortful action to achieve a goal (Gardner, 1985). In the present study, self-reported Action Motivation processes can be distinguished from the goals and attitudes themselves, as represented by Attitudinal Motivation. The Action Motivation factor includes
scales tapping into the “energized” behavior typically associated with the motivated student (see also Crookes & Schmidt, 1991). Kuhl’s (1994b) action control measures load together on Action Motivation; the strongest loading is for the Decision-related Action versus Hesitation scale. This is the measure most clearly associated with the initiation of behavior, or “crossing the rubicon” of action as Dörnyei and Ottó (1998) describe it. The rumination and volatility measures that complete the action control cluster load on this factor as well.

The separation of factors one and two raises an interesting question about their relative predictive validity. It is possible to assess language performance using a variety of measures, ranging from broad-based indices such as course grades to specific tests of learning or communication performance in a highly restricted area. The Gardner (1985) socio-educational model has been found to account for a significant amount of variance in several types of measures (e.g., Gardner & MacIntyre, 1993). The extent to which the Action Motivation factor might also predict cumulative and/or circumscribed indices of performance is an empirical question. Future research might employ measures of Action Motivation in predicting student participation in specific language activities, such as in an excursion program or initiating an assignment. The cumulative effects of the motivation to participate in such activities throughout a language course or program could also be assessed, and indeed might be fairly strong.

The largest loadings on the third factor, Self-Confidence, are for French class anxiety, communication apprehension, and French use anxiety. The self-confidence scale (Gardner, Tremblay, & Masgoret, 1997), self-efficacy and communication competence also load on Self-Confidence yielding the combination of anxiety and perceived competence that Clément (1986) describes. The hesitation measure and intrinsic goal orientations support this clustering of variables. It is interesting that hesitation, rather than rumination or volatility, appears on this factor. This might give some insight into the nature of language anxiety among the students in the present study. Language anxiety has been assumed to be based on previous experiences with poor performance. However, past failure might not be the primary support for the negative effect of anxiety among students at this level, but rather an inability to do what is necessary to engage with the language. Presumably students would have enough previous experience to have both success and failure experiences to contemplate. For these students, language anxiety might be manifest in procrastination over assignments, putting-off communication opportunities, and general dilly-dallying. According to the action control model (Kuhl, 1994a, 1994b), a student’s personality might predispose him or her to the tendency to hesitate, and this might be associated with the development of language anxiety. The approach teachers might take to this variety of anxiety might be very different from that approach taken to ameliorate anxiety emanating from sources such as negative experiences. This suggestion is speculative at this point, and future research into language anxiety would be required to assess its applicability.

The other two research questions (RQ1 and RQ2) were addressed prior to examining the principal components analysis. Clearly, there are several interesting
correlations among the scales reported in the appendix, some of which were pointed out in examining the factors that were extracted. Each of the four sets of variables, taken individually, showed the expected structure. The only exception was the model based on the Pintrich et al. (1991) variables. It should be noted that the Pintrich et al. (1991) manual reports fit indices similar to those obtained in the present sample. Making the relatively minor adjustment of allowing the latent variables to correlate with each other brought the structural fit indices to acceptable levels.

In summary, the finding that Attitudinal Motivation and Action Motivation might be separate, relatively uncorrelated factors suggests several potentially interesting avenues for future research. The results of the present study clearly demonstrate the necessity of doing empirical research to test theoretical distinctions and hypothesized relations because simply adding new conceptual terms, without mapping out new conceptual territory, seems like a wasteful exercise. It would seem that motivational variables in second language learning are still a vibrant area of research.

REFERENCES


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### Correlations between Kuhl's and Gardner's variables

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* significant at 0.05 level (2 tailed)
** significant at 0.01 level (2 tailed)

N = 110, pairwise deletion

**key:**
- **Preocc**: failure-related action orientation
- **Hesit**: decision-related action orientation
- **Volat**: performance-related action orientation
- **AFC**: attitudes toward French Canadians
- **ALF**: attitudes toward learning French
- **Desire**: desire to learn French
- **ClassAnx**: French class anxiety
- **UseAnx**: French use anxiety
- **Interest**: interest in foreign languages
- **Inst**: instrumentality
- **Integ**: integrativeness
- **Effort**: motivational intensity
- **Conf**: self-confidence
### Correlations between Pintrich's and Gardner's variables

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* significant at 0.05 level (2 tailed)
** significant at 0.01 level (2 tailed)

N = 110, pairwise deletion

Key:
- **Preocc**: failure-related action orientation
- **Intrins**: intrinsic goal orientation
- **Extrins**: extrinsic goal orientation
- **Value**: task value
- **Control**: control for learning beliefs
- **Efficacy**: self-efficacy
- **TAnx**: test anxiety
- **AFC**: attitudes toward French Canadians
- **ALF**: attitudes toward learning French
- **Desire**: desire to learn French
- **ClassAnx**: French class anxiety
- **UseAnx**: French use anxiety
- **Inst**: instrumentality
- **Integ**: integrativeness
- **Effort**: motivational intensity
- **Conf**: self-confidence
## Correlations between Kuhl’s and Pintrich’s variables

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* significant at 0.05 level  
** significant at 0.01 level  

decision-related action orientation  
failure-related action orientation  
performance-related action orientation  
desire to learn French  
intrinsic goal orientation  
extrinsic goal orientation  
task value  
control for learning beliefs  
self-efficacy  
test anxiety
Correlations between McCroskey's and other scales

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* significant at 0.05 level  
** significant at 0.01 level  

key:  
Hesit: Action Orientation to Failure vs. Hesitation  
Preocc: Action Orientation for Decision vs. Preoccupation  
Volat: Action Orientation toward Performance vs. Volatility  
ALF: Attitudes toward Learning French  
Desire: Desire to Learn French  
ClassAnx: French Class Anxiety  
UseAnx: French Use Anxiety  
Interest: Interest in Foreign Languages  
Instr: Instrumental Orientation  
Integr: Integrativeness  
Effort: Motivational Intensity  
Intrinsic: Intrinsic Goal Orientation  
Extrinsic: Extrinsic Goal Orientation  
Value: Task Value  
Control: Control for Learning Beliefs  
Efficacy: Self-Efficacy  
TestAnx: Test Anxiety